# REGIONAL FOOD SECURITY PROGRAMME

# Special Agromet-Update

## Followup Analysis of Drought Situation in Southern Africa 2003/2004 Crop Growing Season

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## Summary

**Southern Africa anticipates a below-normal maize harvest due to erratic early season precipitation that in many areas has been significantly less than the climatological norm. This reduction in maize availability follows two consecutive seasons of poor harvests due to drought and economic factors, compounding the impact on household incomes and food security. Given poor rainfall, reduced planting, pre-existing vulnerability, multi-year dryness, it is likely that Lesotho, Swaziland, Malawi, Mozambique, South Africa and Zimbabwe will experience a reduction in maize production. Maize growing regions in these countries are all experiencing their second year in a row of below-normal rainfall, with cumulative totals being less than those observed during 2002/03. The anticipation of reduced exports from South Africa, is cause for concern in the SADC region.**

## Highlights

- Seasonal rainfall totals in southern Africa have been low...
- Multi-year droughts are affecting central and southern Mozambique, southern Malawi, Swaziland, Lesotho, eastern Zimbabwe, and northeastern South Africa...
- A late start of season may have reduced cropped area...
- Crops planted later in the season may experience near-normal yields...
- Above normal temperatures have added to crop stress...

## Synopsis of Southern African Agrometeorological Situation

Rainfall this season in southern half of Southern Africa has been poor and erratic, with low rainfall often occurring in important crop growing regions. Seasonal rainfall totals to date indicate that portions of central Mozambique, northeastern South Africa, Lesotho and Swaziland have received less than 50% of normal amounts. Conditions are also bad in eastern Zimbabwe, southern Mozambique and southern Malawi, with rainfall totals of less than 80% of average (Fig. 1-blue circles). Rainfall performance improved towards the end of January and the beginning of February. However, the rains are too late to make a significant change in regional production. Late planted crops may not have sufficient time to mature and produce a good yield before the rains cease. In South Africa, rainfall totals, cropped area and anticipated production are all down markedly, with production expected to fall by 20-35% when compared with last year. Forecast production in South Africa is already lower than domestic consumption, requiring the country to rely on the carryover stock currently estimated at 1.9 million MT to cover its domestic needs. In view of the pending regional production shortfalls, other countries could start looking for alternative sources of supply outside the region.

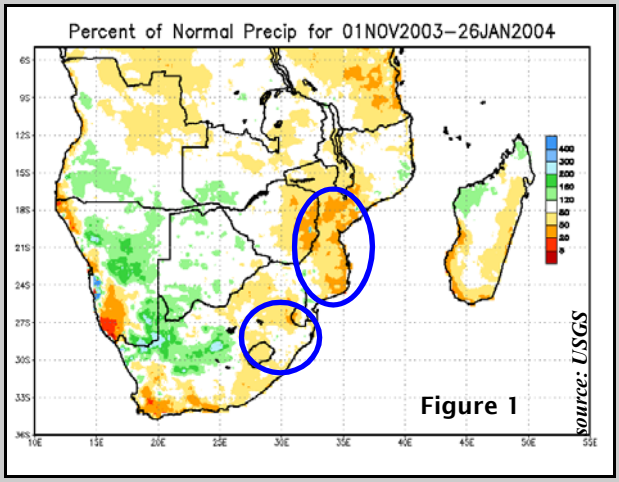


Figure 1

## Consequences of Persistent year-to-year Drought and Poor Early Rains

The previous special bulletin (19 January 2004) highlighted a developing drought in the region and this bulletin provides further analysis. The areas of below-normal rainfall in the southeastern parts of SADC (Figure 1) tend to coincide with regions that received below-normal rainfall in 2001/02 and 2002/03. Red regions in Figure 2 show areas experiencing seasonal dryness in 2003/04, 2002/03 and 2001/02. Most of central and southern Mozambique, and parts of northeastern Zimbabwe and South Africa have experienced below-normal rainfall three years in a row. Persistent year-to-year drought in Southern Africa is uncommon, between a one-in-six and one-in-thirty year occurrence. Zimbabwe is experiencing below-normal growing conditions for the third year in a row. Reports from Swaziland and Lesotho stress the problems that recurrent drought have brought to these countries. The shock of repeated drought has weakened household resilience and

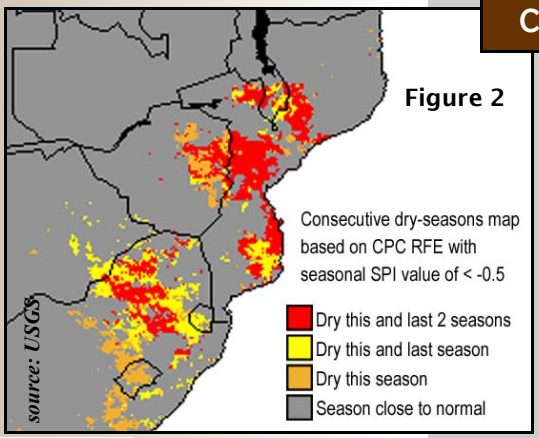


Figure 2

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increased vulnerability to food insecurity in this part of southern Africa. As a result of spatially and temporally sporadic rains, many areas experienced a staggered onset of the rainy season (Onset is defined here as one dekad (10-day period) with at least 25 mm, followed by two dekads with at least 20 mm). Planting was very late in central and southern Mozambique, southern Malawi, and parts of Zimbabwe, Lesotho and Swaziland. The rainy season may end before some of the late planted crops mature, resulting in low yields. Red areas in Figure 3 show locations in which the first onset of rains occurred more than three dekads late. Yellow regions denote areas in which poor early rains may have resulted in a late second planting. Poor early rains and multiple starts are likely linked to a reduction of area planted as some farmers run out of seed and as the growing season shortens. Persistent above-normal temperatures exacerbated the precipitation shortfall by increasing evaporative water demand and reducing soil moisture availability. Negative rainfall anomalies in the maize triangle of South Africa are evident in Figure 4. Recent warm sea surface temperatures and tropical cyclone activity have brought heavy rainfall and in some areas may have actually damaged crops. So, while precipitation totals for January (Figure 4) are close to normal for most of the region, these totals mask poor temporal distribution as well as earlier deficits in the season, which is a critical factor in good agricultural performance. This will do little to improve the poor conditions previously reported.

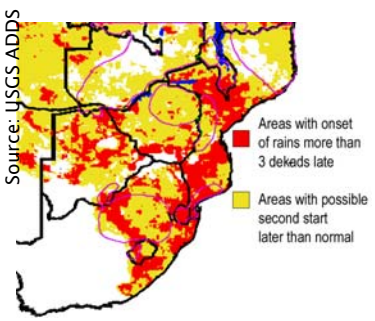


**Fig 3.** Map of areas with onset of rains late by three or more dekads. Polygons show FAO/GIEWS maize growing regions.

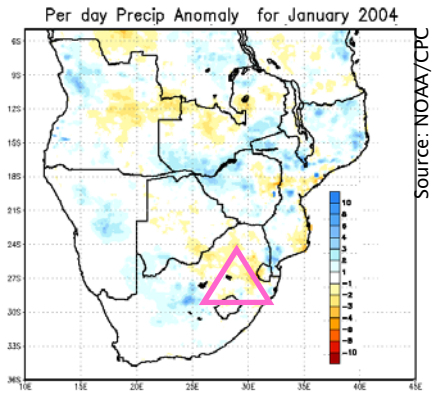


**Fig 4.** Rainfall anomalies [mm] for January.

## Intra-seasonal Rainfall Variability

The 2003/04 season has demonstrated the significant impact of intra-seasonal variability. Some locations had light rains until January, and then received large quantities of precipitation in a short period of time. Other areas received good early rains, but then experienced significant dry spells later in the season. This uneven distribution of rainfall limits productivity, forcing farmers to replant, or abandon their fields if inputs have been exhausted. Figure 5 shows the maximum number of consecutive mid-season dry dekads. Southern Mozambique, portions of the Free State and Kwazulu/Natal Provinces, northern Lesotho, and northern Mashonaland have had more than three consecutive dry dekads.

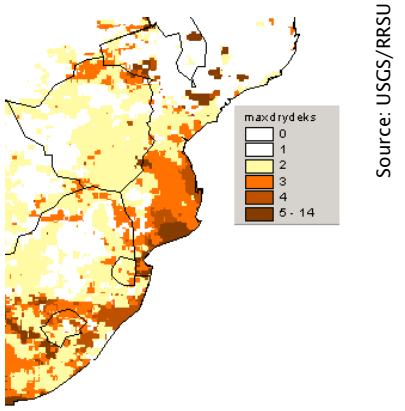


**Fig 5.** Maximum number of consecutive dry dekads from the time the first 25 mm fell in the season until January Dekad 3. Dry dekad defined as < 25 mm.

## Corroborating reports and aggregate hazards

The factors controlling when and if a farmer plants are very complex and actual planting practices will vary substantially based on the availability of seed, current prices, available labor, and other factors. This season's complex rainfall distribution makes it difficult to model. Yet, there is reason to believe that farmers planted less area following a second start of the season. Field reports provide compelling and independent validation of the potential for an emerging food insecurity crisis in Southern Africa.

Table 2 summarizes results drawn from a joint SADC FANR REWS report, FEWSNET monthly reports from Mozambique, Zimbabwe and Malawi, and a special report on South Africa produced by the USDA Foreign Agricultural Service. The story that emerges is of low rainfall in major crop growing areas, multi-year droughts, and poor prospects for harvests in 2004. While it is still possible that late-planted maize in South Africa, Zimbabwe or central Mozambique might have normal yields with good rains in February and March, short growing seasons, reductions in area planted and sub-optimal agricultural inputs all conspire to limit production. In aggregate, the crop production picture is cause for concern. South Africa, typically a regional exporter, will probably have to import yellow maize this year. Other typically productive regions, such as Southern Malawi, Central Mozambique and Eastern Zimbabwe, will likely face significant reductions in production. These low production shocks will arrive on the heels of repeated drought (Figure 2) in countries that already need outside help.

## Maputo Seasonal Outlook Statement

The Southern African Development Community (SADC) held a Mid Season Strategic Assessment and Disaster Preparedness Meeting in Maputo, Mozambique, from 4 - 6 February 2004. The participants concurred that there would be poor agricultural production in Botswana, Lesotho, Swaziland, Malawi, Mozambique, Tanzania, South Africa and Zimbabwe where it was reported that water resources were low and livestock were in poor condition. It is anticipated low production will put pressure on prices of food commodities. In view of the these observations, the participants recommended immediate assessments, increased emphasis on disaster prevention, mitigation and preparedness, an increased role for formal and informal intra-region trade, improvement in emergency response, among others.

## Impact on households in the SADC region

Present estimates suggest that the total food insecure populations in Lesotho, Malawi, Mozambique, Swaziland, Tanzania and Zimbabwe could rise to more than 11 million, many of whom are already receiving humanitarian aid. This situation is exacerbated by the poor harvests currently expected for many already affected areas. The ability of governments and donor agencies to assist affected households may be greatly reduced by the limited export potential of South Africa, as well as rising regional maize prices.

## Highlights of National Reports (Refer to Figure 6 below)

| | Region | Observation | Potential Outcome |
|---|---|---|---|
| A | Central Mozambique | *"In the provinces of Manica, Sofala and Tete, crops are showing marked stress, … but some crops could recover."* | Current food aid distributions near 90% of the Vulnerability Assessment Committee's (VAC) estimates. Plans to transition to towards longer-term food security efforts may have to be postponed. |
| B | Southern Mozambique | *"River and dam levels in areas south of the Save river are below last year (a drought year)."* | Water scarcity is jeopardizing livestock and irrigation practices. |
| C | Eastern Zimbabwe | *"The worst affected areas are in Manicaland Province, Masvingo Province and the narrow belt east* | Significant yield reduction will occur in these areas and the numbers of household sin need will increase as NGO's and WFP are already providing humanitarian assistance in these areas. |
| D | Southern Malawi | *"In some areas of the southern region, farmers have not yet planted by mid January 2004."* | It is likely that southern Malawi will have a poor harvest this season. Maize prices are increasing, but remain below their levels in 2001 and 2002. The government is increasing its subsidized maize sales and plans to maintain a 100,000 MT strategic grain reserve. Household maize stocks in the Lower Shire Valley are de- |
| E | Swaziland | *"The central and eastern two thirds have had erratic rains and dry conditions…. The country received poor rains last season as well."* | Grain production will decrease and the country may need assistance in meeting its domestic consumption requirement of 204,000 MT. More than 265,000 people will likely need food assistance. |
| F | Lesotho | *"The poor start of season led to reduced planting. These drier than normal conditions go back into early 2003."* | Lesotho's domestic requirement of 395,000 MT was not met last season. Previous vulnerability assessments suggesting 270,000 people in need of assistance will likely need to be increased. The WFP estimates that between 600,000 and 700,000 people will need food aid. |
| G | South Africa | *"The current corn area estimate for South Africa is the lowest in over fifty years; dry planting conditions in late December lowered corn area to a level insufficient for domestic needs."* | Low corn prices and poor rains reduced area planted and irrigated. Drought causes President Mbeki to declare Limpopo, Northern Cape, Northwest, KwaZulu-Natal, Eastern Cape, Mpumalanga, and Free State provinces disaster areas. South Africa will likely be an importer of yellow maize. |

- Food aid is currently being distributed to approximately 587,000 people in **Mozambique** (in Watch status by FEWS NET).
- A recent Regional Vulnerability Assessment Committee report (September, 2003) suggested that approximately 400,000 rural people in **Malawi** (in Watch status by FEWS NET) will be in need of assistance.
- In **Lesotho** and **Swaziland**, assessments from last season suggested that 270,000 people in Lesotho, and 217,000 people in Swaziland needed assistance.

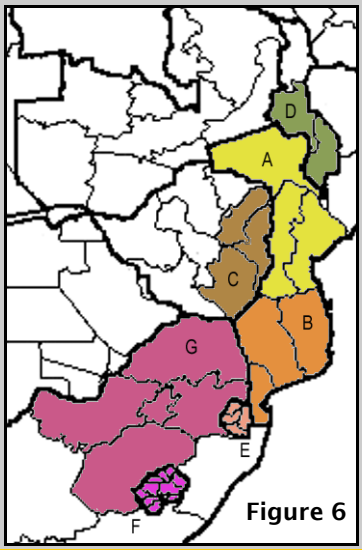

Figure 6

## References

The conclusions of this report are drawn mainly from:
1. SADC FANR Special Agromet-Update (19 January 2004)
2. FEWS NET *Executive Overview of Food Security . Threats in Sub-Saharan Africa* (January 22, 2004),
3. FEWS NET monthly reports.
4. Review of USGS, NOAA, NASA, USDA, and IRI monitoring and forecast products.
5. 'Seasonal dryness' is determined by a Standard Precipitation Index (SPI) for the November-March period of less than -0.5.
6. The CPC's RFE climatology, http://www.cpc.ncep.noaa.gov/products/fews/AFR_CLIM/afr_clim.html FEWSNET Mozambique *Food Security Update*, January 21, 2004.
7. FEWSNET Zimbabwe *Food Security Update*, January 16, 2004.
8. South Africa: Planted Corn Area at Historic Lows, by Curt Reynolds
9. USDA FAS GAIN Report, Dec 31st 2003

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