

SPECIAL REPORT

FAO/WFP CROP AND FOOD SUPPLY ASSESSMENT MISSION TO MOZAMBIQUE

14 July 2004

Mission Highlights

- Despite late and erratic rains early in the season, regular precipitation from January through May, enabled replanted cereal crops to reach maturity and, in the southern provinces, encouraged extended plantings of maize.
- Cereal production for 2004 is estimated at 2 million tonnes, 11 percent above last year's relatively good performance. The main maize crop increased substantially, while rice was affected by dry weather.
- After four consecutive bad years, southern provinces had a bumper cereal crop. In the north, estimated production is similar to last year's while the record is mixed in the centre.
- Cassava cultivation has expanded and will reduce food insecurity in areas where the maize crop was adversely affected by irregular rains. Higher incomes from the expansion of industrial crops are also contributing to food security among rural households.
- Overall, food production has been satisfactory, but localized areas did suffer from reduced harvests.
- Although maize prices fell at harvest time, they had reached by May a higher level than a year ago, reflecting lower production in some surplus areas, strong export demand and a delayed harvest.
- Maize exports, formal and informal, are forecast to increase in 2004/05 (April/March) in response to strong demand from Malawi, where higher prices prevail.
- However, maize imports are still necessary, given the high costs of moving grain from north to south. Total cereal imports, including rice and wheat, are forecast to be 10 percent lower than last year.
- An estimated 49 000 tonnes of cereal relief food aid will be required in 2004/05, for about 187 000 people recovering from a succession of flood/drought shocks combined with the impact of HIV/AIDS.

1. OVERVIEW

Following four poor harvests in southern provinces and parts of the central provinces caused by drought or floods, an FAO/WFP Crop and Food Supply Assessment Mission (CFSAM) visited all the production areas in the country from 29 April to 20 May 2004. The Mission evaluated food crop production in the 2003/04 agricultural season, assessed the overall food supply situation, forecast cereal import requirements and possible exports in marketing year 2004/05 (April/March) and determined the eventual food aid needs.

As on previous occasions, the Mission received support from the Ministry of Agriculture and Rural Development (MADER), which provided preliminary production forecasts for this year's agricultural season and technical staff to accompany the Mission on its field visits. Staff from National Institute of Disaster Management (INGC) and Ministry of Industry and Commerce (MIC), and observers from the Southern Africa Development Community (SADAC), the European Union (EU), the United States Agency for International Development (USAID), the Famine Early Warning System Network (FEWS-NET) and NGOs also joined the Mission.



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME



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Prior to departure to the field the Mission was briefed by representatives of FAO and WFP and by government officials, who provided information on the current situation in the country. A meeting with donors and NGOs also provided valuable information, particularly on the situation in the districts where they work.

The Mission, divided into four groups, travelled for almost two weeks to 45 districts in all northern, central and southern provinces. This year, the districts to be visited were carefully selected using a range of criteria including agro-ecological, marketing and vulnerability considerations. In the districts, sub-teams were organized to provide larger coverage of the areas. In each province and district, the teams met with administrative authorities and with representatives of Agriculture, Health and Commerce Ministries, as well as NGOs working in the various areas. After these meetings, the sub-teams travelled to selected production areas to conduct interviews with farmers, carry out field inspections and make crop cuttings to estimate yields. The Mission also visited markets and interviewed a wide range of traders.

The preliminary assessment of the season provided by the Early Warning Unit of MADER, and pre-harvest data on area and yield for food crops gathered at MADER provincial and district levels, were analysed by the Mission and cross-checked against qualitative information from farmers, traders, NGOs and international agencies working in the agricultural sector. Information on growing conditions, pest and disease status, rainfall, prices and input supply obtained during the field visits were triangulated with remote sensed and field monitored data from FAO and WFP offices in the country. The work of the Mission was complemented with the March survey of the Vulnerability Assessment Committee (VAC) to 4 950 households in 11 regions of the country previously affected by an emergency situation, which, among other objectives, aimed to determine food assistance needs for the 2004/05 marketing year. The CFSAM and the VAC teams worked together to analyze data prior to and after the CFSAM field work in order to ensure the concordance of the two assessments.

In general, rains this season started late and were irregular until late December and in some regions until January. Improved rainfall was received only after January and it continued in a more regular fashion through April, especially in the south and central regions. Exceptions to this pattern were areas of Zambezia province, where the interruption of rains lasted until March. Although there were significant differences by regions and districts, in general the northern, interior and high-altitude areas of all provinces received better rains than the southern and coastal parts.

Farmers had to replant twice and three times, but availability of local seeds, from the previous season's production, was not a major problem. Seed fairs conducted across the country in localities with a poor harvest last year, as well as programmes to promote cassava and sweet potatoes cultivation, had noticeably a positive impact on production. While improved seeds, fertilizers and pesticides are generally used only on cash crops, through company credit schemes, tobacco companies also provided their growers with maize hybrids seeds to a limited extent. However, as tobacco and cotton are grown in rotation with maize, the area with residual fertilizer for follow on cereal crops is significant in some provinces.

The most serious pests this season were those already reported in previous years and include brown streak and mosaic viruses in cassava, (particularly in Nampula province coastal district of Memba), odium in cashew, cassava mealy bug, leaf miner affecting groundnuts, and large grain borer in maize. The use of insecticide and fungicides to control these problems continues to be limited. In northern areas, the most serious pests were wild animals, in particular elephants, which caused substantial damage to crops in Cabo Delgado province.

National cereal production (maize, sorghum, millet and rice) in 2004 is estimated at 2 million tonnes, 11 percent above last year's level. Maize, accounting for 72 percent of the total cereal output, is estimated at 1.4 million tonnes, 15 percent up on 2003. This increase mainly reflects a dramatic recovery of production in the southern provinces and in the important central growing province of Manica. By contrast, the paddy crop, which was the most affected by lack of rains in the first part of the season, is estimated 12 percent lower than last year at 177 419 tonnes. Sorghum/millet output rose 8 percent to 390 494 tonnes. The production forecast for cassava is 6.4 million tonnes (fresh weight), 4 percent higher than in the previous season.

Overall, a bumper cereal crop was obtained in the southern provinces, while production was similar to last year's good level in the northern provinces. In the central provinces, cereal output increased, with the higher production in Manica province more than offsetting lower returns in Tete and Zambezia provinces.

Despite the overall satisfactory food production, the harvest was reduced in pocket areas, mainly in the southern districts of Tete province, remote areas of Manica province, some localities in southern provinces and coastal areas of Nampula province.

Cassava production and consumption have increased in recent years following promotion programmes carried out by the government and international agencies. Substantial quantities of cassava will be available for consumption during the marketing year 2004/05 and this will moderate the impact of reduced maize crops in several areas. However, the Mission's field observations suggest that official production figures underestimate cassava yields and, therefore, it is recommended that a comprehensive study of cassava harvesting and utilization be made.

Abundant grazing following the continued rains this season, together with the absence of major animal diseases, except for Newcastle disease of poultry, have resulted in generally good livestock conditions.

Industrial crops, mainly tobacco, cotton, cashew, coconuts, tea, paprika, soybeans, sesame, sunflower and citrus are undergoing an expansion that is contributing substantially to household food security and boosting agricultural exports.

The marked regional differences in maize production and consumption, coupled with high cost of moving the crop from the surplus northern and central provinces to the deficit South, are reflected in the high price differentials among regions. At the time of the Mission, the price of maize in the southern Maputo market was almost twice as much as in the central Manica province.

In all regions maize prices were declining with the arrival of the new crop. However, by May, they were higher than at the same time last year in central and southern markets, partly reflecting the delayed harvest, but also strong demand from bordering southern provinces of Malawi, where harvests have been reduced, and a slight decline in production in the surplus provinces of Tete and Zambezia. Traders interviewed by the Mission in these provinces reported slower procurement and lower volumes of maize in the markets this season. In spite of this, the Mission nonetheless observed substantial flows of informal exports of maize into Malawi attracted by higher prices, in particular from the border location of Milange. Formal and informal exports of maize, mainly to Malawi but also to bordering areas of Zambia, are forecast by the Mission at 170 000 tonnes.

Imports of maize for southern deficit provinces, resulting from the high costs of moving the crop from the north to the south and the proximity of the southern provinces to the competitive South African market, are forecast at 140 000 tonnes, including reduced quantities of food aid. As the country has a structural deficit in rice and wheat, imports of these commodities are estimated at 325 000 and 320 000 tonnes, respectively. These amounts include programme food aid to be monetized in the market and minor quantities of rice pledged for WFP development projects. In aggregate, total cereal imports in 2004/05 (April/March) are forecast to decline 10 percent from the previous year as a result of the improved production in the South and reduced food aid distributions.

The results of the VAC survey, which were cross-checked with those of the CFSAM, indicate that, notwithstanding the favourable national production of this year, 187 000 people will still require 49 000 tonnes of cereal relief food aid in marketing year 2004/05 (April/March) to recover from the droughts and floods of the past several years, as well as to cope with the continuing impact of HIV/AIDS. Most of these requirements will be covered with carry-over stocks and through already contracted local purchases of maize. However, there is still a deficit of 14 000 tonnes of maize in WFP food aid pipeline. Distributions of relief food aid for the period July 2004–March 2005 are estimated at 33 368 tonnes of cereals and 13 499 of non-cereal commodities.

HIV/AIDS continues to be a severe problem in the country, particularly in the central and southern regions. The latest HIV estimates suggest infection rates of 13.6 percent at national level, with much higher prevalence in urban populations in Gaza, Manica, Tete and Zambezia provinces when compared to the rural estimates.

2. ECONOMY AND AGRICULTURE

2.1 Economy¹

With a total area of 786 300 km² and a population officially projected at 18.9 million in mid-2004, Mozambique has a relatively low population density. It is richly endowed with natural resources, including arable land, forest, grasslands, inland water, marine fisheries, minerals and hydroelectricity. As a result, the

¹ The contents of this section are based on a variety of sources, including Country Profile 2003-Mozambique and Country Report-Mozambique April 2004 (The Economist Intelligence Unit); Human Development Report 2003 (UNDP); Mapeamento da Pobreza em Mozambique 2002 (Ministry of Planning and Finance).

economy is diversified, and agriculture, transport, manufacturing, energy, fisheries, tourism and wage remittances all make important contributions to the economy. Following the rapid growth of the industrial sector in the past few years, the share of agriculture in GDP in 2002 ranked only third (21.1 percent); however, the sector still employs around 80 percent of the total labour force. At the same time, exports of prawns and fish, cotton, sugar, timber and cashew nuts are important foreign exchange earners, although they have lagged behind aluminium and electricity in recent years.

Market liberalization policies have been implemented since 1992 in cooperation with the IMF and the World Bank. Under a poverty reduction and growth facility (PRGG), renewed at the end of 2003, Mozambique continues to benefit from debt relief and renewed loans. At the same time, foreign grants continue to cover about one-half of public expenditures. The economic reforms have been remarkably successful in terms of macroeconomic indicators, even though the country started from a low base. Sustained by strong foreign investment, real GDP growth has averaged 9.3 percent in the period 1998– 2002, notwithstanding the severe economic set back caused by devastating floods in 2000. Preliminary estimates indicate a further 7 percent increase in 2003 and a projected growth of 7.2 percent in 2004. Inflation, which fell to 15 percent in 1997 from over 50 percent the previous year, stood at 13.8 percent in 2003 and is forecast to decline again this year. Exports have almost tripled between 2000 and 2003, while the exchange rate against the US dollar has remained relatively stable after the devaluation in 2000.

Despite all these gains, the impact on employment and incomes has been limited, as economic growth has mainly stemmed from a few large capital-intensive projects, with the support of huge inflows of foreign investment. This includes the Mozal aluminium smelter in Maputo, whose production is oriented mainly to the European market; the natural gas pipeline from the coastal port of Beira to South Africa; the rehabilitation of the power lines from the Cahora Bassa hydroelectric dam to South Africa and Zimbabwe; and several projects funded by donors for road construction and other activities.

According to the *2003 Human Development Report* of the United Nations Development Programme (UNDP), Mozambique ranks 170th out of 175 countries in the human development and the human and income poverty indexes, coming before only Burundi, Mali, Burkina Faso, Niger and Sierra Leone. Although poverty remains high by all standards, some progress in poverty reduction has been achieved in recent years as a result of sustained economic growth coupled with the Government's road construction and rehabilitation programme and investment in social sectors. A recent official study on poverty incidence suggests that the percentage of total population falling below the absolute poverty line has decreased by 15 percent, from 69 percent in 1997 to 54 percent in 2003. Results of the study also show that poverty is higher in the southern provinces, where rates have actually increased somewhat. As part of the Government's poverty reduction strategy for the period 2001–2005 (*Plano de Accao para a reducao da pobreza absoluta, PARPA*), promotion and development is planned in six priority areas with a key impact on poverty: education, health, agriculture and rural development, basic infrastructure, good governance and macro-economic and financial management.

2.2 Agriculture

Forty-five percent of Mozambique's total land area is suitable for agriculture, but only 11 percent, 4.09 million hectares, is estimated to be cultivated. Farming is conducted mostly by some 3.4 million peasant families, a small but growing number of commercial farmers cultivating 60 000 hectares and refurbished agro-industrial units growing 30 000 hectares of sugar-cane. Consequently, agriculture provides food security and an important source of income generation for the vast majority of the 19 million inhabitants.

Tree crops, grown within the peasant farming systems, provide an important source of foreign exchange earnings each year including coconuts (265 000 tonnes) and cashews (58 000 tonnes). Other major cash crops include sugar-cane (212 000 tonnes sugar) and seed cotton (50 000 tonnes). These, along with tobacco, citrus and horticultural crops, particularly tomatoes – all of which have expanded significantly in the past two years – help generate revenue.

From the above, it may be inferred that Mozambique's diverse soils and climatic conditions, influenced by latitude, variations in altitude, topography and the proximity to the coast, offer a wide range of production opportunities. However, as agricultural systems are predominantly rainfed, the temporal and spatial distributions of rainfall are critical to crop performance, resulting in wide-ranging fluctuations in annual crop harvests from year to year.

The main production season extends from September to March in most parts of the country, with a short second season in the south from April to August. The farming system is characterized by aggregations of

near-subsistence farm-families holding 1.2 hectares each on the average, who practise manual/animal-traction cultivated bush fallow, the intensity of which varies with the population pressure.

The use of purchased agricultural inputs, (improved seeds, fertilizers and pesticides) is limited to a small number of modern farm enterprises growing cash crops and vegetables and outgrowers of tobacco and cotton-producing crops on contract. The yields of cereals in the peasant sector are generally low, and losses in the field and stores are high.

Maize and cassava are the major staples; other crops of significance include sorghum, beans, groundnuts, millet and rice. Cassava is grown mainly in the north and southeast where it is the main staple, but it is being introduced along with sweet potatoes under a government initiative in drought-prone areas throughout the country. The effect of this introduction is already being appreciated by communities whose food security was regularly threatened by insufficient or untimely rains until now.

Livestock numbers are low, as herds have yet to recover from the losses incurred during the civil war and, in southern provinces, from the devastating floods of 2000. Cattle, goats, sheep and pigs are reared in extensive grass-based (ruminants) or back-yard scavenger systems. There is, however, a small modern poultry industry emerging, augmenting backyard production and servicing some of the demand for broilers in the main towns.

3. FOOD PRODUCTION IN 2003/04

The Early Warning System Department of the Ministry of Agriculture and Rural Development (MADER) estimates the area planted to crops using a model developed in the 1990s with the support of FAO. In this model, area planted to food crops is estimated by multiplying the number of farm households in each district by the average area planted and by apportioning the resulting area to the different crops according to their historical use. The model projects the number of families from the 1997 census and uses updated farm size and cropping patterns data from annual surveys at planting time.

Yields are estimated from a water-balance model, adjusted by data from crop-cutting surveys undertaken at district level at harvest time. At the time of the Mission, not all the surveys had been completed, and local adjustments were often still awaiting completion. Consequently, the Mission's own spot-check crop-cuts, field scoring techniques that were adopted during transects driven throughout the field trips and in-depth farmer interviews, proved to be useful additions to understanding crop performance and yields have been adjusted accordingly.

At the same time, information regarding market prices, presentations and terms of trade collected by the Mission in all districts visited provides a further perspective on the agricultural condition.

3.1 Factors affecting production

Agricultural production in Mozambique is, to all intents and purposes, rainfed. Ninety-six percent of field crops come from family farms of 1 to 3 hectares mostly hand-cultivated, but with animal traction making an important contribution in the south and south-central areas. The remaining field crops come from the entrepreneurial sector encompassing both individuals and formal associations of peasants working together.

Given an absence of pressure on land, rainfall distribution, access to labour or traction, hand tools and seeds determines the area planted. Yield per unit area is determined by the distribution and quantity of rainfall, soil fertility, quality and sowing rates of seeds, cultivation and weeding, pest and disease challenges and their control and the timing of the husbandry practices. No formal credit institutions exist in the rural areas; therefore, the only farmers using credit are the limited numbers working with industrial agricultural companies who rely on contracts that provide credit in kind.

Rainfall

The main growing season usually starts with the first rains in September in the south and December in the north. There is also a minor growing season that extends from March to July, based on residual ground moisture that accounts for approximately 10 percent of total output. However, in the past few years, the rainfall pattern has been irregular and unpredictable both within and between provinces.

This year, in all the southern provinces false starts during September and October were followed by dry spells until late December, after which the rains were well-distributed and have continued fairly evenly until the time of the Mission in May. Such rains are providing a prolonged season that is not only enabling an

initial wave of crops replanted in January to reach maturity, but is also encouraging the staggered planting of maize and other crops up to the present time in all but the most semi-arid of locations, in anticipation of continuing production until July (see Figure A.1 in the Appendix).

In the north, although the rains began in December, they were generally not well consolidated until the beginning of January; thereafter, with the exception of several coastal districts, the ensuing patterns and intensities of rain have been favourable, encouraging regular planting in most areas.

In the central region, the pattern has been a mixed with similarly late or false starts but with breaks and shortages over the season according to location.

Overall, the 2004 end of season Water Requirement Satisfaction Index for maize, (prepared by USGS/FEWS NET), indicates a better level of satisfaction than in 2002 or 2003 and that, aside from zones in southeast Inhambane, where cassava, cashew and coconut complexes determine food security, demands were met.

Area planted

The average area planted per household is estimated at 1.2 hectares. Two or more plots are normally planted, including a back-yard field and at least one outfield. Intercropping of field crops and tree crops is widely practised in the large fields around the homestead; but the Mission also noted significant areas of monoculture maize, cassava and groundnuts in the outfields in the different provinces.

Given the near-subsistence nature of most farming enterprises, area planted is unlikely to vary except in the most dramatic circumstances. However, the universally poor early rains are noted by the Mission to have reduced water available for rice irrigation in Gaza and in Zambezia, with a concomitant reduction in the irrigated rice area of farmers.

This year, the poor rainfall at the beginning of the season delayed all planting and deferred successful maize planting, but is not thought to have significantly reduced the farmed area. Apart from specific locations where the rains did not pick up later in the season, the areas of early maize lost were successfully replanted with maize and/or sorghum in January and February. The consequent delay in the harvest is noted to have extended the hunger gap, and in areas without cassava, like Funhalorou and Chigubu, increased the reliance of peasants on wild foods from February until the harvest in late April.

Except in the case of the poorest farmers, cereal seed availability was not noted to have been an issue in districts where the main staple is either maize or sorghum, as the same local seeds are used for planting and eating, and sowing rates are low at 12–25 kg per ha. When the main cereal seeds are in very short supply, lower seed rates are adopted; however, the usual approach is to borrow or work for seed from neighbours. Elsewhere, 121 seed fairs organized during this agricultural year, with the assistance of FAO and a wide range of agencies, provided diverse seeds to 64 400 families; thus offering alternative planting material at no cost.

Given the nature of the Mission, it was not possible to confirm physically the estimated areas reported other than to say that the farm sizes appear to conform to expected patterns and that in all regions the areas were cultivated as usual. Crop proportions noted during major and minor road transects driven by the Mission in the south do, however, point to an increase of cassava in the Inhambane province that is not immediately obvious from the statistics.

Table 1 shows the estimated areas planted to major food crops during the 2003/04 agricultural season. Regarding the annual crops, the Mission notes that they reflect the areas of late-sown and replanted crops, and are in keeping with previous estimates.

Table 1: Mozambique: Area planted to the major food crops, 2003/04 (hectares)

Provinces	Maize	Sorghum	Millet	Rice	Beans	Groundnuts	Cassava
Total North	352 391	237 546	13 715	55 559	197 559	113 428	652 082
Cabo Delgado	90 047	69 651	4 670	15 106	58 398	46 098	176 661
Niassa	143 246	41 081	1 983	4 818	64 231	4 068	26 252
Nampula	119 098	126 841	7 062	35 635	74 930	63 262	449 169
Total Centre	682 203	249 763	74 174	114 981	128 043	64 800	303 193
Zambezia	220 888	73 196	14 875	82 857	56 697	33 956	287 218
Tete	174 675	61 160	29 606	302	47 358	17 379	1 459
Manica	197 748	51 024	17 458	783	4 776	5 050	1 401
Sofala	88 892	64 383	12 235	31 039	19 212	8 415	13 115
Total South	277 007	41 452	23 297	8 061	104 849	115 693	113 225
Inhambane	89 634	24 545	13 727	3 541	53 247	76 308	69 036
Gaza	143 061	15 454	9 570	2 937	41 595	30 386	39 004
Maputo	44 312	1 453	0	1 583	10 007	8 999	5 185
Country total	1 311 601	528 761	111 186	178 601	430 451	293 921	1 068 500

Crop Yields

Inputs

In Mozambique, agricultural practices are predominantly traditional. Land is generally slashed with a cutlass, the trash burnt or buried and the area cultivated using the long-handled or short-handled African hoe. In the south, farmers with ox ploughs provide a contracting service to the others who can afford to pay the hire charge which, this year, ranged from 30 000–50 000 meticaís (Mt) for 1 000 square metres. The concentrated nature of the late season caused queues to form and pushed up prices as demands for timely services grew. The commercial sector, including small-, medium- and large-scale farms and agricultural companies, uses both ox-drawn ploughs and tractors, hiring the latter at around Mt 260 000 per hour.

As is the normal practice, most farmers planted their crops with local seeds from the previous season's production either from their own supply or from local informal sources. The potential of such seeds is limited, however, with 100 g of grain per cob commonplace and four filled cobs per square metre frequently noted during the Mission, four-five tonne per hectare crops are a distinct possibility and as recorded by World Vision in their annual surveys this year. In addition, to the peasants such seeds have three advantages: they are readily available locally, they are well-known and they are cheap.

Seed companies (including SEMOC, SEEDCO and Pannar) supply some seed to farmers, but adoption rates this year were reported to be low as prices are considered, by both the peasants and the emerging farmers, to be high and less support was said to be available. A few cereal farmers close to the main towns and along the borders with Zimbabwe and Malawi make limited use of improved seeds, fertilizers and pesticides. However, the bulk of such inputs are used on cash crops, particularly tobacco, cotton and oilseeds, through company credit schemes providing inputs in kind against guaranteed purchases of the product at negotiated prices; together with inputs for tobacco production, tobacco companies have also provided limited quantities of improved maize seeds. Agricultural inputs are also used on irrigated vegetable crops and on MADER demonstration farms.

Pests and diseases

Serious cases of diseases and pests noted this year during the Mission were caused by the cassava brown streak and mosaic viruses, oidium in cashew, cassava mealy bug, and leaf miner affecting groundnuts. Such problems are not unique to this year and various steps have been taken by MADER to deal with them, including the introduction of cassava varieties resistant to the brown streak disease and cashew planting material resistant to oidium.

Spraying extension campaigns designed to educate and encourage the peasant farmers to use insecticides available at subsidized prices through the Directorates of Agriculture were carried out. These campaigns do not appear to have been particularly successful in persuading farmers to buy chemicals as, being conditioned to emergency responses and hand-outs, they prefer to wait until direct assistance is provided.

The use of storage chemicals appears to have been more successful, without which maize losses in the south are very high, particularly in a year of prolonged rainfall. Presently the pests of greatest concern are rats and weevils, with losses in the local maize cribs quoted as high as 40 percent per annum.

At the same time, the spread of the large grain borer in major maize growing areas in Sofala, has prompted a sanitation programme designed to eliminate stocks and stores where this pest occurs. Such drastic remedies are clearly warranted and need to be supported and sustained by other phytosanitary controls.

In the northern region and to a lesser extent in the forested areas of the central and southern regions, the most serious pests are wild animals, particularly elephants. Methodologies designed to ameliorate the problem of elephants, while respecting international environmental and wildlife concerns, are presently under consideration/pilot application by MADER.

3.2 Food production in 2003/04²

Main crops

Table 2 gives production estimates for the main crops at national, regional and provincial levels for the 2003/04 cropping season based on the March MADER preliminary findings, updated by information collected by the Mission. Overall, maize production is considerably better than the last year's abysmal harvest in the southern provinces, similar to last year's good production in the northern provinces and better than last year in the central provinces due mostly to better production reported in Manica, although poorer returns were obtained from Zambezia and Tete.

In aggregate, cereal production (maize, sorghum, millet and rice) in 2003/04 is estimated at 2 004 957 tonnes comprising 72 percent maize, 17 percent sorghum, 9 percent rice and 2.5 percent millet. Total maize production is estimated at 1 437 044 tonnes, some 15 percent above last year. Production of sorghum and millet is forecast at 390 494 tonnes, which is 8 percent higher than last year. By contrast, paddy production is forecast at 177 419 tonnes, 11 percent lower than in 2002/03 due to a reduction in irrigated area and lower yields.

Table 2: Mozambique: Production of major food crops 2003/04, by province (tonnes)

Provinces	Maize	Sorghum	Millet	Rice (paddy)	Beans	Groundnuts	Cassava 1/
Total North	468 321	161 698	8 608	57 597	99 143	62 600	3 669 094
Cabo Delgado	135 172	49 303	3 021	17 619	34 894	23 853	1 236 647
Niassa	199 105	27 585	1 208	4 362	28 993	1 855	183 764
Nampula	134 044	84 810	4 379	35 616	35 256	36 892	2 248 683
Total Centre	757 662	157 272	38 199	108 015	65 664	32 907	2 119 050
Zambezia	253 618	49 651	9 382	73 000	35 918	20 891	2 009 896
Tete	177 159	30 075	13 483	215	19 172	6 724	8 752
Manica	243 159	32 153	8 669	665	1 871	1 673	8 408
Sofala	83 726	45 393	6 665	34 135	8 703	3 619	91 994
Total South	211 061	18 067	6 650	11 806	27 570	31 992	624 623
Inhambane	47 502	13 262	4 274	2 196	15 126	19 889	403 035
Gaza	127 238	4 355	2 376	5 585	10 078	8 683	195 662
Maputo	36 321	450	0	3 735	2 366	3 420	25 926
Country total	1 437 044	337 037	53 457	177 419	192 377	127 499	6 412 767

1/ Potential production defined as in-the-ground availability.

Table A.1 in the Appendix compares production forecasts for the 2003/04 cropping season with those for 2002/03 by region, revealing a general increase in production for all crops except rice. The dramatic positive effect of the very good late rains in the south is clearly evident. In the northern region the second good year in succession has sustained the maize and boosted groundnut crops, and in the central region the maize increase has occurred in Manica, reflecting an expansion in area planted as well as a better performance of the crops.

During the Mission an attempt was made to independently ascertain likely cassava production levels. A series of spot checks were incorporated into the Mission's activities whereby above-ground characteristics (density and development) were scored and cross-checked against the samples dug on a regular basis in the districts visited. Estimates by MADER Early Warning Unit nominally place cassava yields at 6-7 tonnes

² Analysis by Province is in the Appendix.

per hectare (fresh weight). Although this quantity may reflect levels of subsistence utilization, it is felt that such levels do not reflect yields from farmers harvesting tubers for sale or flour production.

Several points emerge from the findings. In several areas of the southern, central and northern regions, it was noted that planting was undertaken at the same time each year during a recognizable planting season over a period of 2-3 months. Consequently whole fields of cassava of approximately the same age but differing from each other by a year or so, presently dominate the field crop landscape.

In such fields, plant densities are invariably uniform and detectable at 1m x 1m; 1m x 1.5m; 1.5m x 1.5m and 1m x 2m between plants, which giving 10 000, 6 666, 4 444 and 5 000 plants per square metre, respectively. Tuber yields are extremely variable according to type, husbandry and purpose. The Mission noted that they range from 1–8 kg/plant connecting to a production range of 4 tonnes (in severe cases of mosaic disease) to 40 tonnes per hectare, with a median performance around 18–20 tonnes per hectare.

Harvesting is conducted at around eight months, for the sweeter eating landraces and from 18 to 27 months for the cooking and flour producing types. Fields are harvested quickly for the sweeter landraces and serially, as required, for domestic use and sale through the year (18 to 27 months) for the processing landraces. Given a consistent pattern to the individual family's household food economy, eight-month fields follow the usual pattern of annual crops being dug, sold or eaten within the year, and the 18-month landrace farms are likely to reach a stable state part way through the second year of the first planting. That state is reached provided that new fields are planted at the same time each year. Each season, the area planted should match household annual demands for food and income so, under such a stable state, the area harvested per annum equals the area planted.

Alternative planting systems involving the all-year-round propagation of plant replacements as each unit is taken, are also noted. These connect to a different stable state in which the area is constant and contains plants of all possible ages. Area harvested per annum is equal to the size of the cassava holding in land units, multiplied by a factor reflecting plant age at harvesting, e.g. 1 hectare x 12/18. Such units are very obvious to spot as they present a widely varied age grouping of cassava plants, compared to the comparatively uniform nature of the first type of cultivation mentioned above.

These considerations suggest that, in several areas visited and in places with a market for cassava products in general, cassava production is well-organized with respect to planting and harvesting times, and with higher yield than the nominal 6 tonnes per hectare. It is recommended that a comprehensive study of cassava harvesting and utilization be made during the coming year to improve the quality and reliability of the crop estimates. Pending this review, the Mission has used the 2004 cassava production estimates provided by the Early Warning Unit of MADER.

Total output of beans is estimated at 192 377 tonnes, 7 percent higher than last year due to better crop performance of pulses in the north and central regions. A less-than-average performance noted in the southern region reflects early sowing and the subsequent water stress experienced.

Groundnut production, at 127 499 tonnes, is 16 percent higher than last year due to a better than average performance in the north.

Other crops

Industrial crops in Mozambique are presently undergoing robust expansion. Investment in sugar, tobacco, tea, citrus and livestock on plantation scale has boosted agricultural exports over the past two years. At the same time, contributions from the traditional export commodities, namely cashews and cotton, fell; the former due to the declining tree stock and the latter from market-driven production swings. Notwithstanding the foregoing, cashew production is still contributing substantially to farm incomes and food supply. Peasant holdings of tens of trees produce around 50 000 tonnes of nuts for export. Total production, including domestic use and sales, is much higher. Programmes to combat oidium have been noted, including the propagation of resistant varieties and tree spraying.

Coconuts play an equally important role in household food economies throughout the littoral. Domestic holdings of 100–200 trees each produce 100 kg of nuts throughout the year, which may be sold as nuts at Mt 1 000 each or as copra. Timber and local liquor are also important products of the household coconut plantations, offering wide-ranging opportunities to achieve food security for most peasants living in the coastal coconut growing areas. This year copra production is estimated to be in the order of 265 000 tonnes, similar to the previous two years.

Sugarcane production in the four estates is expected to increase this year by 18 percent to 2.2 million tonnes from a total of 30 130 hectares. Returns for the first quarter provided to the Mission confirm the continuing expansion noted last year following the refurbishing of the estates and factories.

Cotton area planted at 183 000 hectares is 15 percent higher than last year, but still lower than the areas planted in 1999, 2001 and 2002. Crop conditions are reported to be favourable for production.

Regarding tobacco, the present season is expected to produce 48 000 tonnes from 147 000 growers organized through eight companies of which the Tobacos de Mocambique and Mozambique Leaf Tobacco are the most significant. This compares favourably with the 36 000 tonnes from 127 000 growers reported last year. This season, most of the 29 000 tonnes production is expected from 58 000 growers in Tete.

3.3 Livestock

Livestock numbers fell dramatically during the civil war and have not yet recovered. In southern provinces, the devastating floods of 2000 aggravated the situation. Preliminary results from the TIA survey are given in Table A.2.

These numbers graphically demonstrate the current low stocking density of grazing animals in what is, in the interior, essentially a silvo-pastoralist ecology of covering some 789 000 km². This year, grazing is abundant and due to the continuing rains, there have been no reported problems regarding access to water. Consequently, the large and small ruminants are noted to be in excellent body condition in all regions.

The attraction of such pasture for neighbouring pastoralists from Zimbabwe has caused the imposition of movement restrictions at the frontier to reduce the risk of cross-border movement of foot-and-mouth disease (FMD). A robust vaccination programme last year appears to have been successful as no current incidents of foot and mouth disease were reported to the Mission.

Given the extremely low stocking densities and the dispersed nature of the holdings, animal diseases are not generally a problem this year, except for Newcastle disease of poultry. As vaccination of rural chickens is not an economic option for either state or private concerns, this endemic disease reappears regularly throughout the backyard units.

Regarding animal feeding, production systems are either grass based, for the ruminants, or based on backyard scavenging as is the case with pigs and the majority of the poultry. Organized supplementary feeding of productive stock was not observed. There is, however, an emerging broiler industry: an indefinable number of small units raising day-old chicks in about six weeks' time has been established in the vicinity of Maputo. The units buy locally produced feedstuffs. As the feed bags have no labels, nutrient content is debatable, however, it is possible that the ration includes home produced cereals. Regarding the back-door poultry that scavenge for food, it is estimated that a large proportion of the 15 million head receive some quantities of grain per day in the months immediately after the harvest.

The fragmented nature of the livestock sector makes realistic production estimates difficult. National census returns suggest that 30 percent of livestock are females of breeding age. In the case of cattle such stock may be breeding every other year; for small ruminants the frequency is expected to be higher, with birth percentages at around 80 percent. Neonatal mortality, however, is estimated to be around 40–50 percent, which is very high, as a result of management practices and of predators. Under these circumstances, flock and herd replacing, rather than substantial growth in breeding stock, is the most likely result of natural breeding programmes. This suggests that restocking to pre-war levels will take a very long time.

Livestock prices noted by the Mission are firm and quite standard across the country at around Mt 5 million for cows. Goat prices show a far wider variability ranging from Mt 150 000–450 000 for slaughter stock according to the proximity to markets.

The use of forest products is closely allied to peasant utilization of grazing in the silvo-pastoralist ecology of the Mozambique bush. Throughout all regions peasant income is supported by charcoal-making, the cutting and selling of firewood and the use and sale of wild fruits and to a more limited extent, bush meat. The contribution from these activities varies according to location, household size and structure and access to markets. Mission findings suggest that under the prevailing conditions of unlimited access to most areas of the bush, some 20 sacks of charcoal can be produced per week, which may be sold on the highway for Mt 50 000–60 000 per sack, provided access may be arranged.

More organized extraction of timber is becoming evident, and licences issued by MADER confer rights of extraction on traders equipped with lorries and tractors to move labourers into the forests and to extract the timber. It is unclear how far such schemes ensure replanting, however, given that in Funhalorou District (Inhambane) alone 45 000 licences have been issued, guarantees of replanting of quality timber would seem to be a prerequisite for sustainable forest exploitation.

4. FOOD SUPPLY SITUATION

4.1 Food prices

Progress in recent years in the on-going Government's programme of road construction and rehabilitation has resulted in improved movement of goods among the different regions of the country, and now more maize from the Centre is found in the structurally deficit South. This notwithstanding, transport costs still remain high and make it uncompetitive to move maize from surplus areas of the North, and central districts situated above the Zambezi river, to southern provinces, when compared with imported South African maize. At the same time, it is more profitable from these surplus areas to export maize to Malawi or Zambia, which due to its proximity appears as the most likely markets. As a consequence of this lack of market integration, there are significant differences in maize prices among regions (see Figure A.2). Retail prices of maize in the southern Maputo market by the end of May, at 5 085 meticaís/kg, were about twice those in the northern and central markets of Nampula, Tete or Manica, where they ranged from 2 267 to 2 847 meticaís/kg.

Prices of maize have declined in all regions since March/April with the onset of this year's satisfactory harvest. However, their trends vary according to regions. In the South, contrary to last year's behaviour, prices of maize declined sharply in May, reflecting the recovery in production this season. The price of maize in the Maputo market by May was 21 percent lower than in April and below its level of a year earlier. In the Centre, the normal seasonal decline of prices has been less steep than in previous seasons and, by May, they remained higher than a year earlier in all the main markets. This reflects a decrease in production in the important surplus provinces of Tete and Zambezia, coupled with strong import demand from neighbouring Malawi. The delayed harvest of maize this year could also explain the price levels. In the North, prices of maize started to fall earlier in response to the good crop in progress. By May, the price of maize in the Nampula market was lower than both its level before harvest and at the same period last year. In real terms, prices of maize, in April 2004, were lower than in April 2003 in the northern market of Nampula but higher in central Tete and southern Maputo markets.

4.2 Overall food supply situation and access to food

The significant increase in this year's cereal output is expected to result in an overall satisfactory food supply situation during 2004/05 (April/March). As much of the expansion (70 percent) is due to the recovery in production in the southern provinces, food security is expected to improve dramatically in these areas previously affected by a succession of poor harvests. In southern markets, the decline of maize prices - which had remained at high levels in the past two years will improve access to food for a large number of food deficit households.

At national level, the area under cassava and sweet potatoes is growing steadily following promotion programmes carried out by Government and international agencies. Traditionally maize-eating populations are consuming more cassava with a resulting positive impact on food security. In areas of central Tete and Zambezia provinces where production of maize was reduced this year, the Mission could observe that the availability of cassava made an important difference in food security at district and household levels. The Mission also noted that, in all regions, the expansion of both traditional cash crops, such as cotton, tea and tobacco and newly introduced ones, such as paprika, sesame and soybeans was significantly contributing to provide alternative sources of incomes to the households.

Despite the satisfactory food output at national level, there are pocket areas where production was reduced by dry weather or pests, including the districts of Govuro, Mabote and Funhalouro in Inhambane province, Chicualacala and Chigubo in Gaza province, southern districts of Tete province, the northern and southern tips of Manica province, some districts in Sofala province, as well as the districts of Memba, Nacala Veba and Mossuril in Nampula province. The situation in these districts needs to be closely monitored in the coming months.

4.3 Supply/demand balance for 2004/05

The parameters used in the elaboration of the 2004/05 balance sheet in Tables 5 and 6 are described in this section.

Population

Based on official population projections released by the National Institute of Statistics, a population of 19.088 million people on 1st of November, the middle of the marketing year April 2004/March 2005 has been used to calculate food consumption.

Opening stocks

Carryover stocks of maize from the previous marketing season are estimated at 67 000 tonnes. Of these, 10 000 tonnes were kept by large traders monitored by the Ministry of Industry and Commerce, 20 000 tonnes were WFP food aid stocks and the rest was in the hands of farmers in central and northern areas. Following four consecutive reduced harvests, no carry-over stocks were estimated in the southern region. Stocks of imported wheat and rice held by traders and millers are estimated at 60 000 and 40 000 tonnes respectively (including 3 000 tonnes of rice with WFP). Stocks of sorghum include 14 000 tonnes of exceptional WFP food aid stocks.

Production

Cereals and cassava production figures are the Mission's estimates (see section 3.2)

Food use

The annual per capita cereal consumption has been revised upwards from the 108.2 kg rate used in the previous assessment to 112.4 kg, in order to reflect rising consumption of rice (22kg) and wheat (16.5 kg) in the past years, associated with higher imports (commercial and food aid) shown by revised statistical series. This increase in consumption is mainly in urban areas and follows the steady economic growth of the past decade. Consumption of maize is expected to fall slightly (from 57 kg to 56 kg) to reflect substitution with sorghum and millet, which this year will be available in larger quantities. Consumption of cassava has been adjusted to 144.5 kg per capita per year as a result of changes in the estimates of available production to account for differences between area cropped and area actually harvested in a single calendar year (which is estimated by the 1999-2000 Agricultural Census at 66 percent). Therefore, the actual production shown in the food balance is lower than the potential, in-the-ground availability of the production section.

Other uses

Post-harvest losses have been estimated at 15 percent for maize in the northern and central regions and at 25 percent in the southern region, where storage conditions are poorer. Losses of cassava are estimated at 25 percent. Retentions of grains as seeds for the next planting take into account the need for possible replanting of maize, as has been the case in the past seasons. Seed rates used are 20 kg/ha for maize, 80 kg/ha for rice and 10 kg/ha for sorghum and millet. Feed use of maize includes requirements of the feed industry (45 000 tonnes), as well as small amounts to feed animals at household level, mainly in the months immediately after the harvest (20 000 tonnes). Also, 10 percent of cassava is assumed to be used as feed. Industrial use of sorghum for beer production has also been included.

Exports

Even in years of poor harvests, substantial quantities of maize are exported informally to neighbouring countries, mainly Malawi. This is due to the combination of: i) surpluses in bordering provinces of Mozambique where maize is also a cash crop; ii) a structural deficit of maize in the highly populated southern part of Malawi; iii) a large open border between Mozambique and Malawi and closeness to population centres of Malawi, from Tete and Zambezia provinces; iv) the high transport costs from northern and central areas of Mozambique to southern maize deficit provinces, and v) relatively lower production costs in the bordering provinces of Mozambique.

While an accurate quantification of the informal trade to Malawi is not available, recent studies suggest that cross-border exports could vary from 70 000 tonnes to 250 000 tonnes in a year, depending on the levels of production and prices on both sides of the border. In addition, substantial quantities of maize move into Zambia from northern Zumbu and Maravia districts of Tete, which are cut off from southern parts of the province by the Zambezi River and the poor communication infrastructure.

This year, although slightly lower than in 2003, production in Zambezia and Tete provinces has been satisfactory, at the same time that harvests have been reduced in southern districts of Malawi (Blantyre,

Machinga, Shire Valley), pointing to improved export opportunities into Malawi. The Mission visited five posts on the Malawi border: Calomue, Mulungane, Dome and Zobue in Tete province and Milange in Zambesia province. Although the marketing season had not reached its pick in Tete province, active cross-border trade was observed in Mulungene and Zobue locations. The most intense informal border traffic, however, was observed in Milange location, where bicycles are moving substantial volumes of maize into Malawi, attracted by the higher prices there. The price per kilo of maize on the Malawi side (Mloza) was 10 kwacha, against 8 kwacha in the Milange market and as low as 5 kwacha just some 50 kilometres from the border (location of Coromono). A bumper maize harvest in Zambia will probably constrain flows to that country, but much will depend on the evolution of maize prices in bordering areas. Only limited quantities of maize are expected to move into Zimbabwe because of the lack of purchasing power in that country and the parastatal Grain Marketing Board (GMB) being the exclusive import agent. Overall, maize exports (formal and informal) in the marketing year 2004/05 are projected at 170 000 tonnes. Marginal quantities of wheat flour are also expected to be exported to Malawi, as noted by the Mission at the Calome and Zobue border posts.

Closing stocks

Stocks at the end of marketing year 2004/05 (April/March) are expected to decline slightly from their opening levels as a result of the improved export prospects and the drawing down of food-aid stocks.

Import requirements

Imports of rice and wheat needed to maintain consumption at the apparent consumption levels of the past three years are estimated at 325 000 and 320 000 tonnes, respectively. These amounts include programmed food aid to be monetized in the market, and minor quantities of rice pledged for WFP development projects. Despite exports of maize from the northern and central provinces, the food balance shows imports of maize for southern deficit provinces, which reflects the high costs of moving the crop from the north to the south of Mozambique and the proximity of these provinces to the competitive South African market both in terms of quality and price. Imports of maize are forecast at 140 000 tonnes, comprising 117 000 tonnes of commercial imports and 23 000 tonnes of food aid for WFP relief and development programmes. It should be noted that the total WFP's maize requirements for all programmes in 2004/05 amount to 50 000 tonnes and that the difference is to be covered by carry-over stocks of food aid and local purchases (Table 4). The estimate of 23 000 tonnes of food aid shown in the balance takes into account only local purchases of maize already contracted. However, the Mission estimates that there is scope for additional local procurement, which is fully supported by WFP (see section 5.6). Donor assistance may be necessary in further buying domestic surplus of maize to reduce the imported food aid requirement. Should WFP manage to buy additional quantities of maize locally, imports of food aid will decrease.

Overall, cereal imports in 2004/05 are projected at 785 000 tonnes, some 10 percent less than in the previous year, reflecting a bumper cereal production in the southern provinces and reduced food aid distributions following the completion of the WFP emergency operations.

Table 3: Mozambique - Staple food supply/demand balance 2004/05 April/March ('000 tonnes)

	Maize	Rice (milled)	Wheat	Sorghum/ Millet	Total cereals	Cassava
Domestic availability	1 504	158	60	415	2 137	4 453
Opening stocks	67	40	60	24	191	220
Production	1 437	118	0	391	1 946	4 233 ^{1/}
Utilization	1 644	483	380	415	2 922	4 453
Food use	1 068	419	315	344	2 146	2 752
Other uses/losses	351	30	0	61	442	1 481
Closing stocks	55	34	60	10	159	220
Exports	170	0	5	0	175	0
Total imports	140	325	320	0	785	0
- Commercial	117	265	270	0	652	0
- Programme food aid	0	51	50	0	101	0
- Relief/Dev. food aid ^{2/}	23	9	0	0	32	0
of which:						
pledged/received	9	9	0	0	18	0

^{1/} Actual quantities harvested.

^{2/} Total WFP Relief/Development food aid requirements amount to 76 000 tonnes, but the difference will be covered by carryover stocks and local purchases. See detailed table below.

Table 4: Mozambique - Total WFP food aid requirements in 2004/05 (April/March)

	Maize	Rice	Wheat	Sorghum/Millet	Total cereals
WFP Food aid requirements	53	9	-	14	76
Development food aid	18	9	-	-	27
Relief food aid	35	-	-	14	49
WFP Food aid pipeline	39	12	-	14	65
Carryover stocks	20	3	-	14	37
Local purchases	10	-	-	-	10
Pledged/received 2004/05	9	9	-	-	18
Deficit/Stocks	-14	3	-	-	-

5. FOOD AID REQUIREMENTS

5.1 Food security background

Background of current situation

Over the past four years, many parts of Mozambique have experienced crop failure due to drought that prompted an emergency response to household food insecurity in the semi-arid zones in the southern and central regions. The 2003 FAO/WFP CFSAM Report noted that households in 40 districts were faced with acute levels of food insecurity and possible malnutrition from the combination of drought-induced crop failure, high prevalence of animal diseases and economic failure in neighbouring Zimbabwe, as well as the chronic effects of physical isolation and HIV/AIDS impact on the working population.

In November 2003, four Vulnerability Assessment Committee (VAC) teams visited drought-affected districts in Gaza, Inhambane, Maputo and Tete provinces in order to update the status of the food insecure populations identified in the 2003 VAC assessment. At that time, the teams found that the food security situation of these populations had stabilized due to the combined effects of the ongoing emergency response and mitigation programmes, and the second season production. However, they found that despite the availability of seeds and tools, in many places the rains had arrived late or were poorly distributed, especially in Maputo province raising fears of a third consecutive year of drought.

Rainfall improved in January 2004, but cumulative amounts were still below normal in most parts of the country. At this time, the Mozambique Vulnerability Assessment Committee (VAC) was making plans to conduct a food security assessment in the areas most affected by the previous two droughts to determine the impact of another potential drought on household food security in rural communities.

Rainfall amounts and coverage continued to improve until April. By the time of the FAO/WFP CFSAM, the production outlook had improved in most areas of the country. However, there are still food security problems in many parts of the country as families are struggling to recover from the impacts of the droughts over the past two years along with the longer-term impact of HIV/AIDS.

Government policies

There are different policies in Mozambique to orient and guide food security actions and programmes, namely: Action Plan for the Reduction of Absolute Poverty (PARPA 2001–2005); Food Security and Nutrition Strategy, National Agriculture Programme (PROAGRI); National Research and Extension Work Strategy; Agricultural Marketing Strategy (2000–2004); Rural Development Approach; Rural Development Funds; Management of Forestry Resources, Fisheries Policy; National Plan to Fight Desertification, Food Subsidy Programme; Integrated National Social Welfare, Employment and Youth Programme; Action Plan for Disaster Management; and Strategic Plan of the Health sector. At field level the most relevant actions are in the field of agriculture, health, education and social action who are proactive in attending the vulnerable people.

In December 2003, the Government of Mozambique presented the National Contingency Plan for the 2003–2004 season to donors and humanitarian agencies. The plan estimates that 970 000 persons are exposed to the risk of drought, with the highest concentrations in Tete and Maputo provinces. The National Contingency Plan has an operating budget of \$35 million which is used for pre-positioning of stocks, building disaster preparedness and early warning capacity and disaster mitigation interventions. The United Nations Country Team in Mozambique has also updated its preparedness plan to ensure a coordinated inter-agency response that complements the government's activities.

Previous emergency assistance

The 2003 VAC assessment found that 659 000 people would require emergency food assistance. Between July 2003 and March 2004, around 500 000 people a month were receiving targeted emergency food assistance through food-for-work, vulnerable group, supplementary and school feeding activities. This assistance meant that about 75 percent of the estimated 659 000 extremely vulnerable persons identified by the 2003 VAC were receiving emergency food assistance. Post-distribution monitoring (PDM) and community-household surveillance (CHS) systems are being used to monitor the effectiveness and impact of food assistance. The March 2003 PDM found that 98 percent of the beneficiaries were satisfied with the quality of the food, and 99 percent were satisfied with the type of food received. As already mentioned, in November 2003, the VAC team reported that the ongoing emergency response and mitigation programmes had helped to stabilize the food security situation of the vulnerable populations.

5.2 Assessment methodology

The VAC in Mozambique is a multi-sectoral working group led by the Technical Secretariat for Food Security and Nutrition (SETSAN). In March 2004, the VAC conducted a household survey in districts that were expected to experience a four consecutive year of reduced harvest. The main objective was to assess the impact of the 2004 production year on household food security and nutrition in rural communities. Other objectives were to understand the effects of prolonged drought compounded by HIV/AIDS in order to provide decision-makers with information to formulate a better response.

The survey sample represents approximately 3.5 million people living in 11 regions of the country: Maputo, Gaza North and South, Inhambane Interior and Coastal, Sofala, Manica, Tete East and Southwest, and Zambezia Interior and Coastal. Using random sampling techniques, approximately 4 950 households in 42 districts were selected for interview. Information was collected on the following areas: household demographics, access to health and education, morbidity, mortality, HIV/AIDS knowledge, food consumption, expenditure, income activities, agricultural production, livestock, socio-cultural organization, exposure to shocks, risk and risk management and coping strategies.

Since the VAC survey was conducted about 6 weeks prior to the CFSA Mission, it was decided to use the data from this survey to better understand vulnerability and further determine food aid needs for 2004/05. The CFSAM and the VAC teams worked together to analyze data prior to and after the CFSAM field work in order to ensure the complementarity of the two assessments. CFSAM team members used key informants to provide additional information on HIV/AIDS, shocks and coping strategies. The VAC assessment results are used to describe vulnerable populations and their location and are considered to be reliable. However, the survey did not cover the entire country, but only those places previously affected by drought. The VAC plans to conduct a survey in the three northern provinces in July.

5.3 Vulnerability and coping mechanisms

The data from the VAC survey were analysed using multivariate statistical techniques; seven distinct livelihood groups emerged. The indicators used were as follows:

Livelihood indicators:

- Livestock ownership and diversity (cattle, goats/sheep, pigs and poultry)
- Cereal production
- Production of cassava and/or sweet potatoes
- Number of farm plots
- Sources of income: informal wage labour, formal employment, sales of agricultural products and livestock sales (for both men and women)

Outcome indicators:

- Percentage of food consumption from purchases or production
- Number of meals eaten in past 24 hours
- Household members with chronic illness (HIV/AIDS proxy)
- Effective dependency ratio (HIV/AIDS proxy)

The seven homogeneous groups that emerged vary mainly in types and levels of agricultural production, sources of income, ability to purchase or produce food for consumption and by the quality of their diet. There is a slight trend of decreased vulnerability when one moves upwards in the grouping.

Group 1 – Very small-scale subsistence farmers (cereals and some cassava) with the lowest ownership of livestock and productive assets than the other groups. They have the capacity to produce or purchase only 70 percent of their food needs. They also have the highest percentage of households consuming only one meal in the past 24 hours (44 percent) and the quality of the diet is the lowest in the sample. This group also had experienced more shocks than the others. About three-quarters of those suffering shocks has problems feeding their families in the past year. In addition, 8 percent of the households suffered the death of at least one person 18–45 years of age in the past year. In total, this group represents 13.9 percent of the sample or about 450 000 people.

Group 2 – All in this group produce cereals, with one-half cultivating cassava and a few planting beans. This group cultivates more land than the others in highlands and lowlands, but cites problems with pests and rainfall affecting production. The group has few animals but more than half own goats/sheep; household asset ownership is low. They can produce or purchase 85 percent of their food needs, and 26 percent of the households had consumed only one meal in the past 24 hours. They are prone to shocks from drought and crop infestation as well as malaria and high food prices. This group often sells animals to deal with shocks and represents 11.5 percent of the total sample or about 366 000 people.

Group 3 – These households produce only cereals and some beans, with no cassava or sweet potatoes. However, the households are able to produce or purchase 97 percent of their food needs and all had eaten at least 2 meals in the past 24 hours. Main source of income derives from agriculture and some sales. More than 40 percent own goats/sheep, and more than half own poultry. This group represents 12.2 percent of the sample or 414 000 people.

Group 4 – These people practise diversified production that includes cereals, cassava and vegetables for most households. They also have a higher dependence on wage labour for income, with about 40 percent of households having access to credit. These families are able to purchase or produce 92 percent of their food needs. About half of the households also own livestock. Nearly all had eaten 2 meals in the past 24 hours. This group represents 13.1 percent of the sample or about 440 000 people.

Group 5 – All households in this group own cattle, and three-quarters own goats/sheep and poultry. They also carry out diversified agricultural production with cereals (100 percent), beans (60 percent), cassava or sweet potatoes (55 percent) and vegetables (37 percent). Income is from agriculture and animal sales, and they are able to produce or purchase 84 percent of their food needs. Almost all had eaten at least 2 meals in the past 24 hours. In total, this group represents 10.6 percent of the sample or about 521 000 people.

Group 6 – All of the households produce cereals and cassava or sweet potatoes and 55 percent produce beans. More than half the households sell agriculture, livestock or traditional drinks for income. Almost all are able to acquire their families' food needs through purchase or production; all have eaten at least 2 meals in the past 24 hours. But this is also the group with highest percentage of chronically ill people and orphans. This is the largest group, representing 31.1 percent of the sample or about 1.2 million people.

Group 7 – These households are characterized by high levels of formal employment and sales of animals and agricultural products along with remittances (40 percent). Agricultural production is highly diversified and includes cereals, cassava, sweet potatoes, beans and vegetables. This group has the highest level of literacy in heads of household, best access to health services and the highest average quality of diet in the sample. They can achieve 93 percent of their food needs through purchase and production and 94 percent had eaten at least 2 meals in the previous day. About half have savings and half have access to credit. This group represents 7.6 percent of the sample or about 291 000 people.

The use of so-called 'coping strategies' was common among many households in every group. The survey instrument included a list of more than 30 commonly used strategies. Many of these are not, however, true coping strategies but rather livelihood strategies; hence no statistical analysis has been drawn concerning this point. The households in Group 1 were the least likely to purchase food or to have members migrate and the most likely to skip entire days without eating and to eat wild foods.

Characteristics of chronic and transitory vulnerability

- Agricultural production systems – more diverse in transitory groups
- Remittances – higher rates in transitory groups

- Money transfers – more in transitory groups
- Credit – chronic groups have less access
- Participation – transitory groups have much higher rate of participation in associations and groups that include agriculture groups, women’s groups, political parties, and churches
- Risk management – defined as the number of strategies that heads of households have employed as well as the type of strategy; chronic groups tend to only implement agricultural based strategies
- Shocks and resilience – strong relationship between the number of shocks that households face and their ability to still feed their family; chronic groups have more problems with fewer shocks
- Coping strategies – while there is not a huge difference between the groups, there are differences in the severity of strategies
- Outcomes – transitory groups have higher levels of education for adults and school attendance for children and better access to health services and ownership of health cards for their children

Food stocks and consumption

At the time of the survey in early March, 61 percent of the surveyed households had only 1 month of stock this year compared to 71 percent last year. The food stock was considered as the indicator defining the household’s vulnerability to food insecurity.

The VAC used the Mozambican Diet Quality Index³ to assess consumption information for each household. In general, the quality of diet was poor in most groups. However, the median score was 9 in Group 1, followed by 10 in Group 2, 12 in Groups 3 and 4, 14 in Groups 5 and 6 and 16 in Group 7. Dietary quality was used to further refine the targeting of those households that are most vulnerable to food security.

5.4 Health and nutritional status

The most recent nutritional data come from the countrywide Demographic and Health Survey (DHS), which was conducted in the second half of 2003. Nationally, the prevalence of acute malnutrition in Mozambican children (under five years of age) is among the lowest for developing countries in the Southern Africa region.

A third Multi-Sectoral Assessment (MSA) was conducted in May–June 2003, covering selected areas of Maputo, Gaza, Inhambane, Manica, Sofala and Tete provinces. More than 5 000 children aged 6–59 months were weighed and measured. These provincial results are presented along with the DHS. It is important to note that the samples differ in that the multisectoral assessment represents the most food insecure areas within a province.

The 2002 HIV Sentinel Surveillance data showed that between 2000 and 2002, the infection prevalence estimates had stabilized in most of the central region (except Zambezia), were increasing slightly in the south and definitely increasing in the north. Additional analyses show that estimated HIV prevalence rates are much higher in urban populations for Gaza, Manica, Tete, and Zambezia provinces when compared to the rural estimates. For Sofala and Maputo, they are nearly the same.

Table 5. Mozambique - health and nutrition status (second half of 2003), percentages of total population

	HIV estimates 1/ (%)	Wasting (%)		Stunting (%)	
		DHS	MSA	DHA	MSA
Niassa	11.1	1.3	-	47.0	-
Cabo Delgado	7.5	4.1	-	55.6	-
Nampula	8.1	6.0	-	42.1	-
Zambezia	12.5	5.2	-	47.3	-
Tete	14.2	1.6	8.0	45.6	38.4
Manica	19.0	2.8	3.4	39.0	34.0
Sofala	26.5	7.6	3.6	42.3	37.5
Inhambane	8.6	1.3	2.9	33.1	36.8
Gaza	16.4	6.7	2.4	33.6	38.2
Maputo province	17.4	0.5	4.7	23.9	38.8
Total	13.6	4.0	-	41.0	

1/ Adults 15-49 years. MISAU, 2002.

³ Rose, D, Meershoek S, Ismael C, McEwan M. Evaluation of a rapid field tool for assessing household diet quality in Mozambique. *Food and Nutrition Bulletin* 2002;23:181-189.

The highest prevalence of acute malnutrition was found in Sofala province, which is also the province with the highest prevalence of HIV infection. However, the other two provinces with high prevalence of wasting have medium and low prevalence estimates of HIV infection. This phenomenon does not indicate a clear direct relationship between HIV and child malnutrition, but rather that HIV/AIDS could be one of many contributing factors to acute malnutrition in children.

According to a more recent survey entitled “Nampula: Investir na nutriçao è reduzir a pobreza” (Ministry of Health, April 2004), one in five children in that province die within the first year and one in three within the first five years, mainly due to the poor feeding habits. It also reports that 49 percent of the deaths among children and youth are attributable to malnutrition. Anaemia is very high in women of reproductive age, resulting in high-risk pregnancies. Nampula is one of the provinces with the highest rate of malnutrition and mortality in the country and on the continent.

Secondary data show that HIV/AIDS is a problem in this country, particularly in the central and southern regions. Malnutrition in children is a problem, but mostly in the north. Many Mozambicans continue to feel the impact of HIV/AIDS in their communities and households in terms of livelihoods and food security. Reports from the CFSAM field visits indicate that in the already well-known corridors from Beira to Zimbabwe and within Maputo, HIV/AIDS continues to have a significant impact on households' ability to earn income and, in some cases, to produce food. Both government officials and farmers indicated the need for patients to consume and produce foods of higher nutritional quality, and also mentioned the need for more programmes to assist victims and their families.

Vulnerability is an understanding of a household's ability to cope with and manage risks and shocks. A household's ability to cope and manage is in part a function of its livelihood strategies. According with VAC 2004, more than 70 percent of the people considered drought the most common shock followed by malaria, agricultural pests and food price increments. The impact of these shocks is directly reflected by households' ability to feed their families. Some 44 percent of the families indicated that they have gone through a stress period, with difficulties in feeding their families in the past 12 months; this proportion reached 49 percent in female-headed households. For example, in Livelihood group 1 of the households that encountered over 4 shocks, more than 65 percent found it difficult to feed the family, while for other groups major difficulties occurred only after facing 8 or more shocks.

There is a strong correlation between the number and types of risk management that households undertake and their degree of vulnerability. There are several ways in which households manage their risk and overcome the impact of a shock, including changes in production systems, diversifying income, migration and participation in community groups or associations. The less vulnerable tend to opt for a higher number of strategies, including practicing agriculture, switching jobs, migrating and participation in community groups, while the more vulnerable tend to focus on agricultural activities and on more severe strategies such as reducing number of meals, or even spending a day without eating and eating a poor quality diet. For example, 70 percent of group 1 have spent a day without eating, and 60 percent consumed a poor-quality diet <12. The 2004 VAC reports that a high percentage of the sample heads of household are chronically ill (13 percent), with Zambezia and Inhambane showing the highest levels. More than one-third of households indicated the death of one child under four years of age, and 7 percent reported more than one death.

5.5 Estimation of population in need of relief food assistance

The estimates of population who would benefit from relief food assistance were calculated as follows:

- Estimated population represented by Group 1 to 3 of the VAC survey;
- of these, the percentage that consume a very low quality diet < 12 + no food reserves or with 1 to 3 months reserves + no perspectives of harvest;
- For each of the 11 regions, the estimated percentage of those households was multiplied by the population of each district in that region, making two groups those with no reserves at all, and those with 1-3 months reserves, the first is included until September and the second from October until March
- From those and according with crop assessment part of the mission, districts with good access to markets and food availability were taken out;
- those not covered by VAC, but considered as in need of food aid by the mission, due to acute problems such as crop pests or diseases, post harvest losses or high HIV, were included, using the same percent of population found in an identical food economy zone by VAC.

Assumptions:

- The sample was drawn only to extrapolate results at the region/cluster level. Therefore, the assumption is that these most food insecure populations are evenly distributed between the target districts.
- Since the mission found that in most places farmers had been replanting continuously, only those without stocks at all would need relief food assistance between July and September 2004, plus those with 1 to 3 months stocks between October and December.

An explanation of the households that could require food relief assistance over the next year is provided in detail in the vulnerability section of this report. The Mission concludes that food-assistance programmes that specifically target the vulnerable populations in drought-prone areas will result in positive effects on the longer-term food security of these areas.

5.6 Food-aid needs and strategies for food assistance

Table 6: Food aid needs 2004/2005 (July/March)

	April-June	July-September	October - December	January-March	Total
Cereal needs/ tonnes	15 622	5 888	13 065	14 415	48 990

- It is recommended that WFP and partners continue targeted food aid activities that aim to mitigate the effects of drought, increase food security and reinforce the livelihoods of the affected populations.
- The results in the Table 6 are based on the findings from the 2004 VAC household survey and should be used to refine geographic and household targeting for programmes.
- Although acute malnutrition remains at acceptable levels nationally, the high levels found in the north of the country – the “bread basket” of the country – are alarming. The mission suggests that WFP, UNICEF and the development community investigate opportunities to implement Maternal and Child Health programmes to provide fortified blended food along with health and nutrition education for expectant and nursing mothers and their young children, particularly in Nampula.
- Continued assistance to HIV-affected households is imperative, especially as the joint WHO/UNAIDS “3 by 5” initiative will be expanded by the Ministry of Health over the next few years, particularly in the highly infected areas in the centre of the country.
- Complementary activities such as school feeding, take home rations for girls and orphans, Orphans and Vulnerable Children as well as assistance to People Living With HIV/AIDS(PLWHA) and supplementary feeding activities should be considered as part of the relief and recovery process.

Scope for local purchase for food aid

WFP buys locally when possible to stimulate the local markets. WFP local purchases to implement food aid in Mozambique, particularly in the centre and north of the country, started about three years ago, with amounts increasing annually. WFP procured 6 706 tonnes of food in 2002, 14 475 tonnes in 2003 and 6 838 tonnes already in 2004. WFP has another 3 000 tonnes under procurement that will be available for distribution in the coming months. WFP buys in central and northern areas, where maize is becoming a cash crop for small farmers, with a very positive impact on their household food economies. Parts of the centre and the north of the country have traditionally maize surpluses, but in 2003 the amount required to supply WFP requirements was not met.

Overview of logistics capacity and constraints

The main points of entry of food commodities into Mozambique are the three ports of Maputo, Beira and Nacala. From these locations food is transported to Extended Delivery Points (EDPs) by road, using private transporters. Bottlenecks might arise due to limited transport capacity (in particular in Tete and Zambezia) and due to deteriorating road conditions during and after the rainy season. Where serious damage restricts road access to beneficiaries, alternative forms of transport (air or boat) must be envisaged, similar to those used during the floods of 2000 and 2001.

Storage capacity of the WFP central warehouses in Maputo (9 000 tonnes), Beira (up to 30 000 tonnes), Tete (up to 5 000 tonnes), Nacala (5 000 tonnes) and Vilankulo (500 tonnes), as well as at Extended Delivery Points, is considered sufficient to absorb the necessary quantities of food aid. New storage facilities through the establishment of WIJK-halls could be considered if necessary.

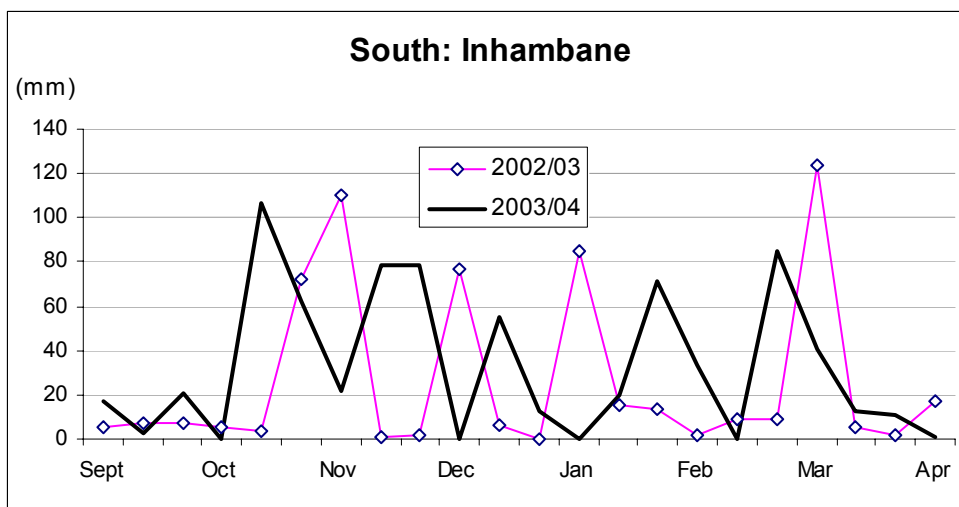
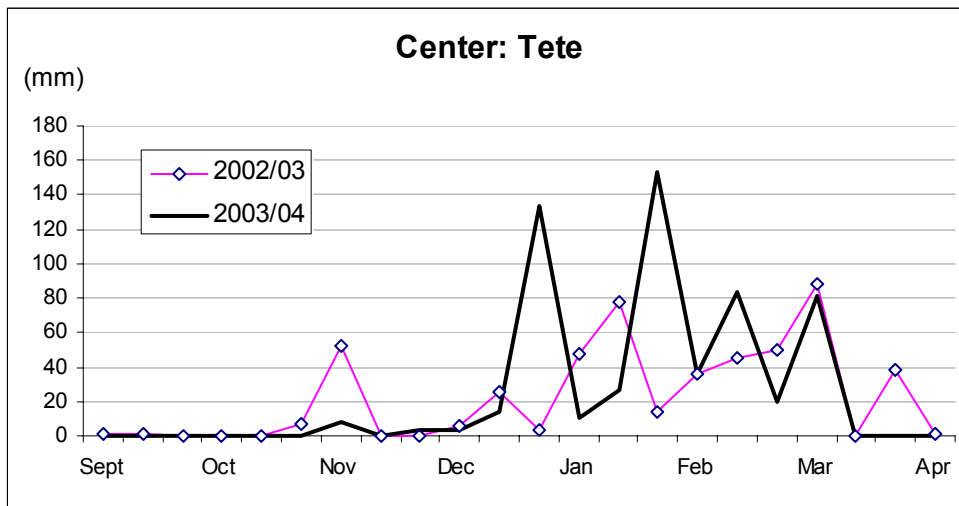
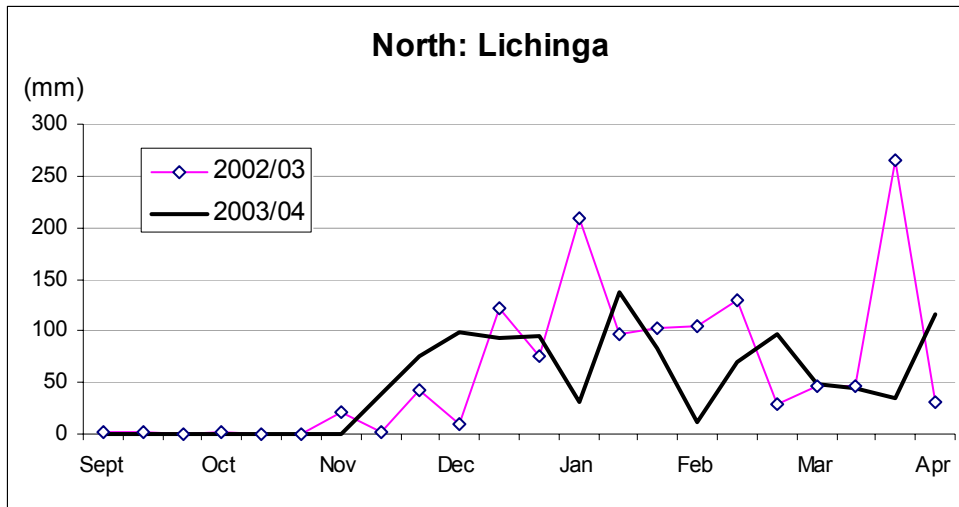
Specific Land Transport Storage Handling cost implications depend on the exact locations of the population in need of food aid.

For more in-depth information on logistics, please refer to the *Mozambique Logistics Capacity Assessment*.

Overview of non-food needs

- Relief programmes to distribute or sell seeds at subsidized prices have had a positive impact on the late production in 2004. The reinforcement of these types of seed fairs will have a direct impact on people's capacity to produce through successive seeding.
- The programmes to promote cassava and sweet potato cultivation in drought-prone areas also appear to be improving the food security for many households this year, and should thus be further supported.
- Low-labour intensive production systems for People Living With HIV/AIDS (PLWHA) should be disseminated.
- Due to the poor quality of diet across most of the groups, training programmes to focal groups or even extension workers should include nutritional information, benefits from kitchen gardens, and crop diversification.
- Special attention to improve school attendance of children is needed.

Figure A.1: Rainfall pattern in Mozambique by region 2003/04 season



Source: Instituto Nacional de Meteorologia (INAM)

Table A.1: Mozambique: Crop production in 2003/04 and 2002/03, by region (tonnes)

Provinces	Maize	Sorghum	Millet	Rice (paddy)	Total Cereals	Beans	Groundnuts
North							
2003/04	468 321	161 698	8 608	57 597	696 224	99 143	62 600
2002/03	468 194	158 900	8 343	55 844	691 281	94 675	53 869
Percentage	0	2	3	3	1	5	16
Centre							
2003/04	757 662	157 272	38 199	108 016	1 061 149	65 664	32 907
2002/03	704 940	142 624	34 067	131 865	1 013 496	61 902	28 811
Percentage	7	10	12	-18	5	6	14
South							
2003/04	211 061	18 067	6 650	11 806	247 584	27 570	31 992
2002/03	74 763	13 065	5 611	12 730	106 169	22 976	27 235
Percentage	182	38	19	-7	133	20	17
Mozambique							
2003/04	1 437 044	337 037	53 457	177 419	2 004 957	192 377	127 499
2002/03	1 247 897	314 589	48 021	200 439	1 810 946	179 553	109 915
Percentage	15	7	11	-11	11	7	16

Table A.2: Mozambique: Livestock numbers, TIA, 2004

Provinces	Cattle	Goats	Sheep	Pigs	Poultry
North					
Niassa	-	112 093	6 374	220	686 136
Cabo Delgado	-	316 611	17 069	67 133	919 857
Nampula	14 758	576 195	39 759	88 052	1 769 852
Centre					
Zambezia	-	290 458	-	282 286	3 317 487
Tete	362 098	868 185	12 433	186 672	1 414 284
Manica	132 051	970 187	15 123	139 231	2 465 534
Sofala	10 650	554 820	8 966	86 864	1 323 123
South					
Inhambane	85 748	396 768	3 284	282 483	1 477 674
Gaza	305 795	491 141	29 817	187 351	1 211 834
Maputo	45 861	176 276	2 285	24 272	442 135
Country total	956 962	4 752 735	135 110	1 344 564	15 027 916

SITUATION BY PROVINCE

Northern region (Cabo Delgado, Niassa, and Nampula)

Cabo Delgado

Cabo Delgado is situated in the northeast corner of Mozambique, bordering Niassa province to the south and the Indian Ocean to the east; it is separated from the United Republic of Tanzania to the north by the Rovuma River. Because of its vast coastal plain and the network of tributaries of the Rovuma and Lugenda rivers that has created fertile valleys in the interior, it is one of the provinces with the highest agricultural potential in Mozambique. Rainfall is usually well distributed and above the normal requirements for cereal production. Agricultural production is rainfed subsistence farming on holdings averaging 1.22 ha. The main crops are cassava, maize, sorghum, millet, rice, beans and groundnuts.

The 2003/04 rainy season started in the second dekad of December and continued until April in most districts except in the coastal cluster of Pemba/Metuga and Quissanga. A general dip in the rainfall pattern was observed in January. Overall, the rains were above normal and fairly well distributed throughout the province, resulting in very good yields this season. Cultivation was by hand only; no reseeding was necessary. The rainfall pattern was not conducive to rice sowing early in the year in the Pemba cluster.

The farmers had enough tools and seeds, as most farmers used their own seed stock from the good harvest last year, although farmers in Pemba were supported to a limited extent by NGO credit. There were no reports of any shortages. Pests of concern include elephants, rats and birds, grasshoppers and a possible minor outbreak of army worm. At provincial level 5 000 kg of pesticide for rats and 3 225 kg of diverse insecticides were used during the year. No outbreaks except for the menacing presence of marauding elephants were considered serious. Fertilizer was used only on cash crops, supplied as credit-in-kind to cotton and tobacco growers. The residual effect of fertilizer on the follow-on cereal crops is likely to increase yields, this for the cotton growers, who planted 29 000 ha last year and who may have planted around 40 000 ha this year is likely to have a noticeable effect on production.

Livestock numbers are low and their condition is good as might be expected with abundant grazing. The only major animal disease noted is Newcastle disease of poultry.

Total production of cereals in the province is expected to reach 205 115 tonnes, similar to last year. Maize yields range from 1.25 t/ha in Quissanga to 1.58 t/ha in about half of the districts. The province is expected to produce 34 894 tonnes of beans, 23 853 tonnes of groundnuts and 1 237 000 tonnes of fresh cassava. Regarding cash crops preliminary estimates from the commercial sector anticipate the production of at least 4 500 tonnes of cashew, around 14 000 tonnes of cotton, 246 tonnes of tobacco, the latter from some 2 000 growers.

Niassa

Niassa is located in the north-western corner of the country, bordering on the provinces of Cabo Delgado and Nampula to the east and south. It shares a long coastline with Lake Niassa and a land border with Malawi to the west and the United Republic of Tanzania to the north. Agricultural potential is very high, with favourable rainfall and large tracts of fertile soils. Production is predominantly of the rainfed subsistence type, characterized by intercropping and average individual holdings of 1.42 ha. The main food crops are maize, beans, sorghum, millet, cassava and groundnuts. Cotton and tobacco are the main cash crops.

The Mission visited the districts of Mandimba, Nipepe and Cuamba. Information regarding the other districts was provided by the central government, NGOs and other sources.

The rains in 2003/04 started late in the last dekad of December and continued until the last dekad of March. Rainfall was generally above normal and, after the late start, well distributed throughout the province, resulting in a season as good as last year.

Farmers use their own seeds and plenty were available from the previous season. No planted areas were lost to natural calamities. Fertilizers are used only by cash-crop growers with contracts with the cotton and tobacco companies; however, the residual effect on yields is likely to increase production on the farms of the 35 000 tobacco growers and on the 6 200 hectares of cotton planted last year.

Pests of concern include elephants that are devastating crops and distressing farm families near the two national parks. There were reports of grasshoppers, stalk-borers, termites and birds affecting maize and sorghum, but at levels no higher than those considered to be normal.

Livestock numbers are low and their condition is good from the abundant grazing available. The only major animal disease noted was Newcastle disease of poultry.

The total production of cereals in the province is expected to reach 232 000 tonnes of which 199 000 tonnes will be maize, which is similar to last year from a similar area. Maize yields range from 1.2 t/ha in Cuamba to 1.65 t/ha in Niassa with more than half of the districts achieving more than 1.5 t/ha. The province is expected to produce 29 000 tonnes of beans, 1 800 tonnes of groundnuts and 184 000 tonnes of fresh cassava. In addition, tobacco production is expected to reach 7 500 tonnes from 35 000 growers compared to 5 700 tonnes last year and cotton production is expected to be higher, around 7 000 tonnes from 10 000 hectares.

Nampula

The province is situated south of Cabo Delgado and is bordered by Zambezia to the south and Niassa to the west. It has a long coastline on the Indian Ocean which incorporates the important port town of Nacala. The main food crop is cassava, grown in all districts in significant quantities and particularly in the sandy soils of the coastal districts. Other food crops are maize, sorghum, millet, rice, beans and groundnuts. Cotton and cashew are important cash crops for smallholder farmers and the province sells some 41 000 tonnes of cashews each year. The average size of holdings is 1.16 ha. The Mission visited the districts of Monapo, Mogovolas, Ribaue and Memba to provide a representative cross-section of conditions experienced this year.

The 2003/04 rains started in the first dekad of December and continued irregularly until April. However, with the exception of Memba, Mossuril and Nacala Velha in the north coastal zone, where both quantity and distribution were poor, the rainfall, although not as heavy as last year, was adequate, and extreme events were avoided. Short periods of low rains were balanced by soil water reserves to meet crop requirements through the season from January onwards.

In Nampula, virtually all farmers use their own seeds carried over from the previous year; this season, following the good harvest last year, cereal seeds were readily available, sowing dates and rates were normal and no significant replanting was noted. As is usual, cultivation was manual, and weeding followed the usual frequencies of 2–3 times per year resulting in clean fields in most areas.

Fertilizers (NPK and urea) were used only on the minor areas of cash crops provided as credit-in-kind to contracted farmers cultivating cotton and tobacco. Last year cotton areas were lower than in the previous two years at 89 000 hectares; this year they are expected to increase to 150 000 hectares. Therefore, when such areas are added to the plots of some 20 000 farmers contracted to grow tobacco, the area with residual fertilizer for follow on cereal crops is quite significant and will be influencing production.

The main problem regarding pests and diseases is brown streak disease of cassava which is seriously affecting yields in Memba and to a lesser extent in parts of the neighbouring districts. Farmers are harvesting earlier to beat the rot that sets in and spoils the tubers. In the interior, rats, birds and grasshoppers were the greatest causes of concern, but no infestations were considered to be worse than usual.

Livestock numbers are higher than in the two other northern provinces, but are still very low compared with the local potential. Body condition is good, as might be expected with abundant grazing and no current water supply concerns. The only major animal disease noted was Newcastle disease of poultry.

The total production of cereals in the province is expected to reach 259 000 tonnes, which is similar to last season. Maize yields range from 0.80 t/ha in Memba to 1.50 t/ha in Ribaue. The province is expected to produce 35 000 tonnes of beans, 37 000 tonnes of groundnuts, 2.25 million tonnes of fresh cassava, 7 000 tonnes of tobacco and a possible 40 000 tonnes of cotton.

Central region (Zambezia, Tete, Manica and Sofala)

Zambezia

Zambezia is situated north of the Zambezi River, which separates it from the rest of the central region. It borders Malawi to the west and Niassa and Nampula provinces to the north. Zambezia possesses some of the best agricultural land in the country, while parts of the coastal districts of Pebane, Maganha da Costa and

Inhassunge have porous sandy soils, the resulting combination creating a province with wide-ranging crop performance characteristics. Weather conditions are usually favourable for agriculture, especially in upper Zambezia. The average farm holding is 1 hectare; the main food crops are maize and cassava, followed by sorghum, millet, rice, beans and groundnuts, while coconut, cashew, tobacco and tea are important cash crops. The Mission visited the districts of Mocuba, Namacurra, Morrumbala, Milange and Pebane, representing the coastal and the interior districts and both lowland and highland agro-ecologies. Further information was provided by World Vision on crop performance in the districts of Gile, Lulega, and Gurue to augment data received at provincial and central levels.

The 2003/04 rainy season started in most districts in the second dekad of November but then developed differently and irregularly to an extent that is difficult to define, other than to say that after a very poor start, lowland areas suffered dry-spells throughout the season, whereas highland areas had more regular rain after January continuing until April.

Planting began on time in the highlands but later in the lowlands where the area sown to irrigated rice was reduced through lack of water and crop performance is poorer than last year. Where necessary, November-sown cereals were resown in January and February, sometimes more than once, in all districts visited. Seed availability was not noted as a problem as all peasants use local planting material, usually from their own stocks carried over from the previous season. Cultivation and weeding was conducted by hand, as usual. Although the perennial insect pests – stalk-borers and grasshoppers – were noted, no serious outbreaks of pest or diseases, except a report of brown streak disease on cassava in some coastal locations, were apparent.

Provincial levels of fertilizer use for general field crops are very low at less than 10 tonnes, however, this does not include the fertilizer used on tobacco, supplied by Tobacos de Mocambique and STANCOM to their 13 000 growers, and that used on cotton planted on some 6 000 hectares last year. As tobacco and cotton are grown in rotation with maize, the follow-on crops benefit from the residual fertilizer.

Given the mixed rainfall pattern, crop yields reported to the Mission were equally mixed. The Mission's own crop cuts identified maize as performing reasonably well. World Vision's returns from 25 sampled fields in four districts give average yields of over 2 tonnes per hectare and show farmers producing 4–5 tonnes under the prevailing conditions, by the same token, other fields are only producing 0.5 tonnes per hectare which confirms the wide range of performance described earlier.

Livestock numbers are extraordinarily low; their body condition is good, reflecting adequate pastures, no current water shortages and no noted animal diseases except Newcastle disease, which regularly destroys the backyard poultry units.

The total production of cereals in the province is expected to reach 385 552 tonnes, 10 percent lower than last season, due in part to the disappointing rice harvest of 73 000 tonnes. Maize yields range from 0.40 t/ha in Chinde to 2.00 t/ha in Lulega. The province is expected to produce 35 900 tonnes of beans and 21 000 tonnes of groundnuts. Cassava cultivation is expanding and the crop is performing well. Regarding cash crops, 4 000 tonnes of tobacco and 8 000 tonnes of cashew have already been officially harvested so far this season and up to 4 000 tonnes of cotton are to be expected.

Tete

Tete province is situated in the north-western part of the central region, bordering Zimbabwe, Zambia and Malawi to the south, west, north and east, and Manica province to the southeast. The northern districts of Angonia, Tsanganano and Macanga are important cereal-producing areas, where a large proportion of farmers use animal traction, improved seeds and fertilizers. These districts normally have good rainfall in contrast to those south of the River Zambezi (Magoé, Caharo-Bassa and Changara), which have low and uncertain rainfall. The main staple crop is maize with important contributions from sorghum and millet, beans and groundnuts; cassava and rice are less important. Tobacco is a very important cash crop in the smallholder sector, especially in the districts bordering Malawi, including Angonia. The average farm size is about 1.17 ha. The Mission visited the districts of Changara, Angonia, Magoé and Moatize. Results from other districts were provided by the Provincial Department of Agriculture and NGOs.

The rains started late in most parts of the province but improved considerably in the northern sector, where they began in the second dekad of November and continued regularly until May. In the south, the rains began around the same time, but were then irregular and unevenly distributed ending frequently in March.

The majority of farmers had seeds this year despite the need for many to replant their first sowings, as almost all use local seeds carried over from the previous season. Seed fairs organized through the DINA and FAO provided alternative inputs in the form of seeds and tools to 9 500 farm families through to batches of fairs in 12 districts (7 in October and 12 in February). Areas planned were cultivated, mostly by hand, although the Mission observed animal traction in Magoe, and sown as expected. As elsewhere, the only peasants using fertilizers are the contract growers of cotton and tobacco of whom there are 7 800 and 58 000, respectively, farming 3 500 ha of cotton and 39 750 ha of tobacco. This fertilizer has a residual effect on the follow-on cereals, used in the recommended crop rotations. In addition, some farmers are taking the opportunity to exchange tobacco for fertilizer for other crops and some may be used directly on maize, in favourable rainfall areas. Such effects are outside the scope of the Mission to audit but need to be considered by the Districts Agricultural Directions (DDAs) in future years when assessing maize yields, particularly as the cash crop areas are increasing.

Pest and disease challenges have been mild, with the greatest crop damage caused by elephants. Meanwhile post-harvest losses caused by grain weevils, reported in Angonia and Chiuta last year, are likely to be a persistent problem.

Livestock numbers in the province, at 360 000 head of cattle and 900 000 head of goats and sheep, are far higher than in any other province except Gaza, and stocking density is reported to be high in the southern sector; however, prices are firm, animal body condition is good, water points are accessible and there are no significant reports of animal disease except Newcastle disease of poultry.

Total production of cereals is expected to be 220 932 tonnes, about the same as last year. Maize production is 7 percent down but sorghum production is 15 percent higher, balancing the equation as millet and rice production remains about the same, the former being 13 500 tonnes while the latter remaining at 215 tonnes only. Maize yields range this year from 0.4 tonnes in Caharo-Basse to 1.26 tonnes in Chifunde. About 19 000 tonnes of assorted beans, 6 700 tonnes of groundnuts and 8 800 tonnes of fresh cassava are expected. Tobacco and cotton harvests are expected to be better than last year at 1 400 tonnes and 29 000 tonnes, respectively.

Manica

Manica province borders Zimbabwe to the west, Tete to the north, Sofala to the east and Gaza to the south. Three important topographic features influence agriculture in the province: the western mountain range, the central plateau and a series of valleys along the Pungue and Buzi rivers and the tributaries of the Zambezi and Save rivers. The province has large tracts of fertile soils in the districts of Gondola, Manica, Sussundenga, Mossurize and Barue. Maize is the main food crop, followed by sorghum, millet, beans and groundnuts; rice and cassava are important minor staples. Tobacco, cotton and sunflower are important cash crops in the province. Many farmers in the province, especially in districts bordering Zimbabwe, use fertilizers, and average farm size is about 1.58 ha. The Mission visited the districts of Guro, Barue, Sussundenga and Gondola and were provided up-to-date information from the DDAs from Manica, Tambara, Macossa, Mossurize and Machaze.

Rainfall began with low rains in October and irregular rains until January, at which time well-distributed and adequate rains have continued until May. Better rains than last year and an absence of extreme events enabled the early planted maize that failed in November/ December to be replanted, sometimes more than once, and have allowed such crops and any sorghum substitutions to mature to harvest. It is noted that in Sussundenga the rainfall pattern has allowed at least two maize crops to be grown in series. Local seed stocks enabled most farmers to resow cereals as required, and, in addition seven input fairs were held in November and a further nine in February, offering alternative seeds to around 8 000 farm-families or some 4 percent of the farming population.

Cultivation in the peasant sector was mostly by hand, larger farmers hiring labour gangs at around 1 million to 800 000mtc per ha. Oxen ploughing and hiring at Mt600 000 per ha for one pass was noted in Barue. Weeding was performed through family labour 2–3 times during the season, starting for maize soon after emergence. Grasshoppers, birds and termites and elephants were the pests of most concern, but no serious losses were noted. As elsewhere, the only chemicals used are supplied either to the contract farmers producing tobacco and cotton or vegetable farmers. Presently, 15 000 farmers are growing tobacco for Tobacos de Mocambique however only some 500 hectares of cotton are cultivated.

Livestock numbers in Manica are increasing but are still low at 130 000 head of cattle and 900 000 small ruminants. Lowland and highland pastures are in good condition, water points are plentiful, vaccination programmes last year appear to have controlled foot and mouth disease, consequently animal body

condition is good. Cattle breeding stock prices are firm at Mt5 000 000 per head and similar to the prices found throughout the south. Goat prices at Mt150 000 for slaughter stock are firm, but are much less than southern prices, where the traders have better access to markets.

Harvested cereal area this year in Manica is expected to reach the same level as two years ago, which will be some 30 000 hectares more than last year when significant areas of maize were lost. This increased area plus a higher average yield than last year's means that cereal production in Manica has increased significantly. Total production of cereals is expected to reach 284 646 tonnes, 34 percent higher than last year from larger areas harvested and better yields. Maize yields range from 0.70 tonne/hectare in Mossurize to 1.5 tonnes in Manica districts. The province is expected to produce 1 900 tonnes of beans, 1 700 tonnes of groundnuts and 8 400 tonnes of fresh cassava. Tobacco production is expected to be 1 860 tonnes.

Sofala

Sofala province is situated in the eastern sector of the central region and south of the Zambezi River. It is bordered by Manica to the west and Inhambane to the south and has a long coastline on the Indian Ocean. Diverse types of soils characterize the province in a series of strips that run north-south. A variable rainfall pattern (east-west) creates distinct and identifiable agro-ecological zones. Consequently, there are diverse agricultural systems that have led to major variations in production on average holdings of 1.14 ha. The main food crop is maize, followed by sorghum and millet, rice, beans, groundnuts and cassava. Sugar-cane is an important cash crop in the commercial sector. The Mission visited the districts of Chibabava, Cheringoma, Nhamatanda and met with DDAs from the districts of Beira, Gorongonza and Maringue.

The rains, which began normally in October, were irregular until December, when they restarted and have continued regularly until May, satisfying crop water requirements without any extreme events.

Reseeding occurred regularly up to December with local seeds meeting the requirements of most of the 200 000 farm families, except where 10 seed fairs in November and five fairs in March provided alternative seeds to 9 500 farmers.

Cultivation in the peasant sector was mostly by hand, however, the Mission noted that animal traction is increasing. The normal weeding practices were observed. As elsewhere, fertilizers are used only on cash crops and are supplied from company credit-in-kind. Some 3 000 growers produce tobacco under such schemes and 13 000 hectares are planted to cotton each year, which suggests that the residual effect of fertilizer is likely to be increasing average yields of the follow-on cereals.

Pests and disease noted include grasshoppers and leaf miners but the most serious cause for concern is the appearance of the large grain borer or "scania" (*Prostephanus truncatus*). This devastating pest, a problem particularly for maize, is the subject of a government eradication policy involving the destruction of infected crops along with silos and associated houses if necessary. Spraying chemicals to control the pest is a less disruptive and cheaper option when chemicals are available in sufficient quantity. Whichever method is adopted, the control needs to be effective. Because maize sales to the southern region are high, the pest may spread into other growing areas. The Mission also noted infected cobs in Govuro and Inhambane, which exacerbates the concerns over the problem.

Livestock numbers in Sofala are very low; body condition is good, however, and pasture and water points are in good condition. Prices are similar to those in the southern region for all classes of stock.

Total production of cereals in the province is expected to reach 169 900 tonnes, which is 8 percent higher than last season due to a better all round performance of all crops after Christmas. Yields of maize range from a low of 0.50 t/ha in Caia to 1.30 t/ha in Maringue. The province is expected to produce 8 700 tonnes of beans, 3 600 tonnes of groundnuts, 92 000 tonnes of fresh cassava, 11 000 tonnes of cotton and 585 tonnes of tobacco.

Southern region (Inhambane, Gaza and Maputo)

Inhambane

Inhambane is located in the south-eastern part of the country and is bordered by Gaza province to the south and west, Sofala and Manica provinces to the north and the Indian Ocean to the east. The province has comparatively high humidity along the coastal zone, extending up to 50 km inland. Rainfall decreases progressively from east to west and agricultural production is concentrated within 80 km of the coastline. The main food crops are cassava, maize, beans and groundnuts; millet and rice are also grown. Coconuts,

cashew and citrus are important cash crops. Combinations of either one or both of the former two commodities with cassava offer important sources of food security in most districts. The average farm size is 1.35 hectare and family holdings of coconut and cashew may run into hundreds of trees. The Mission visited the districts of Govuro, Mabote, Homoine, Panda, Funhalouro and Zavala and drove slow transects through all the other districts. As the main roads passed through the agro-forestry complex described above, it was possible to determine, with a reasonable degree of confidence, an appreciation of cropping patterns and crop quality.

The rains started with a flourish in October in both interior and coastal districts but in November the early promise gave way to dry spells and high temperatures in most districts of the province except Govuro. By December the cumulative rainfall was below normal in most districts. However, since the end of December the rains were regular and well-distributed until May in all districts, except Govuro again, which followed an opposite pattern. Therefore, in most places along the coast and in the interior early planted maize either failed or performed very badly and had to be replanted. All crops replanted in January and February have done well and are presently being harvested. The initially low water satisfaction indices have since been replaced by more favourable data, and Mission observations confirm the improved state of the crops. The continuing rains also prompted staggered planting until the time of the Mission in May, in order to capitalize on the short season, which this year seems to have merged with the main season in all districts except Panda, where the rain ended in the last dekad of March. Given the opportunistic nature of the April/May maize planting, such areas have not been incorporated into the production data. This late planting notwithstanding, Mission transects throughout the southern coastal districts reveal that by far the greatest area is cropped to cassava, which would now seem to be the most important staple grown in the province. The Mission recommends that the crop patterns be reviewed in each district to find out if the traditional crop area model requires adjusting to reflect the current situation.

Seeds used this year for all field crops were predominantly from local sources carried over from last year or obtained informally through farmer to farmer exchanges and local markets. Such seeds were readily available at the price of foodgrains. Sowing rates at around 15 to 20kg per hectare resulted in a remarkably consistent plant density of 3–5 plants sown in holes at 1 m intervals in both intercropped and single-stand fields. Local seed supply was reinforced by 8 input fairs that provided diverse seeds and tools to 4 000 farm families.

Manual cultivation is still the predominant field preparation method; however, oxen ploughing is common. Animal hiring rates for one pass range from Mt300–600 000 /hectare. Weeding is conducted primarily as a family occupation with support from friends and neighbours through reciprocal working arrangements. Fertilizer use in the province is low and restricted to vegetable farmers and extension/demonstration units for rice. Prices are considered to be high at Mt 500 000–600 000 per 50 kg of NPK or urea (US\$458 per tonne).

The main pests of growing crops, noted by the Mission during the year, were grasshoppers on all crops, and aphids and leaf miner on groundnuts. Cassava mosaic is the main disease. Reports of the presence of large grain borers were confirmed by Mission observations in Govuro. In the southern region, storage losses are noted to be one of the farmers' greatest concerns given the high humidity throughout the year, the use of traditional silos, the non-use of storage chemicals and the presence of weevils, rats and birds in the forestry/agro-forestry environment. The added risk of large grain borer infestation is a serious development requiring immediate attention, as for example in Sofala.

Livestock numbers in Inhambane are increasing. Pasture conditions are good, water points are plentiful, and the body condition of all classes of stock is very good, and better than this time last year. Production data suggest birth rates as low as 32 percent and high neo-natal mortality due to laissez-faire management practices concerning the ruminants. Poultry units are regularly disrupted by Newcastle disease, which is noted as the most serious cause for concern regarding animal health this year.

The total production of cereals in the province is expected to reach 67 234 tonnes, 42 percent higher than last season without counting the second season that has just been sown. This comprises mostly 47 000 tonnes of maize and 13 300 tonnes of sorghum. Average yields of maize range from 0.3 tonnes/hectare in Maxixe to 0.70 tonnes/hectare in Vilankulos, which – although better than last year – is still poor. Mission spot checks in these provinces ranged from 0.8 to 1.5 tonnes/hectare. The province is expected to produce 15 000 tonnes of beans, 20 000 tonnes of groundnuts, 19 000 tonnes of copra and 7 000 tonnes of cashew. Mission spot-checks noted cassava yields ranging from 13 tonnes to 35 tonnes per hectare across the province. Consequently, an in-depth analysis of cassava yields and methods of utilization is needed.

Gaza

Gaza province has a long coastline on the Indian Ocean and borders on Zimbabwe to the west, Inhambane to the north and Maputo to the south. Much of the interior is dry, but rainfed agriculture is found in coastal areas and along the Limpopo, Elephant and Changane Rivers and their tributaries. Production is also conducted on land previously irrigated under a major scheme in Chokwe, rehabilitated after the floods in 2000, but which has yet to become operational. The plain covers 30 000 hectares, of which some 8 000 hectares are currently cultivated with maize, vegetables and a few hundred hectares of rice. In the province, maize is the main crop, followed by beans, groundnuts, cassava, rice, sorghum and millet. Cashew, rice and vegetables are important cash crops. The Mission visited the districts of Chokwe, Chigubo, Mabalene, Massinger, Chicualcuala and Guija, and drove slow transects through all the other districts except Massangena. In-depth discussions were held with Directors of Agriculture from Mandlakaze, Chibuto and Bilene. As the main roads passed through the agricultural areas in all but the heavily forested districts, it was possible to assess, with a reasonable degree of confidence, the maize and sorghum cropping patterns and crop quality.

The rainfall pattern was similar to that in Inhambane, where rains started in late September and early October, followed by irregular and below-normal rains and high temperatures in most districts until Christmas. Thereafter the rains were good, regular and without extreme events, meeting the water satisfaction requirements for maize that was either sown later or replanted, and encouraging the staggered planting of maize until the time of the Mission in May.

Although the majority of the farmers practice manual cultivation, some 30 percent use their own or hired animals, and an estimated 10 percent have access to tractors. Contracting rates this year are noted at Mt450–500 000 per hectare for one pass with animals; most farmers seem to be using two passes. Tractor ploughing and harrowing runs to Mt2.5 million.

Seed sources are local as farmers rely on their own carry-over seeds, farmer-to-farmer exchanges and local markets. Enough seeds were available to meet replanting demands at the median seed rate of 3–5 plants per hole at 1 m spaces, and to allow the staggered planting that is still taking place. Immediate resowing of freshly harvested maize fields was noted in Chokwe and Guija lowlands. Seed supply was augmented in March through 8 input fairs assisting 4 000 farm families to diversify cropping. Other programmes noted include the promotion of treadle pumps for small-scale vegetable production, and the promotion of rice. This year's irrigated rice production in Chokwe will be disappointing, as the reservoir was empty due to the poor start to the rainy season in November and December. Consequently, irrigated area is greatly reduced. This affected fertilizer sales as fertilizer in Gaza is only used on rice and vegetables. The leading commercial input supplier of three enterprises, only sold 300 tonnes of fertilizer this year, suggesting total provincial sales of around 6-700 tonnes of NPK and urea. Incidents of pests and disease on field crops include normal levels of stalk-borer in maize, leaf miner on groundnuts and aphids on beans and grasshoppers; there were rats on all crops. Sales of pesticides by the same leading supplier, reached 25 tonnes this year, mainly for vegetable producers. Although pests of growing crops do not appear to be a serious concern this year, storage pests were noted as a serious problem. This year new maize cribs are being established throughout the province in anticipation of a good harvest. As crib building is seen as a "man's job", there appears to be much pressure on the female-headed households who have no access to builders. Given the very poor harvest last year, many cribs have also fallen into disrepair and may provide even less protection than usual. Although storage chemicals are known, they do not appear to be widely available in appropriate quantities or prices low enough for the small peasant farmer. Storage losses this year are therefore expected to be high.

Livestock numbers in Gaza are higher than in the other two southern provinces. The silvo-pastoralist nature of the interior offers countless hectares of untouched grazing. The Mission noted the emergence of newly fenced ranches in Chigubo and Chibuto that suggest investment in this resource. This year, the pastures are good, water points functioning and the animals are noted to be in good condition. Livestock prices are firm. Cattle are consistently quoted at Mt4—6 million per head according to quality, whereas goat prices vary according to the distance from Maputo and range from Mt150–450 000 per head. Forest resources are also being tapped for timber, firewood and charcoal. In this regard, the railway provides rapid access to the markets in Maputo.

The production of cereals this year is estimated at 139 554 tonnes, which is three times last year's failed crop, when maize yields in Chokwe were reported at 0.3 tonnes per hectare. Although the Mission noted early planted fields, particularly near the coast, that had performed as equally badly, 95 percent of the maize was noted, from the transects, to be very good. Spot-check yield estimates from all districts suggest that a very high proportion of the fields will be producing 2 tonnes per hectare resulting in average yields ranging

from 0.45 t/ha in Xai-Xai to 1.30 t/ha in Chokwe. The province also expects to produce 10 000 tonnes of beans, 8 600 tonnes of groundnuts and 196 000 tonnes of fresh cassava.

Maputo

This province lies in the southern tip of the country, with a coastline on the Indian Ocean. It borders on Swaziland and South Africa to the south and west and Gaza province to the north. Possessing the smallest agricultural area of all ten provinces, Maputo is divided into seven districts, of which three – Magude, Manhica and Boane – account for 50 percent of total area planted to food crops. The main crop is maize, followed by beans, groundnuts and cassava; other crops include sorghum and rice on a limited scale. Cash crops include cashew, rice, vegetables and citrus in irrigated areas. Sugar-cane is an important cash crop in the commercial sector. The Mission visited the districts of Matutuine, Magude, Boane, Manhica and Marracuena, drove slow transects through these districts and held in-depth discussions with Directors of Agriculture from Moamba and Namaacha. As the main roads passed through the agricultural areas in all districts, it was possible to determine, with a reasonable degree of confidence, the state of the cropping patterns and crop quality.

The pattern of rainfall was similar to that in the other southern provinces, although more extreme. The rains from the beginning of September to the second dekad in January were extremely scarce in all districts except Manica, and even here, following a good start in October, significant dry spells occurred in mid-December. More generally, long dry spells accompanied by high temperatures were noted in all districts. However, since the third dekad of January the rains have been very good, providing regular events satisfying the water demand of the replanted and later-sown crops without any water logging.

Early planted maize failed or performed as badly as last year, necessitating replanting, often more than once. Seeds are noted to have been bought from the local markets in most cases, augmented by 6 input fairs in March in the worst-hit areas. Cultivation this year was accomplished by hand, oxen and tractors; the hiring rates noted are standard at Mt260 000 per hour for tractors; Mt300–500 000 for one pass of oxen, which seems to be the usual procedure; and Mt20 000 to 30 000 per one long morning of manual labour. Fertilizers and pesticides are used only on vegetable crops in the province, unless associated with the Directorate of Provincial Agriculture's promotion programmes, which have only limited scope because of cash restrictions.

Rats, birds, stalk-borer and land crabs on swamp rice were considered to be the main pests. The main diseases seem to be mildews and cassava mosaic virus. However, the main pest and disease problems are during storage and this year the losses are likely to be high, due to better crops and more humid conditions.

Livestock numbers in the province are increasing, pasture and water availability is good, and animal body condition is excellent. Animal prices are firm and have been consistently high for the past year at Mt5–6 million for cattle and Mt450 000 per head for slaughter goats.

Total cereals production in the province is expected to be 40 500 tonnes, about two times more than last season due to the post-January rains. Average yields are still low, at 0.5 to 0.9 tonnes per hectare. Mission spot checks noted early maize failures at 0.4 tonnes and late planted maize yielding around three tonnes per hectare in the Matutuine lowlands. The province is expected to produce 3 730 tonnes of swamp rice, 2 366 tonnes of beans, 3 400 tonnes of groundnuts and 26 000 tonnes of fresh cassava.

Figure A.2: Monthly retail maize prices in major regional centres (meticaís/kg)

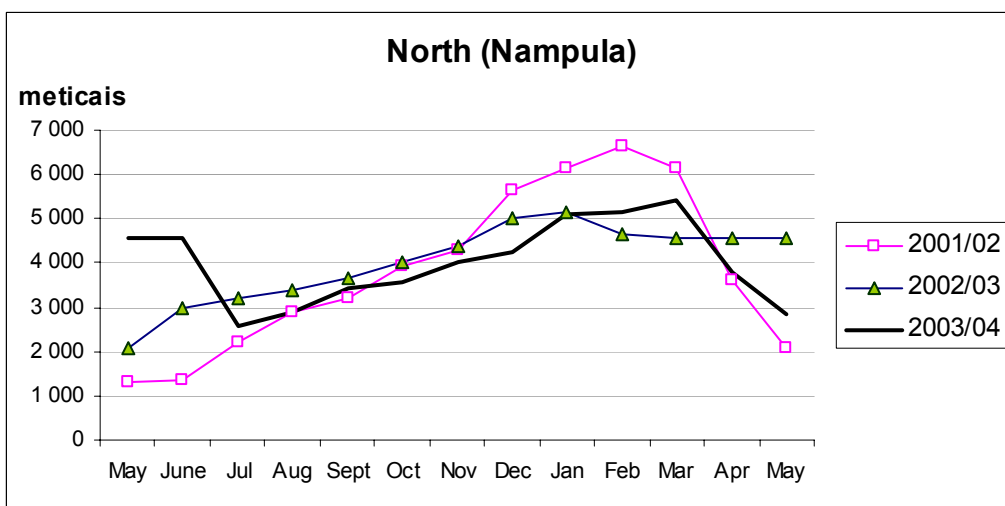
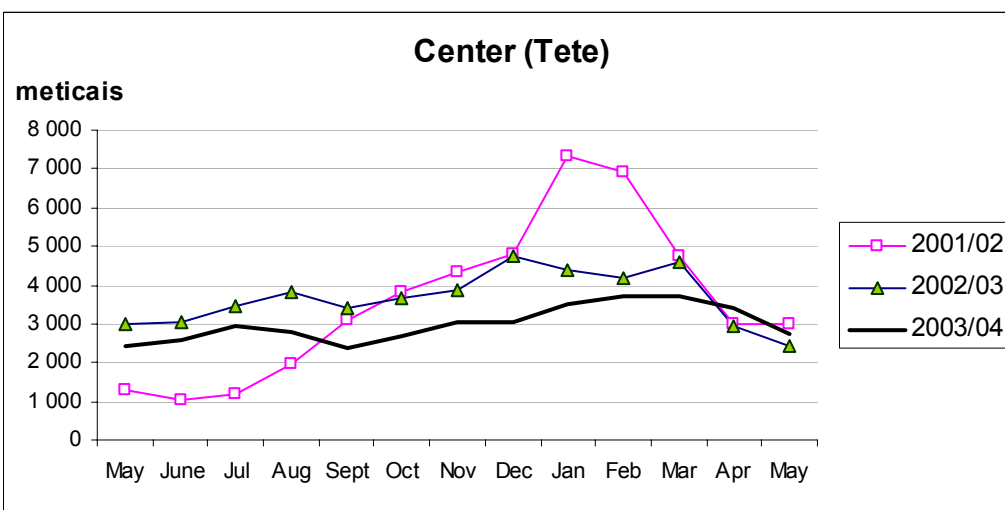
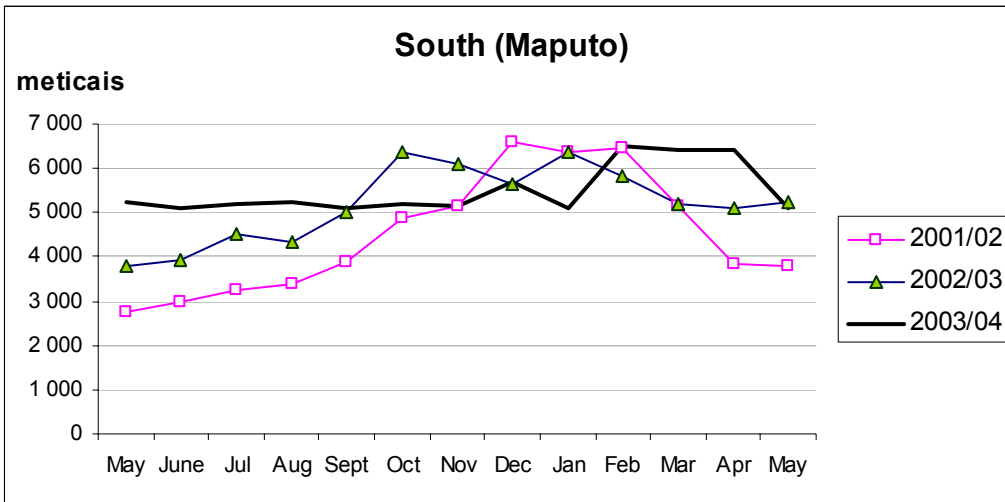


Table A.3. : Mozambique: 2004 Food aid needs by district

Province/District	Projection July 2004	July-September 2004		October-December 2004		January-March 2005	
		% pop	# need	% pop	# need	% pop	# need
NIASSA	966 580						
CABO DELGADO	1 588 742						
NAMPULA	3 563 223		8 000		17 000		8 000
Memba	214 052	2	3 500	4	9 000	2	3 500
Mossuril	94 388	2	1 500	3	3 000	2	1 500
Nacala Velha	129 542	2	3 000	4	5 000	2	3 000
ZAMBEZIA	2 242 093		1 000		1 500		25 500
Chinde	141 526	1	1 000	1	1 500	1	1 000
Maganja da Costa	265 502					3	8 000
Mopeia	87 669					2	2 000
Morrumbala	311 623					5	14 500
TETE	1 461 650		19 000		40 000		40 000
Cahora-Bassa	72 881	5	3 500	9	6 500	9	6 500
Changara	142 947	4	5 500	9	13 000	9	13 000
Chiuta	77 726						
Magoé	53 136	5	2 500	10	5 000	10	5 000
Moatize	122 406						
Mutarara	138 052	5	6 500	10	14 000	10	14 000
Zumbu	45 554	2	1 000	4	1 500	4	1 500
MANICA	1 280 830		8 500		15 500		15 500
Guro	42 839	4	1 500	9	4 000	9	4 000
Machaze	83 317	5	4 500	8	7 000	8	7 000
Macossa	16 040	2	500	3	500	3	500
Tambara	34 321	5	2 000	12	4 000	12	4 000
SOFALA	1 582 255		20 000		23 500		23 500
Chemba	43 932	3	1 500	7	3 000	7	3 000
Cheringoma	17 497	2	500	5	1 000	5	1 000
Chibabava	66 909	5	3 500	5	3 500	5	3 500
Machanga	44 369	4	2 000	8	3 500	8	3 500
Muanza	12 999	3	500	5	500	5	500
Nhamatanda	196 893	6	12 000	6	12 000	6	12 000
INHAMBANE	1 401 215		10 000		16 000		31 000
Funhalouro	34 290	4	1 000	6	2 000	6	2 000
Govuro	30 731	11	3 500	17	5 000	17	5 000
Homoine	107 664						
Inharrime	98 320						
Inhassoro	51 713	2	1 000	4	2 000	4	2 000
Mabote	38 616	9	3 500	14	5 500	14	5 500
Massinga	209 716					4	7 500
Morrumbene	134 294					6	7 500
Panda	50 043	2	1 000	3	1 500	3	1 500
GAZA	1 333 538		19 500		33 000		33 000
Chibuto	162 647	4	6 500	7	11 500	7	11 500
Chicualacuala	39 358	7	2 500	11	4 000		4 000
Chigubo	15 148	7	1 000	12	2 000	12	2 000
Guija	66 623	4	2 500	7	5 000	7	5 000
Mabalane	29 483	4	1 000	7	2 000	7	2 000
Mandlakazi	179 601	2	4 000	4	6 500	4	6 500
Massangena	14 242	4	1 000	8	1 000	8	1 000
Massingir	25 136	3	1 000	5	1 000	5	1 000

Province/District	Projection July 2004	July-September 2004		October-December 2004		January-March 2005	
		% pop	# need	% pop	# need	% pop	# need
MAPUTO	1 074 792		6 500		10 500		10 500
Boane	77 628						
Magude	30 984	2	500	3	1 000	3	1 000
Manhica	140 716	2	3 000	3	4 500	3	4 500
Marracuene	48 994						
Matutuine	37 189	5	2 000	8	3 000	8	3 000
Moamba	38 524	3	1 000	6	2 000	6	2 000
Namaacha	43 931						
MOZAMBIQUE	16 494 918		92 500		157 000		187 000

This report has been prepared by Liliana Balbi, William I. Robinson and Erick Kenefick and Nadia Vaz under the responsibility of the FAO and WFP Secretariats with information from official and other sources. Since conditions may change rapidly, please contact the undersigned for further information if required.

Henri Josserand
Chief, GIEWS, FAO
Fax: 0039-06-5705-4495
E-mail: giews1@fao.org

Mike Sackett
Regional Director, ODJ, WFP
Fax: 0027-11-5171642
E-mail: Mike.Sackett@wfp.org

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