FAO GLOBAL INFORMATION AND EARLY WARNING SYSTEM ON FOOD AND AGRICULTURE WORLD FOOD PROGRAMME

SPECIAL REPORT

FAO/WFP CROP AND FOOD SUPPLY ASSESSMENT MISSION TO SWAZILAND

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MISSION HIGHLIGHTS

- Poor agro-climatic conditions characterized by late onset of the rainy season and below-average cumulative rainfall have undermined Swaziland's cereal harvest for the fourth consecutive year.
- Maize production in 2003/04 is estimated at about 64 000 tonnes, 13 percent below last year and about 30 percent below the average for the previous five years.
- Cereal import requirement in the 2004/05 marketing year (April/March) is estimated at about 132 000 tonnes, of which 100 000 tonnes are expected to be imported commercially.
- With about 10 000 tonnes of food aid in stocks and in the pipeline as of April 2004, the uncovered deficit, for which international assistance is needed, is estimated at 22 000 tonnes.
- Early drought conditions caused some loss of livestock, but late rains improved pastures and animal condition in most parts of the country. Livestock production is expected to help offset, to some extent, the impact of crop failure.
- The continuing spread of HIV/AIDS is further exacerbating the already severe impact of adverse weather through high unemployment, income inequality and poverty.
- A targeted approach for food aid is required, focused primarily on mitigating the effect of HIV/AIDS, and on direct support to households with no access to available food and agricultural inputs.
- A total of 262 000 people will face food/income deficits of varying amounts, and approximately 28 355 tonnes of food (or income equivalent) will be needed to meet the deficit for the entire year.

1. **OVERVIEW**

During the past three years, Swaziland has suffered below-average and declining cereal production because of erratic rainfall patterns, which are exacerbating the impact of rising unemployment and increased poverty. The continued spread of HIV/AIDS has compounded the threat to the country's overall food security. Towards the end of last year, the Government declared a state of national disaster and appealed for international assistance.

Against this background, an FAO/WFP Crop and Food Supply Assessment Mission visited Swaziland from 1 to 13 May 2004 to estimate the 2003/04 cereal harvest and import requirements – including food assistance – for the 2004/05 marketing year (April/March). The Mission received full cooperation from the Deputy Prime Minister's Office, Ministry of Agriculture and Cooperatives (MoAC), Central Statistical Office (CSO) of the Ministry of Economic Planning and Development, the National Disaster Task Force (NDTF) and the National Early Warning Unit. Ministry of Agriculture officials as well as food aid monitors accompanied the Mission on field visits.

The Mission's findings are based on discussions held with government officials, staff from United Nations agencies, multilateral and bilateral donors and staff of local and international NGOs. Field visits were conducted to all districts and agro-ecological zones of the country. Discussions were also held with the Swazi Vulnerability Assessment Committee (VAC), National Maize Corporation (NMC), Ngwane Milling, Universal Milling Company and the National Agricultural Marketing Board. Available relevant reports and documents were reviewed, and satellite-based normalized difference vegetation indices (NDVI) were analysed. Pre-harvest data on area and yield were provided by the Central Statistical Office (CSO) and the

National Early Warning Unit (NEWU), respectively. The Mission cross-checked and adjusted data where necessary, following field inspections, interviews with farmers and district extension officers and spot-check crop measurements where possible.

The Mission found that the 2003/04 agricultural season was characterized by erratic rainfall (started late with unusually heavy rains later in the season) and a below-average cumulative rainfall. In some potentially high-producing areas, precipitation problems caused plantings to be made twice. In addition, a significant decline in the use of agricultural inputs, mainly fertilizer and improved seed, was observed, due to diminished farmers' purchasing power, removal of subsidies and risk aversion following the late rains and government pronouncements advising caution.

Overall, the Mission has estimated the 2003/04 maize production at 64 108 tonnes, which is about 13 percent below last year's crop and 30 percent under the average for the previous five years.

Other important crop sources of food and cash such as cabbage, beans, potatoes, cotton and sugar cane were also observed in farmers' fields. However, with the exception of vegetables in places where late rains encouraged production, the area planted to these other crops has also declined.

Early drought conditions caused some loss of livestock, but late rains improved pastures and animal condition in most parts of the country. Livestock production is expected to help offset, to some extent, the impact of crop failure.

The cereal import requirement in 2004/05 marketing year (April/March) is estimated at 132 000 tonnes, of which an estimated 100 000 tonnes are expected to be imported commercially. With food aid in stock and in the pipeline estimated at about 10 000 tonnes, the uncovered deficit for which international assistance is required is estimated at 22 000 tonnes.

Prices of major cereals were relatively stable during most of 2003 but started to creep up from the beginning of 2004. The upward trend is expected to continue during the rest of this year as supplies from domestic and regional sources may be rather limited.¹

The spread of HIV/AIDS in Swaziland has continued unabated over the past decade. The statistics paint a grim picture: the HIV/AIDS prevalence rate among 15–49 year-olds has increased ten-fold between 1992 and 2002, from 3.9 percent to 38.6 percent. In addition to humanitarian and social consequences, HIV/AIDS brings severe economic costs in its wake, as it constrains output growth, eliminates work skills and knowledge, shrinks the tax base, raises health-related costs, reduces disposable incomes and increases the financial imbalance in the public pension funds. The national response in tackling the pandemic is being

coordinated through the National Emergency Response Commission on HIV/AIDS (NERCHA).

Based on the VAC analysis, verified by field work carried out during the mission, the cumulative affect of these factors results in a projection that a total of 262 000 people will face food/income deficits of varying amounts and that approximately 28 355 tonnes of food (or income equivalent) will be needed to meet the deficit for the entire year.

2. SOCIO-ECONOMIC CONTEXT

2.1 General

Swaziland's economy is based on agriculture and agro-industry, mainly sugar, citrus and wood pulp. Growth sectors include soft-drink concentrates, food products, textiles and paper products. Coal is the major mineral resource. The main merchandise exports are sugar and sugar derivatives, consumer goods and pulpwood. Imports include mainly capital and intermediate goods, manufactured goods, machinery and transport equipment, agricultural and farming goods, and energy.

Swaziland is classified as a lower middle-income country with a per capita income of US\$1 245 in 2002. However, per capita income of the poorest 40 percent of the population is only US\$230, and 66 percent of the population live below the poverty line. The income distribution is skewed, as about 43 percent of the total income is received by only 10 percent of the population.

2.2 Recent macroeconomic developments

Official estimates put real GDP growth rate at 2.9 percent in 2003, well below the 3.6 percent estimated for 2002. This reflects declining rates in foreign direct investment, the slowdown in manufacturing output and low agricultural productivity from drought. Growth in manufacturing output slowed in 2003 following the closing of some major companies and depressed world demand for the country's primary commodities. The slowdown in 2003 in South Africa's economic growth, Swaziland's largest export market, was mainly responsible for the undermined demand. The loss in momentum in the expansion of economic activity is expected to continue, and this factor is reflected in the 2004 GDP forecast of less than 2 percent, partly because of the effect of drought in the 2003/04 cropping season.

Average annual inflation fell to 7.4 percent in 2003, compared with 11.8 percent in 2002. In January 2004, the annual inflation rate dipped further to 4.1 percent, helped by a slowdown in food price rises (food items constitute nearly one-quarter of the consumer price index). However, inflation rose in subsequent months and is expected to rise further, in line with forecast trends in South Africa, whose economic situation has a major influence on inflation in Swaziland. The forecast trends in South Africa average at 5.4 percent in 2004 and 5.8 percent in 2005.

The budget for fiscal year 2004/05 projects a deficit of Emalangeni 221 million compared with E445 million in 2003/04 and E593 million in 2002/03.² The country's balance of payments estimates indicate an overall deficit for the third consecutive year in 2003. The overall deficit in 2003 stood at E128 million compared to E307 million in 2002. The current account deficit is expected to widen to 5 percent of GDP in 2004, as the trade deficit widens from lower export earnings caused by lower sugar and textile exports and an expected weakening of the currency. Import growth of consumer goods will be sluggish, in line with

weak real GDP growth, but food imports will increase to offset the impact of drought conditions.

The public debt level at the end of December 2003 was E4.4 billion (31 percent of GDP), compared to E3.5 billion at the end of March 2002. This level takes into account the appreciation of the local currency against major currencies at 17 percent. Nonetheless, Swaziland's debt/GDP and debt-service ratios are considered low by developing country standards, reflecting a history of cautious government borrowing.

Swaziland's foreign reserves have remained relatively stable in the last decade at about US\$300 million. However, in the last couple of years, the loss of competitiveness in the export sector, the appreciation of the exchange rate, and relatively higher government spending have negatively affected the country's foreign reserves. In February 2004, net foreign reserves reflected a substantial decline of more than 23 percent year-on-year. At this level the reserves were sufficient to cover 2.5 months of estimated imports, slightly below the minimum cover of 3 months recommended for developing countries.

2.3 Population estimates

According to the 1997 census, the total resident population was estimated at 930 000 with an annual rate of growth of 2.9 percent. However, the forecast population growth rate has fallen rapidly since then and now stands at about 2.2 percent.³ Current CSO estimates put the total population in 2004 at 1.1 million compared to 1.08 million in 2003.⁴ The average life expectancy has also fallen from 56.4 in 1997 to 41.4 in 2004. A continued decline in average life expectancy is projected until 2009, when it will reach its lowest level at 34.9.

2.4 HIV/AIDS

The spread of HIV/AIDS in Swaziland has continued unabated over the past decade; Swaziland is the third-most affected country in the world following Botswana and Zimbabwe. The statistics paint a grim picture: HIV/AIDS prevalence rates among the 15–49 year-olds has increased ten-fold between 1992 and 2002, from 3.9 percent to 38.6 percent. This age-group forms a large proportion of the economically productive population. AIDS-related deaths are estimated at 8 000 people in 2001, and projections indicate that by 2009 they will have risen to 24 000 per annum. The most at-risk groups created by the pandemic include orphans and vulnerable children (OVCs), who are currently estimated at more than 60 000 in the country (with a projected rise to 120 000 by 2010).

In addition to its humanitarian and social consequences, HIV/AIDS costs countries severely in economic terms, as it constrains output growth, eliminates work skills and knowledge, shrinks the tax base, raises health-related costs, reduces disposable incomes, and increases financial imbalance in the public pension funds.

The national response in tackling the pandemic is being coordinated through the National Emergency Response Commission on HIV/AIDS (NERCHA). A three-pronged National Strategic Plan was established to deal with the crisis with the following actions:

- *Mitigation* allows for decentralization of activities such as food distribution and information centres to regions.
- A *prevention* programme aims at reducing the risk of infection through behavioural change. This was motivated by the observation that despite a high

level of awareness of HIV/AIDS in the country, this has not been translated into positive changes in behaviour.

• *A care and support* programme has set up additional centres that assist in the distribution of antiretroviral (ARVs) drugs, which have already reached about 1 300 people, with a further 10 000 people to have access to the drugs by 2005.

The Indlunkhulu project aims to ensure food security for orphans and vulnerable children within communities. This project, implemented by NERCHA with support from WFP, FAO and the Ministry of Agriculture and Cooperatives, aims at providing support for farm inputs to all Chiefdoms in the country to enable communities to plough the Indlunkhulu fields, thereby providing a sustainable source of food for HIV/AIDS-affected households.

3. AGRICULTURAL PRODUCTION IN 2003/04

The agricultural sector in Swaziland contributes to the livelihoods of the majority of the population and provides raw materials for the largely agro-based industries. Maize remains the staple food and is grown by the vast majority of rural households, accounting for approximately 86 percent of the entire land cropped on communal Swazi National Land (SNL) (2004 Agricultural Sector Policy Report). The remaining SNL area is cropped to relatively small amounts of cotton, groundnuts, pumpkins and sweet potatoes. In terms of contribution to GDP, however, irrigated sugar cane production dominates the agricultural sector, providing approximately 60 percent of agriculture's 13 percent contribution to GDP. Sugar cane dominates agricultural production on the roughly 31 percent of the total geographic area of Swaziland held by individuals and companies as Title Deed Land (TDL). Much of TDL is planted to commercial forests in the Highveld and is used for grazing, but a small proportion is used for the production of citrus, pineapples, vegetables, maize and fodder.

In recent years the land and inputs allocated to sugar cane production have shown a slow and steady increase, whereas the area planted to maize has remained fairly constant (Figure 1). The Government of Swaziland has encouraged sugar cane production on irrigated TDL in order to improve its foreign exchange earnings through exports of sugar-based products. Meanwhile the production of maize remains mostly on non-irrigated SNL. However, with recent changes in weather patterns that have severely affected grain production on rainfed lands, the country's ability to meet its cereal requirements through commercial imports is being taxed.



Figure 1: Swaziland: area planted to maize and sugar cane (1998/99–2002/03)

Source: CSO and Swaziland Sugar Association.

3.1 Agro-meteorological conditions

The 2003/04 agricultural season was the second consecutive year of well-below-average cumulative rainfall, and was the fourth consecutive year in which erratic rainfall patterns led to below-average national maize production. The 2003/04 rainfall pattern was particularly devastating because the rainy season started significantly later than normal (October) and was followed by a dry spell throughout much of December (Figure 2). However, there were adequate planting rains in late October and November in all agro-ecological zones except the Lowveld. The January through April rains were generally good across the country. Despite the favourable ending to the season, yields and the area planted to maize were adversely affected in all but limited areas of the Highveld and moist Middleveld. Many farmers who planted early during the period of limited soil moisture, experienced delayed and spotty crop emergence and reduced numbers of plants. In many areas of the Lubombo Plateau and Lowveld, early rainfall was insufficient for farmers to even attempt planting, especially given the normal insufficiency of rainfall for good maize production in these areas. In addition to the detrimental effects of this year's rainfall pattern on crop area and yields, the heavy rainfall in February and March led to significant amounts of crop loss in some areas from ear rot.

Vegetation for livestock was adversely affected by the poor rainfall through the end of December 2003, but made a strong recovery from January to April 2004. Monthly satellite vegetation data indicate below-average vegetative index values for the months of October through December, the beginning of a recovery in most agro-ecological zones in January, and generally average to above-average values in March and April.



Figure 2: Swaziland: Actual (2003/04) vs. normal rainfall, by agro-ecological zone

Source: Meteorology Department, Swaziland.

3.2 Supply of agricultural inputs

Fertilizer use for food crop production (excluding commercial farming) ranged from 14 000– 17 000 tonnes during the period from 1995/96 to 1998/99, and fell to 13 500 tonnes in 2001/2002. Fertilizers, which are no longer subsidized, are traded by the private sector and farmer cooperatives through national networks. However, farmers are becoming less able to afford the cost of fertilizers. Though no hard data are available, indications from suppliers and farmers show that fertilizer use during 2003/04 season was even lower than before. The major commercial supplier indicated that this year's fertilizer use may have been down to as low as 9 000 tonnes nationally from a high of nearly twice that figure ten years ago. Sales by the Farmers Cooperative Union (FCU) through their 24 depots positioned around Swaziland indicate that by the end of March only 70 percent of expected fertilizer use for the 2003/04 cropping season had been reached. In addition, farmers interviewed by the Mission generally indicated that high fertilizer prices, late rains and limited opportunities for credit had led them to cut back or eliminate fertilizer use on this year's crop.

Similar to the situation with fertilizer use, hybrid seed use took another precipitous decline in 2003/04. Hybrid maize seed use went down from 4 000 tonnes in 1995/96 to 1 183 tonnes in 2000/01 and to 1 153 tonnes in 2001/02. This decline followed a government decision to stop providing free seeds to farmers; seeds are now supplied at market prices by the private sector and cooperatives. The major hybrid seed supplier for the country estimated that sales may have been as low as 600 tonnes as opposed to nearly double that quantity last year. Farmers

also indicated to the Mission that they were using various strategies for decreasing the use of newly purchased hybrids, including mixing hybrids with their saved open-pollinated varieties, buying locally re-packaged hybrids of unknown origin and even sowing grain harvested from last year's crop that was sown with hybrid seed.

3.3 Planted areas

Official statistics for area planted, yield and production statistics in Swaziland are issued by the Central Statistics Office (CSO). During the course of the agricultural season, information on area planted is also collected by the agricultural extension service. Until the final end-of-season production estimates are issued by the CSO – several months after harvest – production forecasts are published by the National Early Warning Unit, which uses information provided by the Meteorological Department.

Table 1:	Swaziland: Total maize planted area (ha) in 2003/04 compared to 1998/99-
	2002/03 average

Agro-ecological zones	1998/99	1999/00	2000/01	2001/02	2002/03	5-year average	2003/04	% of average
Highveld	20 025	20 338	20 672	24 358	16 700	20 419	17 236	84
Middleveld	21 241	27 003	19 434	24 354	22 940	22 994	23 642	103
Lowveld	12 096	18 886	14 771	15 831	22 142	16 745	11 064	66
Lubombo Plateau	2 608	2 306	2 974	3 355	5 900	3 429	2 528	74
Swaziland	55 970	68 533	57 851	67 898	67 682	63 587	54 470	86

Source: Central Statistics Office.

Area statistics and Mission interviews with farmers indicate that the late start to the rainy season in 2003 affected farmers in the Lowveld and on the Lubombo Plateau most severely. Many of these agro-ecological zones are considered to be marginal maize growing areas because the rainfall is too unpredictable. The situation was further exacerbated this year by the late start to the 2003/04 rains. Land preparation was severely constrained by dry soils at normal planting time because use of tractor ploughing is limited in these zones. After several years of poor maize yields and steadily increasing input costs, many farmers chose simply not to risk planting maize as late as late-December or January – when their first good opportunity presented itself this season. Government authorities have been encouraging the production of crops more tolerant to drought than maize and the use of irrigation wherever feasible. This advice may also have affected farmers' decisions not to take the risk of planting maize this year. There was some substitution of sorghum for maize, but the total area was not enough to contribute significantly to overall national cereal production. There is some movement of subsistence maize farmers towards formation of associations of irrigated sugar cane producers. The Mission observed irrigated maize on some of these fields earmarked for sugar cane production, but total land on these new schemes is still limited. With donor support, some large irrigated agriculture production schemes along rivers in the Lowveld should be operating in the next few years.

Highveld planted area figures appeared to be in line with Mission observations and interview results. Decreasing accessibility to fertilizers and hybrid seed has made farmers wary of planting large areas in what has traditionally been a high-production zone. Many farmers finance their maize production with income from non-agricultural sources, so the economic

downturn appears to be affecting their willingness to sow large areas, especially when the season begins poorly and production returns are not guaranteed.

Planted area statistics showing a slight increase over the five-year average for the Middleveld are more difficult to explain. The increase is likely to be a statistical anomaly, as low areas were reported for the 1998/99 and 2000/01 seasons. These low values have brought down the five-year average. Many parts of the Middleveld are among the highest maize yield potential areas in the country because of their generally good rainfall distribution. Also, these areas are less likely to experience the excessive rainfall and cold temperatures found in some Highveld areas.

3.4 Yields

The yield forecasts for each agro-ecological zone are presented in Table 2. The Mission carried out over 100 interviews with farmers, extension workers, district agricultural officers and other government and NGO personnel during the course of the field trips to all four agro-ecological zones. In addition, the Mission sampled crop yields on randomly selected farms of different sizes and production levels to verify farmers' reported yields. As with previous Missions, this year's team found that yield forecasts reported in NEWU bulletins throughout the season did not adequately reflect the large variations in rainfall and maize production systems between agro-ecological zones. NEWU estimates are based on a Water Requirement Satisfaction Index (WRSI), which was designed as a preliminary indication of potential yield, based on satellite information. The Mission used data that combined farmer interviews, historical yields and current agro-climatic information to estimate yields for each zone; the findings were well below the figures indicated by the WRSI.

Zone	Planted area (ha)	Yield* (tonne/ha)	Production (tonnes)
Total SNL ^{1/}	54 470	1.11	60 608
Highveld	17 236	1.73	29 767
Middleveld	23 642	1.06	25 061
Lowveld	11 064	0.43	4 746
Lubombo Plateau	2 528	0.41	1 034
TDL ^{2/}	1 000	3.50	3 500
Swaziland	55 470	1.16	64 108

Table 2:Swaziland: Estimated area, yield and production of maize in 2003/04, by
agro-ecological zone

*Yields are Mission estimates.

1/ Swaziland National Land - State Land.

 $\frac{1}{2}$ / Title-Deed Land – Commercial farmers' land (Mission estimates).

Highveld

Maize yields for farms visited throughout the Highveld were highly variable, ranging from approximately 0.2–5 t/ha, but with most yields in the 1–3 t/ha range. The relatively high level of input use and generally reliable rainfall, even during the 2003/04 season, make this the highest-yielding agro-ecological zone. Despite the generally dry conditions throughout the country, most farmers in the Highveld reported planting only a few weeks later than normal and having experienced few adverse effects from the December dry period. There were,

however, localized pockets with poor plant emergence problems and December drought. These generally good yields in the Highveld mean that production is likely to approach the five-year average and will probably be better than the two previous drought-prone agricultural seasons.

Middleveld

Yields for farmers visited in this zone were consistent within the dry Middleveld, averaging nearly 0.5 t/ha, and were also consistent within the moist Middleveld, averaging around 1.3 t/ha. Despite the high planted area figures reported for the Middleveld, an average yield figure of 1.06 t/ha means that production for the zone will be lower than last year and below the five-year average. These data are consistent with the highly variable localized dry periods experienced throughout the Middleveld.

Lowveld

In addition to a decrease in the area planted to maize in the Lowveld, yields were also extremely low. This can be attributed to very late planting (January for many households), poor seedbed preparation (reliance on animal traction), relatively low use of fertilizers, and the cessation of rains with crops drying up before they had reached physiological maturity. Some farmers took the risk of planting maize in January although they knew that the normal end of rains would not allow them to harvest a high-yielding crop, and thus prevented the Lowveld from experiencing a complete agricultural production disaster.

Lubombo Plateau

Maize yields in the Lubombo Plateau, like the rainfall, were the most variable of the four agro-ecological zones. Many households reported losing their entire crops during the December dry period, while others, whose fields received localized showers, were able to obtain yields of up to 1 t/ha. Farmers on the Plateau are being encouraged to diversify into more drought-resistant crops and a few successful fields of sorghum and millet were observed. However, the change of crops is tentative and the effect on overall cereal production is negligible.

Title-Deed Land

Large, highly mechanized commercial farms on title-deed land (TDL) using high levels of inputs can obtain yields on the order of 6 t/ha; this contributes approximately 5 percent to the total national maize crop. In some cases they have access to supplemental irrigation to minimize the yield-depressing effects of dry spells. The two largest commercial farms are located in the moist Middleveld; they were affected by this year's slow start to the rainy season. However, the largest of these farms was able to minimize production losses by using supplemental irrigation and by rapidly preparing land for sowing when soil moisture conditions were good. As a result, average yields for these farms are estimated to be on the order of 3.5 t/ha.

3.5 Overall production

The figures presented in Table 3 indicate that estimated national maize production, excluding TDL production, is 60 608 tonnes, 69 percent of the five-year average. This figure also represents only 87 percent of last year's drought-affected production. Production was below average across all agro-ecological zones, but continually declining production in the recent

drought-affected years in the Lowveld accounts for much of this shortfall. Low yields this season in the Middleveld, along with a decrease in the area planted in the Highveld, were other major contributing factors to this year's production deficit. The poor start to the rainy season and December dry spells were responsible for most of this year's lowered maize production, but the decreasing willingness of many households to invest in tractor ploughing services, fertilizers and hybrid seed also contributed.

Agro-ecological zones	1998/99	1999/00	2000/01	2001/02	2002/03	5-year average	2003/04	% of average
Highveld	45 486	38 721	33 493	25 567	22 078	33 069	29 767	90
Middleveld	39 939	43 514	28 995	24 693	32 722	33 973	25 061	74
Lowveld	17 358	27 627	16 861	14 545	9 462	17 170	4 746	28
Lubombo Plateau	4 557	2 917	3 187	2 834	5 011	3 701	1 034	28
Swaziland	107 340	112 779	82 536	67 639	69 273	87 913	60 608	69

Table 3: Swaziland: Total maize production (tonnes) in 2003/04 compared to 1998/99–2002/03 average $^{1\!/}$

Source: CSO; Mission yield estimates for 2003/04.

1/ Does not include 3 500 tonnes of estimated production on the Title-Deed Land.

3.6 Other crops

Sugar cane is cultivated on 48 307 ha according to 2002/03 figures, and the area probably increased in 2003/04. Raw and refined sugar, sugar products and ethanol now constitute the main agricultural exports and an important source of foreign currency. Areas of irrigated sugar cane are being developed continuously, as this commodity has earned good export prices over the years. However, recent price declines may be altering the profitability of sugar production and the balance of crops being produced in sugar-cane growing areas. The loss of 15 000 tonnes of Swaziland's share of the Special Preferential Sugar Quota in the EU to least developed countries has worsened the situation.

According to the CSO, cotton, one of the major cash crops, was planted on 6 665 ha in 2002/03, down from 11 082 ha in 2001/02 and 35 000 ha in 1998/99. The only ginnery in the Lowveld, which had closed, has been sold and is expected to re-open in 2004. Cotton still plays a role in the food security of some households, particularly in the dry Middleveld and Lowveld, but production is on the decline. Some farmers interviewed in the Lowveld would like to return to cotton production, but credit is required for inputs. Often, this needed credit is not being offered, or else requires that old debts from poor production/low-producer-price years be cleared before credit can be re-established.

Grapefruit, oranges, soft citrus and lime provide important nutritional elements in the diet and are another source of foreign currency. According to CSO data for 2002/03, groundnuts, sweet potatoes, pumpkins and beans are other important food crops with planted areas of 5 683 ha, 3 301 ha, 2 493 ha and 1 567 ha, respectively. These crops are generally more drought tolerant, or are grown on less drought-prone land or in non-drought cropping systems; thus they generally fared better than maize this year.

3.7 Livestock situation

Livestock production is a major agricultural activity in Swaziland, with small farmers owning about 77 percent of the total cattle population. The number of livestock has been declining in recent years from a contraction of the country's rangelands as a result of allocating more land for human settlements. The cattle population which comprises the largest component of the country's livestock industry fell to 522 260 in 2002 from a revised figure of 588 288 in 2000 – a drop of 11 percent.

The condition of pastures and livestock across the country had begun to deteriorate with successive years of low rainfall and the early season drought. The recent Swazi VAC report indicates that there were high numbers of animal deaths in the dry Middleveld, Lubombo Plateau and Lowveld areas towards the end of 2003. Cattle condition in December 2003 was reported to be the worst since 1995. However, heavy February/March rains regenerated pasture. At the time of the Mission, livestock condition and prices were generally stable.

Goat and sheep are also important in many Swazi farming systems, as sources of both food and income. The 2002/03 CSO data indicate that goat numbers over the last 5 years have declined by 19 percent to 273 576. By contrast, sheep numbers, while fluctuating over the past five years, were 29 percent higher than in 1997. Mission field interviews did not indicate any alarming trends in sales or loss of goats and sheep during the 2003/04 agricultural season.

4. FOOD SUPPLY AND DEMAND SITUATION

4.1 Current market situation

In a normal year, roughly 60 percent of the food consumed in the country is imported. Figure 3 indicates annual maize imports (including yellow maize) as recorded by the National Agricultural Marketing Board (Namboard).⁵ From a macroeconomic point of view, the direct convertibility of the Lilangeni into the South African Rand means that availability of foreign exchange is not a constraint to commercial imports from South Africa. Commercial food imports appear to have been quite responsive to fluctuations in national production. However, the severe impact of drought over the past three years combined with declining off-farm incomes and remittances have rendered large number of households dependent on food assistance.



Figure 3: Swaziland: Annual commercial maize imports (1996/97–2003/04)

Source: National Maize Corporation (NMC) and National Agricultural Marketing Board (includes yellow maize).

About 10 percent of domestic production is marketed in normal years, mostly through the National Maize Corporation (NMC) and Ngwane Mills. NMC, a parastatal entity established in 1985, is the sole licensed importer of maize grain, and it seeks to act as a buyer of last resort for domestic production. However, NMC local purchases have fallen markedly over the past decade from around 10 percent to around 6 percent.

The dual role of NMC as the sole importer as well as the competitor in the domestic market gives it an unfair advantage over its competitors, thus creating market imperfections that distort producer and consumer incentives. It may be more efficient to liberalize the imports of maize, as has been done for other food commodities, while still requiring import permits from Namboard. However, Namboard itself needs to be restructured to address current problems of under-reporting of imports, issuance of new import permits without accounting for previous activities, and extremely low fines in cases of non-compliance.⁶

As a net importer of food commodities, prices in Swaziland's domestic market are heavily influenced by prices of imports from South Africa (Figure 4). The NMC has sought to recoup its overhead costs by maintaining some margin between its buying prices (both domestic and imported) and the prices that it charges millers.

Figure 4: Swaziland: South Africa Futures Exchange (SAFEX), NMC selling and buying prices for maize (2003/04)



The Consumer Price Index (CPI) for food commodities for all income groups increased by 13 percent, and for cereal products by nearly 20 percent between March 2003 and March 2004. However, the CPI for maize meal, wheat flour and rice within the cereal products group decreased by 4 percent, 3 percent and 7 percent, respectively.

Figure 5: Swaziland: Consumer price index for maize meal, rice and wheat flour (March 2003 – March 2004)



Source: Central Statistics Office.

4.2 Cereal supply/demand balance, 2004/05 (April/March)

The forecast of the cereal supply/demand situation for the marketing year 2004/05 (April/March) in Table 4 is based on the following assumptions and Mission observations:

- Government and millers' opening stock figures were provided by the National Agricultural Marketing Board, National Maize Corporation, Ngwane Mills and Universal Milling Company. On-farm stocks of about 1 400 tonnes are from current CSO estimates.
- The closing stocks are based on two-week food requirements for maize and one month each for rice and wheat.
- The mid-marketing year 2004/05 population is estimated at 1 116 862, and the per capita consumption is estimated to be 127 kg for maize, 42 kg for wheat and 6 kg for rice, the same as in the previous Mission reports.
- Feed, post harvest losses and seed use are estimated at 6 percent for maize. Virtually all wheat and rice amounts are imported.

Table 4 shows total cereal import requirement of 132 000 tonnes. Commercial imports are forecast at 100 000 tonnes and food aid requirement at 32 000 tonnes. Taking into account WFP stock and pipeline of 10 000 tonnes (grain equivalent) as of 1 April 2004, there is a deficit of 22 000 tonnes to be covered by additional donors' contributions.

Table 4:Swaziland: Cereal supply/demand balance for 2004/05, April/March
('000 tonnes)

	Maize	Wheat	Rice	Total
Domestic availability	67.2	10.3	0.2	77.7
Opening stock	3.1	10.3	0.1	13.5
Domestic production	64.1	0.0	0.1	64.2
Total utilization	151.6	50.8	7.3	209.7
Food use	141.8	46.9	6.7	195.4
Feed and seed use and losses	3.9	0.0	0.0	3.9
Closing stock	5.9	3.9	0.6	10.4
Import requirements	84.4	40.5	7.1	132.0
Anticipated commercial imports	52.4	40.5	7.1	100.0
WFP stock and pipeline	10.0	0.0	0.0	10.0
Uncovered deficit	22.0	0.0	0.0	22.0

Access to food remains an economic difficulty for certain segments of the population. High unemployment and inflation rates, coupled with the impact of HIV/AIDS, all mean that certain segments of the population do not have the purchasing power to access food on the market.

5. FOOD SECURITY AND VULNERABILITY ASSESSMENT

5.1 Food security background

For the past four years, most of Swaziland has been affected by poor rainfall distribution leading to widespread drought. In addition to this, the very high HIV/AIDS prevalence rates and the general economic downturn have compounded these problems leading to increased

levels of food insecurity. As a result of this, in July 2002, Swaziland was included in the WFP Regional Emergency Operational Plan (EMOP) which is currently still in operation. At the beginning of the EMOP in July 2002 144 000 beneficiaries were targeted for food aid increasing to 265 000 at peak periods of food shortages in 2003.

The institution responsible for the coordination of emergency assistance is the National Disaster Task Force (NDTF), which comes directly under the Deputy Prime Ministers Office. To date, the Disaster Bill has not been ratified by parliament; there is thus no "official" government policy. Despite this, NDTF plays a key role in mobilizing resources and implementing a coordinated response to the emergency by engaging in a dialogue with donors and other senior members of the government.

In response to the drought at the beginning of the agricultural season, the government declared the situation a "National Disaster". The consequence of this declaration and the overall response among donors is not entirely clear at this point in time.

As part of the government's response, the NDTF signed a bilateral agreement with WFP for the donation of 4 491 tonnes of white maize, 343 tonnes of pulses, 200 tonnes of vegetable oil and US\$963 225 for the purchase, transport and monitoring of 331 tonnes of pulses, 25 tonnes of vegetable oil and 562 tonnes of corn-soya blend (CSB). Some 57 750 beneficiaries per month were assisted from October to December 2003 and 67 000 beneficiaries per month from January to March 2004.

5.2 Methodology of assessment

This assessment used a range of different sources of primary and secondary data. Primary data was gathered when the mission (which included government and NGO staff) made a five day field visit to both high and low production areas. During this field visit, extensive semi structured interviews were carried with different members of the community which included, farmers, private traders, hospitals, government officials.

Secondary data was taken from a variety of sources, which included government reports from different ministries, UN agencies, and NGO reports. Mission members also had formal and informal meetings with government officers, UN/NGO staff, private trading companies and members of the Swazi VAC.

The VAC exercise was still in process at the time of the mission and there was the opportunity to cross check and verify preliminary VAC information. Final findings from the VAC assessment were available only after the mission had left the country. The results of the food gap analysis undertaken by the VAC are the basis of the food aid requirements in this mission report.

5.3 Vulnerability and coping mechanisms

There is no doubt that food insecurity in Swaziland is the result of long-term chronic structural decline; the situation is not transitory and is not likely to disappear after one or two seasons of favourable rainfall. Economic decline has locked large sections of the population of Swaziland into a downward spiral of poverty and food insecurity for the long term.

A combination of different but interrelated factors are increasing the vulnerability to food insecurity for large groups of Swazis. The underlying cause of this "creeping vulnerability" is general poverty, which continuously erodes livelihoods and the capacity of households to cope with the frequency of shocks such as drought and higher prices. Poverty results from a

combination of factors such as the overall decline in cereal production, reduced employment opportunities, both domestically and in neighbouring South Africa (in particular in the mining sector), inflation and the impact of the HIV/AIDS pandemic. In some areas there is little diversity in agricultural production and income sources, which further increases the risk to shocks and reduces the households ability to cope.

Some of the main issues related to general poverty vis-à-vis food insecurity are outlined below.

Income-earning opportunities

There is no doubt that the lack of income-earning opportunities is probably the biggest factor for the increasing vulnerability to food insecurity. Although there is some variation between different agro-ecological zones, the vast majority of the rural poor gain access to food by earning income. Depressed domestic and foreign (South Africa) labour markets have seriously eroded purchasing power for basic food needs in Swaziland. For example, the 2004 VAC reports that from 1995 to 2001 employment was reduced by 54 percent in the South African mining sector. The vast majority of the poorer Swazis earn income from farm labour. With the overall decline in agricultural production of both food and cash crops, employment has shrunk, thereby reducing income levels. The impact of the depressed labour market has been the greatest in the Lowveld areas, which rely more on buying power for food supplies in comparison with the other, more fertile areas where food can be grown.

The recent 2004 VAC also identified stress in the labour market in the traditionally more well-to-do areas of the Highveld, with increasing unemployment in the timber and textile sectors, leading to loss livelihoods in these areas. The Mission also learned of possible layoffs in the textile sector, which could number 30 000 people; however, at the time of writing this cannot be confirmed.

The livestock sector has been hard hit by prolonged drought which had diminished the quality of pastures at the end of 2003. According to the VAC, the MoAC Veterinary department sets the mortality figure at 4 260 head between late 2003–early 2004. The loss of livestock has been more severe in the Lowveld and dry Middleveld than in other zones. The MoAC statistics show long-term losses of both cattle and goats in the Lowveld areas. For example, the number cattle fell 27 percent between 2001 and 2002, These losses affect households in the Lowveld areas more, because they are depend more on livestock sales and other products than do the other zones. In addition, the poor condition of draught animals during the land-preparation period (October to December) reduced the availability of animal traction. Again this would have affected the poorer households in the Low Veld areas as they have fewer resources for hiring tractors. In support of the depressed livestock situation, the VAC also reports that milk deliveries are down about 30 percent and the average weight of cattle slaughtered is the second lowest since1995.

Prices

The impact of price rises in staples (maize) contributes significantly to access to food at a household level, especially the poor. Maize meal prices during 2002/3 were 45 percent higher than the 5 year average. Recent SVAC analysis has shown that prices for maize meal are higher in the areas that have been hit by lower production, such as the Lowveld, than in the more productive areas of the Highveld.

There has been a significant price differential between the formal and informal market and it has meant farmers who produced a surplus from the 2003 harvest have also been negatively

affected by the low prices offered by the National Maize Cooperation (NMC), which is buying maize at prices below the informal market value. The Mission found many households in the Highveld and Wet Middleveld with maize stocks from last year's production. The CSO has estimated carryover stocks of 14 000 tonnes at the national level, although this figure remains unconfirmed. It is likely that these stocks belong to the better off households and not those who are vulnerable to the shocks of poor production and higher prices and therefore carry over stocks from last year would be 'speculative' in the hope of better prices.

Coping strategies

Although vulnerability to food insecurity is increasing, there are no obvious signs of the more traditional coping strategies being employed. Indeed, rather than disposing of key assets, households are maintaining their asset base. For example, although there is a general reduction in livestock numbers at the household level, the livestock market appears stable, with the price of livestock rising in different areas of the country. From interviews and discussions it was acknowledged the role of food aid has contributed to this stability.

"Gifts" and other community support play an important role in the ability of households to cope with falling livelihoods. It is important to mention that this type of coping strategy is increasingly growing scarcer. The 2004 SVAC reports that there is only 30–40 percent of the normal amount of gift-giving across the different livelihood zones, indicating that the normal redistribution process on which communities rely is under stress.

Permanent migration rates are also stable. Although there are some anecdotal reports of households moving to the Highveld areas in search of better land, these are negligible and it appears that the overall the population is remaining in place.

The mission was also made aware of the increasing burden on families to pay for school fees and the high cost of health care. In the case of orphans the burden is on the extended family. The average school fee per child is around E300, which, for a poor family in the worse affected areas is a considerable outlay. Where school feeding programmes have been initiated, some of the financial responsibility has been alleviated with the result that school attendance has increased.

HIV/AIDS

As mentioned in the previous sections, HIV/AIDS is affecting food security at the household level in different ways. However, just how and to what extent it is affecting agricultural production is difficult to gauge. An SVAC study to assess the demographic impact of HIV/AIDS in Swaziland carried out in 2003 concluded that it was difficult to determine strong connections between household with people living with AIDS and reduction in area planted, inputs used and yields achieved. However, there was a tendency to be more "protective" of tubers as households tended to shift away from cash crop production into less labour-intensive types of cultivation. In contrast, a recent study carried out by the Swaziland Ministry of Agriculture and Cooperatives (MOAC *et. al.*, 2003), reported that area under cultivation was reduced by an average 51 percent for a households with an AIDS-related death as opposed 15.8 percent for a non-AIDS-related death.

From Mission observations, it is very difficult to disentangle the impact of HIV/AIDS on food security with other livelihood issues. While many households visited acknowledged the prevalence of chronic illness, no household explicitly claimed that illness was a major cause

for reduced crop production. Instead they accused the drought and low producer prices as major causes of reduced crop production.

Brief description of the main vulnerability indicators/findings by agro-ecological zone is presented in the Appendix.

5.4 Estimation of population in need and emergency food aid requirements

CFSAM estimates of food aid requirements for 2004/5 are based on the VAC analysis and verified by field work carried out during the mission. The key findings of the VAC across the most affected livelihood zones are summarised as

- Food crop production is between 30-60 percent of normal
- Grazing and livestock condition is 60-90 percent of normal
- Cash crop production is 20-60 percent of normal
- Employment opportunities are 25-75 percent of normal and
- Food price is 25 percent above normal

The cumulative affect of these factors results in a projection that a total of 262 000 people will face food/income deficits of varying amounts and that approximately 28 355 tonnes of food (or income equivalent) will be needed to meet the deficit for the entire year. Table 5 shows the number of "poor" people estimated as having a deficit and therefore requiring assistance by zone.

Livelihood zone	Affected 'poor' population	Tonnes
Highveld	12 312	342
Timber Highlands	28 050	7178
Periurban	22 010	1907
Wet Middleveld	60 480	3620
Dry Middleveld	64 800	4991
Lowveld Cattle, Cotton and Maize	45 530	7464
Lowveld Cattle and Cotton	21 120	1710
Lomahasha Trading	7 260	1112
Lubombo Plateau	644	12
TOTAL	262 226	28 335

Table 5:Food aid requirements by livelihood zones

Target population

It should be noted that these are annual needs and therefore further monitoring and analysis is required to identify the target populations in the geographic areas as well as socioeconomic or specific vulnerable groups. The Swazi VAC has developed profiles of the poor households and these should be used to better identify the poor households, and households in the other

wealth groups which have also been affected, and to determine appropriate rations and /or timing of an intervention to address the deficit. These are:

- households which have been affected by the poor agricultural season, have no employment and no livestock.
- Households with chronically ill members in the family, child or female-headed households should be selected for assistance.
- households that have been forced or will be forced to sell crucial assets (tools, taking children out of school, etc.) in return for food, which will leave them more vulnerable and less equipped to confront crises in the future. The intention will be to preserve households' livelihoods.

5.5 **Possible strategies for food assistance**

It has been widely acknowledged that the two most recent EMOPS in Swaziland have averted major catastrophe, providing an immediate source of food that helped preserve livelihood assets and kept the situation stable. As reflected elsewhere in the report, the overall food security situation is more precarious now than last year, and to that end targeted relief assistance will be necessary in the foreseeable future. The distribution of food through general, or free, distributions should be limited where ever possible. A more targeted approach, for example for specific vulnerable groups and households, should be adopted instead. At the same time, food aid could be used to encourage more development-type activities to help contribute to the restoration of livelihoods. The Protracted Relief and Rehabilitation Operation due to start in January provides an excellent opportunity and framework for undertaking these types of initiatives.

Targeting

On the whole, the Mission observed that the targeting of relief assistance was adequate. However, the common understanding between different stakeholders is that there is room for improvement. From field observations during the Mission, there some cases of inclusivity (people received food when they did not need it) and exclusivity (people with needs for food did not receive any. Well-established, gender-balanced relief committees need to be strengthened with more training and awareness regarding their roles and responsibilities with regard to targeting to reduce targeting error. Food-for-work activities can help create a situation of "self-targeting".

Necessity for a participatory approach

All activities should be based on as much community participation as possible. Communities should be fully aware from the start that they are undertaking activities for a developmental purpose. Participatory monitoring approaches should also be developed whereby communities scrutinize their own activities and help plan the future of the project.

Types of activities

• The Indlunkhulu, supported by NERCHA, WFP and FAO (technical assistance), is a successful example of sustainable approaches to assisting orphan-headed households and other labour-stressed households with PLWA. This project could be replicated in other Chiefdoms with additional support from the FAO through emergency funding.

The Mission observed some good examples of Indlunkhulu chiefdom fields in the Sipofaneni areas.

- Selective feeding for specific vulnerable groups, including provision of food to children under five who are malnourished; HIV-positive pregnant and lactating women for the prevention of mother-to-child HIV transmission; home-based care for HIV/AIDS patients receiving or about to receive anti-retroviral treatment.
- School-feeding programmes, with the provision of high-energy foods such as corn-soya blend (CSB) in the most food insecure areas are recommended as a form of targeted assistance. However, in addition to nutritional support, the schools can also be involved in launching school gardens. As the number of orphans who head households as a result of HIV/AIDS deaths of adults is extremely high, generations of children are growing up without having learned the agricultural experience and skills of their parents. Development of good quality school gardens and plant nurseries can be a way for these children to learn the necessary techniques of good agriculture.
- Conservation farming for dry-land areas is an intervention that uses food-for-work as an incentive. It has been successful in other parts of the sub region, such as Zambia. In this integrated approach to farming, farmers are encouraged to prepare land for planting a mixture of cereal, legume and cash crops that not only provides income but also increases yields and soil fertility. In Swaziland, FAO has been supporting these types of activities through the COSPE project. Linkages and experiences from these types of programmes from different areas should be disseminated widely.
- Food-for-training is a very useful entry point into communities. As was recommended in the 2003 FAO/WFP CFSAM to Swaziland, food can be provided as an incentive for farmers to attend training programmes that encourage a wide range of improved agricultural practices. These could include the promotion of sorghum for drier areas, cultivation of multi purpose legume crops such as cow pea and pigeon pea, and encouraging improved post-harvest crop storage practices.

APPENDIX

Main Vulnerability Indicators/Findings by agro-ecological zone

Highveld

Lubombo Plateau

<u>Livelihood patterns:</u> Although this zone is located close to the Mozambique border, livelihoods are based around casual employment and cash crop production of cotton and other root crops such as sweet potato. The poorer groups are highly dependant on cash purchase to meet food needs, while the more wealthy groups produce about 50 percent of their food needs.

<u>Current season status</u>: Although rainfall is above average, very poor production expected in this area due to delayed planting. Food prices have also risen by about 20 percent. Late season flooding has effected the legume production considerably. Traditional root crops have also been affected by the erratic nature of the rainfall High levels of unemployment at 50-75 percent in the agricultural sector; in particular sugar and cotton have reduced income levels for poorer groups. Prices of food and livestock have risen by 20 and 40 percent.

This report has been prepared by Shukri Ahmed and Noel Beninati, Alex Carr and Owen Calvert 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.						
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ENDNOTES

- ¹ South Africa's maize crop is expected to fall to 7.9 million tonnes in 2004/05 from the 9.7 million tonnes reached in 2003/04 due to a reduction in planted area.
- ² Swaziland's currency, the Lilangeni pegged at par with the South African Rand was trading as of early-June 2004 at US\$ 1 = E6.5.
- ³ The US Census Bureau forecasts zero population growth in 2004.
- ⁴ Based on recent demographic survey carried out by CSO and partners.
- ⁵ The National Agricultural Marketing Board (Namboard) is a government authority whose main function is to control the quantity imported of selected agricultural products through the issuing of permits.
- ⁶ In this year's Budget Speech (March 2004), the Government announced that Namboard is in the process of being restructured by leasing out its business units, whilst retaining the statutory division as its core business.