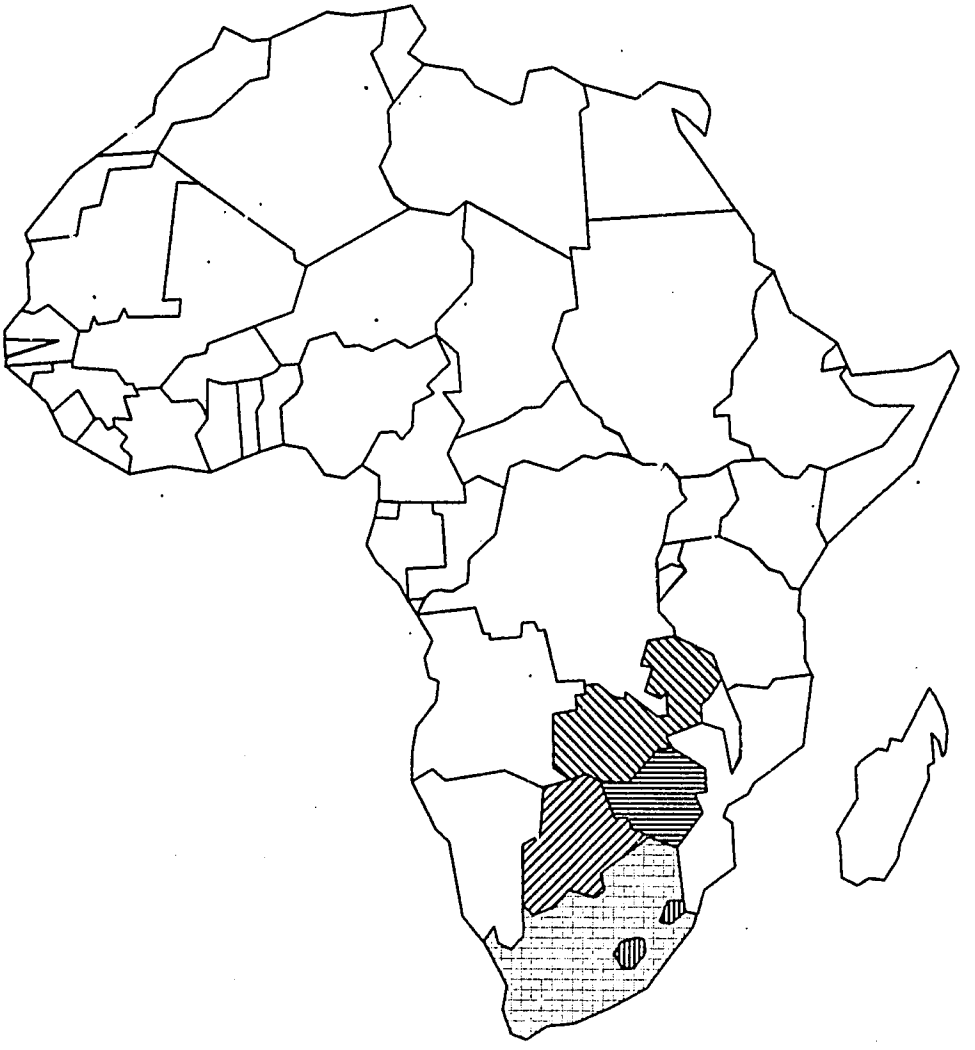
OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE
BUREAU FOR HUMANITARIAN RESPONSE
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

SOUTHERN AFRICA DROUGHT ASSESSMENT

September 10-30, 1995



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Imagine a continuation of the drought.
It has the capacity to change
the whole meaning of life.

From *The Lion Roars Again*, a tribute to Swaziland's
King Mswati III and Queen Mother Ntombi
by Ted and Liz Reilly, page 58.

ACRONYMS

ADRA	Adventist Development and Relief Agency
ACAT	African Community Action Trust (Swaziland)
CADEC	Catholic Development Commission (Zimbabwe)
CANGO	Coordinating Assembly of PVOs/NGOs (Swaziland)
CARE	Cooperative for American Relief Everywhere
CMMU	Community Management and Monitoring Unit (GRZ)
COMESA	Community of East and Southern African States
CRS	Catholic Relief Services
CSFP	Child Supplemental Feeding Program (GOZ)
CSO	Central Statistical Office (GOS, GRZ)
DCM	Deputy Chief of Mission
DDF	District Development Fund (GOZ)
DHS	Demographic and Health Survey
DMA	Disaster Management Authority (GOL)
DMO	District Medical Officer (GRZ)
DPS	Deputy Permanent Secretary
DRIG	Drought Relief Implementation Group (GOL)
DSM	dried skim milk
DWA	Department of Water Affairs (GRZ)
DWR	Department of Water Resources (GOZ)
EHT	Environmental Health Technician
EMOP	Emergency Operation appeal issued by WFP
ENSO	El Niño/Southern Oscillation
ESAP	Economic Support Assistance Program
FAO	United Nations Food and Agriculture Organization
FHANIS	Food Health and Nutrition Information System (GRZ)
FMU	Food Monitoring Unit (GOL)
FNCO	Food and Nutrition Coordinating Office (GOL)
FY	fiscal year
GLP	Grain Loan Program (GOZ)
GMB	Grain Marketing Board (GOZ)
GOB	Government of Botswana
GOL	Government of Lesotho
GOS	Government of Swaziland
GOZ	Government of Zimbabwe
GRZ	Government of the Republic of Zambia
GTZ	German Overseas Development Agency
HEPS	High Energy Protein Supplement
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
IDWSSD	International Drinking Water Supply and Sanitation Decade
IEC	Information, Education, and Communication

IFRC	International Federation of Red Cross and Red Crescent Societies
IMF	International Monetary Fund
IO	International Organization
JICA	Japanese International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau, a German credit bank
LCN	Lesotho Council of PVOs/NGOs
MAFF	Ministry of Agriculture, Food, and Fisheries (GRZ)
MDRO	Mission Disaster Relief Officer (USAID)
MOA	Ministry of Agriculture (GOZ)
MOAC	Ministry of Agriculture and Cooperatives (GOS)
MOH	Ministry of Health (GOL, GOS, GOZ, GRZ)
MT	metric tons
NAC	National Action Committee (GOZ)
NCDP	National Commission for Development Planning (GRZ)
NMC	National Maize Council (GOS)
NOAA	National Oceanic and Atmospheric Administration
NOAA/OGP	National Oceanic and Atmospheric Administration/ Office of Global Programs
NSSP	National Nutritional Surveillance Program (GRZ)
ODA	Overseas Development Administration
OST	Operational Support Team (GOL)
PAM	Program Against Malnutrition (Zambia)
PSC/AG	Personal Services Contractor/Agriculture
PVO/NGO	Private Voluntary Organization/Non-Governmental Organization
RWSB	Rural Water Supply Branch (GOS)
RWSD	Rural Water Supply Department (GOL, GOS)
SADC	Southern Africa Development Community
SCF/UK	Save the Children Fund/United Kingdom
SIDA	Swedish International Development Agency
SNL	Swazi Nation Land (GOS)
TOA	Transport Operators Association (GOZ)
TU	Transportation Unit (GOZ)
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Emergency Fund
USAID	U.S. Agency for International Development
USAID/AFR	U.S. Agency for International Development/Bureau for Africa
USAID/BHR	U.S. Agency for International Development/ Bureau for Humanitarian Response
USAID/FEWS	U.S. Agency for International Development/ Famine Early Warning System
USAID/FFP	U.S. Agency for International Development/ Office of Food For Peace

USAID/OFDA	U.S. Agency for International Development/ Office of Foreign Disaster Assistance
USAID/PHN	U.S. Agency for International Development/ Center for Population, Health, and Nutrition
USAID/RCSA	U.S. Agency for International Development/ Regional Center for Southern Africa
USG	United States Government
WASA	Water and Sewerage Authority (GOL)
WASHE	Water, Sanitation, and Hygiene Education (GRZ)
WFP	United Nations World Food Program
WHO	World Health Organization
WSC	Water Services Corporation (GOS)
WSDG	Water Sector Development Group (GRZ)
WVRD	World Vision Relief and Development
ZCCM	Zambia Consolidated Copper Mines Limited
Z$	Zimbabwe dollars

USAID DROUGHT ASSESSMENT TEAM REPORT

I. EXECUTIVE SUMMARY

From September 10-30, 1995, a six-member U.S. Agency for International Development Office of Foreign Disaster Assistance (USAID/OFDA)-led team conducted an assessment of the impacts of the 1994-1995 drought in five southern African countries. Lesotho, Swaziland and Zimbabwe were visited to assess potential needs for humanitarian assistance based on disaster declarations by the U.S. Ambassador to each country. Zambia was similarly assessed based on reports of severe drought impacts in some parts of the country. Botswana was visited to assess how drought management practices there might apply in other countries in the region. All team members visited Zimbabwe and Zambia and then the team split up to cover the remaining countries.

Southern Africa has not fully recovered from the 1991-1992 drought. Inadequate rainfall since then has failed to fully replenish surface water reservoirs, recharge aquifers, and replenish ground water reserves. Hardship related to lack of water was cited by nearly all drought-affected people contacted. Borenoles and wells are drying up throughout the region, and in some areas of Zambia people are migrating in search of water for themselves and their livestock. In Swaziland, water is being trucked into certain areas. Zimbabwe and Swaziland are both closing schools in areas where there is not an adequate water supply. In Lesotho and Swaziland the rains are already two months late.

If the rains do not start by December, a major regional emergency will likely develop. In that event, water emergencies will surface before food emergencies and will intensify until the next rains. All countries visited, with the possible exception of Zambia, should have sufficient food to last through the first quarter of 1996.

While efforts to improve drought preparedness are being made in the countries visited, with the exception of Botswana, the drought is still being handled on an emergency basis. Ad hoc responses are straining the administrative and financial capacity of national governments. The fact that southern Africa has a significant, recurrent risk of regional droughts with measurable, detrimental impacts on development makes it imperative that strategies be developed to mitigate drought *before* it becomes an emergency causing human suffering, disrupting development programs and requiring outside assistance.

The current drought is having negative consequences for economic growth and stability throughout the region. In Zimbabwe, for example, the government is being forced to reallocate funds from development programs, borrow at high interest rates and appeal to donors to provide barely adequate drought relief to affected populations. Zambia grain liberalization policy is being jeopardized by the drought, putting pressure on the government to call for large-scale relief grain or to fix retail prices -- policies that

discourage commercial grain trading and set back economic development.

At the same time, strategies are available to manage southern Africa droughts so that the need to declare drought disasters, to disrupt normal programs, and to provide outside assistance would be reduced. Botswana, for example, handles drought developmentally, conducting early warning assessments annually and expanding regular developmental programs as needed. Permanent drought mitigation or disaster management units at the ministerial level in Zimbabwe and Zambia could improve preparedness as well as reduce the need for emergency response. Diversified crop selection providing alternatives to maize with drought-tolerant millet and sorghum, even cassava can provide agricultural options in drought years to reduce the vulnerability of that sector. Drought relief food-for-work programs can be employed to rehabilitate water sources. At the policy level, Zambia can continue to let grain prices rise to world market levels to encourage imports and the development of a vigorous private grain sector.

Increasing scientific understanding of southern Africa regional climate controls and their relationship to El Niño/Southern Oscillation (ENSO)[1] continues to improve regional seasonal climate forecasting capability. Both the 1991-1992 and the 1994-1995 southern Africa droughts were associated with ENSO warm events, or El Niños. This year's forecast from the Drought Monitoring Center in Harare is for normal rains throughout the region, based in part on a developing ENSO cold phase (La Niña). Current forecasts for the 1996-1997 season call for another ENSO warm event, which could again bring drought to southern Africa. This prediction will be updated in February 1996. National Oceanic and Atmospheric Administration (NOAA)-sponsored and other scientific exchanges are taking place through workshops, publications, cooperation, and data-sharing to improve forecasts.

A. Country Assessments

1. **Botswana**: Botswana could have a positive influence on other countries' efforts to improve drought management through knowledge exchange initiatives coordinated by the Southern Africa Development Community (SADC). The regional drought response and mitigation role of the USAID Regional Center for Southern Africa (USAID/RCSA) needs to be refined and clarified. Disaster management training could play a key role in the establishment of needed national drought mitigation units in the region's other countries. Botswana planners identified a need for earlier drought warning through seasonal climate forecasting.

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[1]ENSO refers to sea surface temperatures and atmospheric circulation over the tropical Pacific ocean. When waters in the central and eastern Pacific are warmer than average, an El Niño or ENSO warm phase, southern Africa tends to experience drought. Cold sea surface temperatures in this region (a La Niña or ENSO cold phase) favor southern Africa precipitation.

2. **Lesotho**: At the current time, no life-threatening emergency exists in Lesotho. Adequate food stocks to last until near harvest time have been pledged in response to the Government of Lesotho (GOL) appeal of March 1995, and food aid is beginning to arrive. The initiation of food aid deliveries was delayed, but is now underway without serious consequences as a result of the delay. At present, no surveillance or nutrition monitoring tools exist in-country. The current water supply situation is serious but manageable. However, should the onset of the rains be late, the water supply situation could deteriorate rapidly and next year's harvest could be jeopardized.

3. **Swaziland**: The water supply situation in Swaziland is nearing a critical state. Urban and rural water supplies have been seriously affected by four years of below-normal rainfall. This has already required the Water Services Corporation (WSC) to undertake extraordinary measures in several cases. Rural water supplies are also badly affected. The relatively large-scale water trucking program, however inadequate, is an indication of the serious water shortage being experienced throughout the country. This condition could become decidedly more serious if the rains do not begin within the next several weeks. Food stocks are sufficient to meet immediate needs.

4. **Zambia**: Drought in Zambia is exacerbating chronic stresses in the water, health, and food sectors. The impact is greatest in the southern half of the country and most severe in the districts along the southern and southeastern borders. Incomplete recovery from the drought of 1991-1992 is intensifying the impact of the current drought. If the October-November rains do not come or if the commercial sector is unable to meet the grain shortfall, there will potentially be a humanitarian emergency. In addition to causing loss of life and suffering, this emergency could be of sufficient magnitude to derail structural adjustment programs and destabilize the political situation. The current food deficit is approximately 300,000 metric tons (MT) of grain, which must be imported and channeled through the private sector over the next three to four months. There are concerns about the emerging private sector's capacity to meet these needs. The emergency food requirement has been estimated at approximately 82,000 MT of grain, with 75,000 MT pledged to date, though only 6,000 MT have been delivered. It is clear that the water supply situation in some areas is nearing a critical stage. Health data and interviews during site visits suggest increases in wasting rates (low weight for height) of children since the 1991-1992 drought. The current water-related stress seen in rural and some urban areas is exacerbated by inconsistent government policies and a lack of investment over the past several decades, but this does not minimize concern or need. Large areas in drought-declared districts are poorly served and in need of both emergency response and long-term water-development programs. Though much of the focus in-country is currently on food and Government of the Republic of Zambia (GRZ) grain policy, the water, health, and food inadequacies stemming from successive droughts are linked and must be addressed in an integrated manner.

5. **Zimbabwe**: Nearly half of Zimbabwe's population, or approximately six million inhabitants, has been affected by drought. At this time there appears to be no large-scale

life-threatening emergency that would warrant additional disaster assistance at a national level. However, specific targeted assistance through Private Voluntary Organizations/Non-Governmental Organizations (PVOs/NGOs) at the local level may be appropriate. It is important that the Government of Zimbabwe (GOZ) relief response and the coming rains be monitored closely. If the rains are not sufficient or the relief is not delivered, a major disaster could occur. There appear to be sufficient grain stocks in-country to meet normal and relief needs through February 1996, especially given planned imports of 100,000 MT by the Grain Marketing Board (GMB). Thus, outside food assistance does not appear to be necessary at the present time. Although there are isolated rural areas where availability and access to water supplies are problematic and obtaining water requires significant expenditures of time and energy, the overall water supply situation is not yet critical. Urban water supply reservoir levels are being monitored. Water levels are in all cases lower than at comparable times in normal years, but are not yet as low as during the 1991-1992 drought. However, the water supply situation should be monitored carefully, particularly if the anticipated October rains do not materialize. Should the drought continue even into November, the water supply situation will become critical in several urban areas and in some southern and western rural districts.

B. Major Recommendations

All U.S. Missions in the region should continue to monitor and report on the drought and develop contingency response plans to be implemented should the rains be inadequate or fail. The United States Government (USG) should be prepared to implement an environmentally sound emergency disaster relief program if the rains fail. With rains expected to come and provide relief in October, there is little that can be done in a timely and effective manner to alleviate current water-related hardships. The time to plan and implement a major water-focused drought program for the current drought in southern Africa has passed. Should the 1995-1996 rains fail, however, a water-related drought emergency will occur in much of the region, with many urban centers as well as rural areas reaching crisis levels before the beginning of 1996. If this happens, a variety of emergency interventions throughout the region should be considered, prioritized and implemented. If the water situation does not improve, poorer sanitary conditions and increased incidences of diarrheal diseases and other water-related morbidity will occur. Even if rains start on schedule it will be important to monitor their extent and continuity, and to continue to monitor agricultural activities. The monitoring of food access is also needed to verify that household incomes are sufficient to purchase food at prevailing market prices.

In recognition of the recurring, predictable, and inevitable nature of drought in southern Africa, USAID Missions, both bilateral and regional, should, in collaboration with the Bureau for Africa (USAID/AFR) and the Bureau for Humanitarian Response (USAID/BHR), develop and implement multi-sectoral strategies that mitigate drought and reduce or eliminate the need to declare drought disasters in the region. The governments

of all countries in the region should emulate the example of Botswana and establish permanent drought mitigation units that can coordinate resources at the inter-ministerial level. SADC is potentially a regional institution that can coordinate both the extension of Botswana's lessons learned to other countries and the formulation and dissemination of regional climate forecasts, in cooperation with U.S. NOAA and regional/national climate and meteorological services and early warning units. Disaster management and mitigation training is needed to build national and regional capacities. Improved program- and community-based monitoring of the nutritional status of children is needed.

Major recommendations for countries assessed for the impacts of the 1994-1995 drought include:

1. **Lesotho**: The United Nations World Food Program (WFP) should continue to monitor the food relief program and provide assistance to the GOL Drought Relief Implementation Group (DRIG) where possible to help with distribution. USAID Famine Early Warning System (USAID/FEWS) should monitor rains.

2. **Swaziland**: USAID/OFDA should assist indigenous PVOs/NGOs in their implementation of food-for-work activities in affected areas. USAID/Mbabane and USAID/OFDA should closely monitor the water supply situation over the next several months. Should Manzini-Matsapha towns run out of water USAID/OFDA should consider funding emergency water measures. USAID/Mbabane should collaborate with USAID/BHR and USAID/AFR to design a contingency plan for managing the current drought.

3. **Zambia**: USAID and GRZ should support technical assistance to replicate Cooperative for American Relief Everywhere (CARE)'s Southern Province successes in distributing drought-tolerant sorghum and millet seed and achieving good harvests in other drought-prone areas. The programming of food assistance such as sorghum should continue to reinforce a return to more drought-tolerant crops. USAID/Lusaka should regularly assess and report on whether emergency water interventions are needed. Water interventions that should be considered include projects in the already-identified seven most-affected districts. Suggested activities include: support for consultations with district authorities to prioritize emergency needs; provision of stocks of spare parts for rehabilitation of hand pumps and windlasses; and provision of funds to allow for emergency trucking of water to clinics, hospitals, and schools. All of these activities could be managed by the United Nations Children's Emergency Fund (UNICEF) as part of the coordinated water sector response. Malaria and cholera outbreaks are to be expected following the expected onset of the rains. Ministry of Health (MOH) and health workers should be prepared and should have adequate stocks of drugs and supplies to prevent increases in morbidity and possible mortality due to malaria and cholera outbreaks. The GRZ Office of the Vice President charged with national coordination is being restructured and new staff added. Training to the national disaster section of this office should be provided through USAID/OFDA's regional disaster management training

program if possible.

4. **Zimbabwe**: USAID/OFDA should be prepared to provide assistance through PVOs/NGOs and UNICEF to address the health and water needs of the affected populations. A permanent drought mitigation unit to coordinate drought management between government ministries of the GOZ should be an element in USAID/AFR and USAID/BHR joint planning to design a southern Africa drought mitigation strategy. USAID and other donors should encourage the institutionalization of a drought unit by requiring a substantial and firm commitment to it by the GOZ. Given such a commitment, donors should also seriously consider the economic benefits of supporting and investing in a GOZ drought mitigation unit. Support to the unit can include technical assistance and training.

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II. INTRODUCTION

During the 1994-1995 growing season the southern Africa region has experienced low rainfall, causing drought conditions in several countries. In July 1995 the U.S. Ambassador to Lesotho declared a drought disaster, and two months later the U.S. Ambassadors to Swaziland and Zimbabwe declared drought disasters. With the increased reporting on drought, USAID/OFDA fielded a team to assess the food, water, and health conditions in this region.

This six-member assessment team set out on September 6, 1995. Led by Tami Halmrast-Sanchez of USAID/OFDA, the team included USAID/OFDA's Maxx Dilley as the Deputy Team Leader and specialist on prevention, mitigation, and preparedness as well as climate forecasting; Jeffrey Ashley, a USAID/OFDA Health Officer; Alexis Robles, a USAID Office of Food For Peace (USAID/FFP) Food Officer; Ted Morse of USAID/AFR as the Liaison/Economic Officer; and Jonathan Hodgkin as the Water and Sanitation Officer.

The team began its assessment of the drought in Zimbabwe, staying there September 12-18, then worked in Zambia September 18-22. At this point the team split up: Tami Halmrast-Sanchez and Alexis Robles returned to the U.S., Maxx Dilley and Ted Morse went to Botswana, and Jeffrey Ashley and Jonathan Hodgkin proceeded to Lesotho. The remaining four-member team reconvened and concluded the assessment in Swaziland. The concentration of effort on Zimbabwe and Zambia is reflected in the level of detail provided in the report for those two countries compared with Lesotho and Swaziland, which were visited by fewer team members and for shorter periods of time. The Botwsana assessment was qualitatively different from that of the other countries in that the purpose was to gather information on Botswana's approach to drought mitigation rather than to assess the direct impacts of the current 1994-1995 drought. This essential difference between the Botswana visit and the other country assessments is also reflected in the report. The differences in the assessments result in slight variances in the organization of the individual country sections.

In each country the team held extensive discussions with the USAID Missions (except in Lesotho) and U.S. Embassies, senior host-country government officials, representatives of the United Nations (UN), the International Federation of Red Cross and Red Crescent Societies (IFRC), PVOs/NGOs, and International Organizations (IOs), as well as with technical specialists and donor governments. The team also made field trips to drought-affected areas in the countries visited and met with local government officials, members of the private sector, PVOs/NGOs, farmers, and health workers. Every member of the team is appreciative for the support of the USAID Missions, government officials, PVOs/NGOs, and others who facilitated the country visits, met with them during the visits, and accompanied them on the field trips.

This assessment would not have been possible without the active support of the USAID

Missions, PVOs/NGOs, IOs, and host-country officials and technical staffs. The team would especially like to thank Gary Eilerts, Chuck Chopack, and Joseph Phiri of the USAID/FEWS project; Carole Palma, Calisto Chihera, and Mary Pat Selvaggio of USAID/Harare; David Soroko of USAID/Lusaka; Cheryl Barton, USAID/OFDA's Regional Training Advisor for southern Africa in Botswana; Steve Goertz of USAID/Mbabane; and others too numerous to name here.

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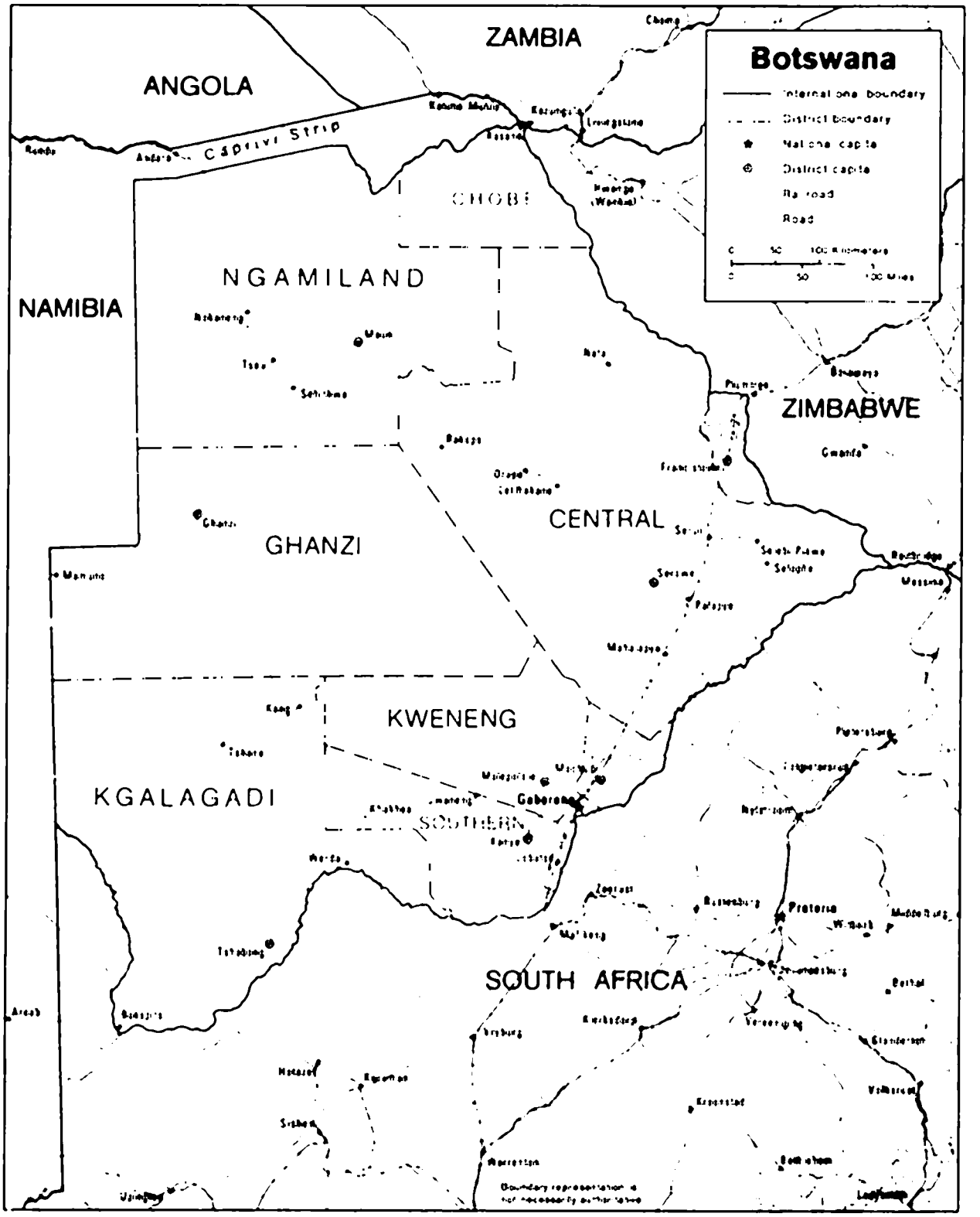
Botswana
ZAMBIA
ANGOLA
NAMIBIA
ZIMBABWE
SOUTH AFRICA
Caprivi Strip
CHOBE
NGAMILAND
GHANZI
CENTRAL
KWENENG
KGALAGADI
SOUTHERN
Gaborone
Pretoria

III. BOTSWANA

A. Background

Based on experience with successive droughts since independence in 1966, Botswana has developed an exemplary drought management capacity. Unlike other countries in the region, Botswana has a permanent inter-ministerial subcommittee for drought management. As a result, Botswana handles drought through its ongoing development program rather than as an unanticipated emergency and an ad hoc response. The purpose of the Botswana assessment was to identify and apply lessons learned in this country to improve long-term drought management in other countries of the region.

Drought is a recurrent fact of life in the southern Africa region, requiring that disaster mitigation be integrated into national and international plans and financing. Bilateral USAID offices are closing in the region and a new USAID regional center is opening. USAID and U.S. Embassy staff have new relief and mitigation strategies and management responsibilities that must be clear to them as well as to host countries, international organizations, private businesses, and PVOs/NGOs. Improvements can be made in both in terms of *preparedness*, leading to more timely and effective drought relief, and *mitigation*, reducing the need for drought relief.

The USAID/RCSA Director and Deputy Director have indicated a willingness to receive USAID/BHR and USAID/AFR analysis in 1996 that could feed into deliberations on the Southern Africa Regional USAID Strategy due in early fiscal year (FY) 1997. It is recommended that USAID/AFR and USAID/BHR jointly study all aspects of alternative USG disaster relief and mitigation strategies in southern Africa. The time frame and approach of this study should be consistent with the USAID/RCSA strategy development process. Continuing and close-out U.S. Missions should be consulted closely during the analysis.

Significant progress has been made in understanding and forecasting drought in southern Africa. Forecasts that have implications for southern Africa drought based on sea surface temperatures in the equatorial Pacific are already available from several U.S. climate institutes with 6-12 months lead times. Southern and South Africa regional forecasts are currently available from the Drought Monitoring Center in Harare and from the South African national weather service and the University of Capetown.

On August 23-25, 1995, the National Oceanic and Atmospheric Administration Office of Global Programs (NOAA/OGP) convened a planning meeting to outline an agenda for reducing climate-related vulnerability in southern Africa. The NOAA initiative seeks to establish a regional applications center for using climate forecasts to reduce drought vulnerability in southern Africa at an existing regional institution by 1998. Delegations from Botswana, Zimbabwe, Namibia, and South Africa attended NOAA's International

Forum on Forecasting El Niño: Launching an International Research Institute on November 6, 1995. The Forum was addressed by USAID Administrator J. Brian Atwood. The emerging ability to predict regional climate prior to the onset of the rains introduces many possibilities for improved food, water, and health planning and management throughout southern Africa to reduce the impact of drought.

B. Botswana Mitigation Assessment

Drought in Botswana is managed by expanding and/or accelerating development programs as necessary, based on the results of annual drought assessments conducted at the end of the agricultural season. The activities consist mainly of labor-intensive public works, implemented by the Ministry of Local Government and Lands, which also implements feeding to vulnerable groups. Public works projects are identified at the village level and passed up to the district level. At the national level, an inter-ministerial drought committee, under the Ministry of Finance, makes recommendations to Local Government and Lands and passes local-level recommendations up to the Cabinet if appropriate. Having the Ministry of Finance in this central role allows for the timely incorporation of drought assessment findings into national financial planning.

Since 1992 the Government of Botswana (GOB) has refined its developmental approach to include drought mitigation. It has recognized that vulnerability is caused by structural poverty. Poverty alleviation efforts focus on employment creation. The national five-year development plan emphasizes labor-intensive public works and investment in rural infrastructure and services, normal programs which can be advanced or enlarged in scope to mitigate drought. Drought relief funds can also be increased if necessary.

Several applications of seasonal climate predictions were identified during an interview at the Ministry of Finance. The current drought management plan emphasizes early warning based on post-rainy-season assessments. Pre-season predictions would allow a longer lead-time to assist in budgeting and planning. The political system also needs additional time to be alerted to mobilize people and resources. This year, for example, the President felt he did not get enough advance notice to prepare for the drought. In addition, pre-agricultural-season early warning could provide information related to crop selection and varieties. Lack of early warning information in the past has also caused the procurement of materials for public works programs that turned out not to be useful, and employment-creation initiatives have faltered due to unpredicted drought.

More confidence needs to be gained in the early warning system, however. Regional forecasts did reach some GOB planners last year but their message was unclear. Early forecasts were favorable but were contradicted by later ones. Thus there is a need for greater consistency in the timing and structure of seasonal climate forecasts.

Interviews with U.S. Mission and GOB officials and technical specialists highlighted the

following elements of Botswana's drought management strategy:

1. Drought is recognized as a recurrent phenomenon rather than an isolated event.

2. Drought mitigation and relief are undertaken as part of the long-term development strategy.

3. A permanent inter-ministerial subcommittee is responsible for drought monitoring and response coordination.

4. Drought assessments and early warning analyses are undertaken annually as an input to multi-sectoral drought planning for that year.

5. Vulnerability reduction is addressed by development programs aimed at poverty alleviation through the creation of employment opportunities. A five-year development plan emphasizes labor-intensive public works and investment in rural infrastructure and services. These normal development programs are advanced or enlarged in scope, based on drought monitoring and early warning, to mitigate drought.

6. Lack of reliable long-term, i.e., seasonal climate forecasts is a constraint. The following points were elaborated on several occasions during the assessment:

   a. Reliable forecasts could and would be used in the formulation of financial and development plans, which would ultimately save money.

   b. Currently, the forecasts that are received are confusing due to their lack of agreement with one other.

   c. Scientifically based climate early warning information needs to be conveyed to rural areas, perhaps through the existing agricultural extension stations or a farmer's almanac.

C. Recommendations based on Botswana Mitigation Assessment

1. USAID/BHR, USAID/AFR, USAID/RCSA and bilateral southern Africa Missions undertake further analysis to determine how a regional drought mitigation strategy might cost-effectively reduce the impacts of drought on USAID's regional and bilateral programs throughout southern Africa. In Washington, this process should be initiated by a joint USAID/BHR-USAID/AFR working group. The strategy would be intended to reduce the number of drought disasters declared during hydro-meteorological droughts in the region. Raw materials for the analysis depicting needs and lessons learned would include evaluations of previous drought responses, regional drought mitigation strategies such as that of IFRC, and sectoral studies such as that of Stanley Consulting on water.

Development of the strategy should include an assessment of bilateral Mission and USAID/RCSA strategic objectives as related to drought mitigation. Illustrative elements of a mitigation strategy include:

a. Drought management knowledge exchange from Botswana to other countries in the region through SADC.

b. Creation of permanent, trained national disaster mitigation units at the vice-presidential level for inter-ministerial coordination of financial, agricultural, water and emergency response planning to minimize drought impacts and the need for drought relief.

c. Crop diversification through promotion of cassava, sorghum and millet to reduce dependence on non-drought-tolerant crops.

d. Continued and expanded monitoring of rainfall, climate forecasts, grain and livestock prices, household-level vulnerability indicators and community- or program-based nutritional status through USAID/FEWS, WFP, International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) and national and regional early warning and information systems.

e. Creation of a multi-donor Emergency Fund to meet immediate needs during drought.

2. USAID/OFDA should continue to build on the extant human resource base for disaster management and mitigation through regional disaster mitigation training.

3. USAID/BHR and USAID/AFR continue operational use of existing regional climate forecasts and work toward the formation of a southern Africa regional applications center and a consolidated regional forecast through the NOAA International Research Institute. USAID/FEWS should incorporate southern Africa regional climate forecasts into its regular reporting.

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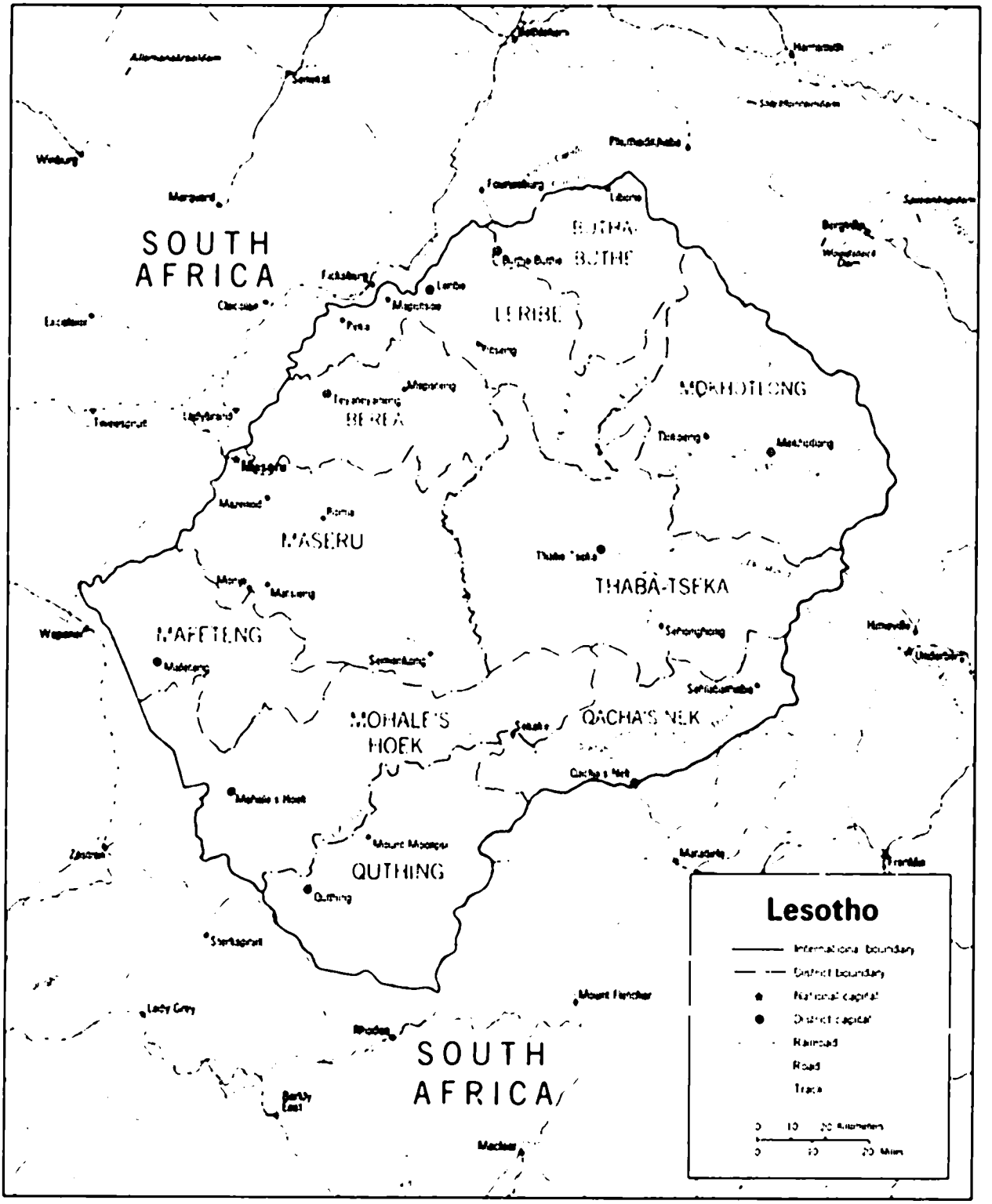
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QUTHING
SOUTH AFRICA
Lesotho
International boundary
District boundary
National capital
District capital
Railroad
Road
Track

IV. LESOTHO

A. Background

Lesotho is currently experiencing the effects of prolonged drought, having received below-average rainfall in three of the past four years. As the first southern African government to heed signs of the 1994-1995 drought that became evident during the latter part of 1994, the GOL declared a drought emergency in December, 1994. Government officials indicate that the current drought is more intense and prolonged than the one that affected the country from 1991 to 1993. Irregular rainfall has contributed to continual decreases in groundwater supplies, crop yields, food production, and adequate pasture for grazing. Land degradation and soil erosion have increased. Unemployment has been on the increase -- now approximately 50% to 60% of the able population -- while internal purchasing power has been decreasing due to retrenchments of mine workers in South Africa. Over 50% of Lesotho's estimated population of 2.1 million now falls below the poverty line.

An appeal for assistance was prepared by the GOL and submitted to the donor community on March 20, 1995. The U.S. Ambassador to the Kingdom of Lesotho released a drought declaration in July of 1995 and committed discretionary drought funds to the procurement of tools for food-for-work programs. These funds were handed over to the Ministry of Home Affairs on September 20, 1995. The USG also pledged 8,000 metric tons of sorghum for targeted food aid to vulnerable households, delivered in October.

B. Situation Report

Much of lowland Lesotho experienced below-normal rains during the 1994-1995 growing season. The country-wide average rainfall was 68% of normal, with Mohale's Hoek District receiving only 41% of its normal rains. Early indications in April were that the traditionally dry districts of Mafeteng and Mohale's Hoek would be the most seriously affected. It is now evident, however, that other lowland districts were also badly affected. As the drier-than-normal period continues and groundwater levels decline, concern about water availability continues to rise. Water is now being trucked to the town of Butha-Buthe and to several rural villages. It is anticipated that additional trucking of water will be required in several lowland districts before the onset of the rains.

The GOL's March appeal for program food aid, targeted food aid, and non-food aid assistance has been successful. Current estimates suggest that adequate food stocks until near harvest time -- approximately the second quarter of 1996 -- have been pledged in response to the appeal. Although initial food aid distributions were hampered by problems related to registration and coordination, the delays did not have serious consequences and deliveries initially planned for late June are now underway. This suggests that other food resources and coping mechanisms were sufficient to carry the affected population through

the three-month start-up delay. Recent analyses of agricultural production estimates do suggest that the harvest was somewhat more successful than originally feared.

Lower-than-average rains over recent years have exacerbated the effects of chronic problems related to poverty and malnutrition. With respect to health and nutrition, of principal concern is the lack of an adequate and reliable nutrition surveillance and monitoring tool and the resulting lack of up-to-date empirical data. Past government food and nutrition programs have failed due to deficient intersectoral coordination, inadequate national capacity to address nutritional monitoring, inability to maintain nutrition professionals in the program offices, and poor planning at central, district, and community levels.

In August of 1995 the Food and Nutrition Coordinating Office (FNCO), with assistance from the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO), prepared an intersectoral national plan to address malnutrition of childred under five years of age. It calls for developing a framework to identify priority areas; creating proposals for necessary institutional arrangements to plan, implement, and follow up food and nutrition activities in designated sectors; ensuring local capacity-building through training in the areas of food and nutrition; and raising awareness of nutrition problems through Information, Education, and Communication (IEC) activities. In addition, WHO and the DRIG have started providing assistance to MOH to revive and strengthen the capacity of its Nutrition Unit. Successful implementation of this plan is essential in light of reports of declining nutritional status.

In an effort to reorganize GOL disaster oversight, the Cabinet approved the establishment of the Disaster Management Authority (DMA) within the Prime Minister's Office to come under the direction of a Cabinet-level Task Force in April of 1994. DMA is intended to supersede DRIG, which has operated on an ad hoc basis since 1992, but apparently all of the organizational details and arrangements for DMA are not yet complete. Therefore, at this time the de facto government entity managing response to the drought emergency continues to be DRIG. This group has five operational elements: executive, water and sanitation, health and nutrition, food and logistics, and agriculture. DRIG also has close relationships with PVOs/NGOs, the GOL's Food Management Unit, the Food and Nutrition Coordinating Office, other government agencies, and the donor community. Meetings are now being held at least biweekly.

At present, the overall drought situation appears to be serious but stable. It does not appear to be life threatening. Should the onset of rains be delayed, however, the water supply situation will deteriorate rapidly and the success of next year's harvest will be seriously jeopardized. In this case, plans for additional assistance would have to be implemented by early 1996.

C. Water

The current water situation is serious and it could easily become critical in some areas if the rains do not begin soon. Indications are that Maseru has approximately a two-month supply available. Water is now being trucked in Butha-Buthe District, with the towns of Maputsoe in Leribe District and Morija in Maseru District nearing a critical stage. Water is also being trucked to several rural communities in Berea District. Conditions will continue to deteriorate until the onset of rains.

Urban Water Supply

Lesotho's urban and peri-urban water supply needs are the responsibility of the Water and Sewerage Authority (WASA), a parastatal with limited autonomy. It is responsible for collecting fees for service, which it uses to finance recurrent budgets and some portion of capital budgets. Major donors include the World Bank, Kreditanstalt für Wiederaufbau (KfW), the European Union, and the ODA. WASA provides water and sewerage services to 16 service areas including Maseru, the 10 district capitals, and other growth points and industrial areas in Lesotho. Maseru and Mafeteng are the only towns dependent on reservoirs. All other areas are dependent on boreholes or direct river abstraction. Water from the Lesotho Highlands Development Authority is not currently available to WASA. With the exception of Maseru and Mafeteng, where actual water levels can be monitored, it does not appear that WASA has a good sense of available water resources; water table levels are not being monitored regularly. Even in these two cases, subsurface flows may not be adequately accounted for. This suggests that water crises may develop suddenly in some locations.

WASA does not have a drought plan and is responding only on an ad hoc basis as needs arise. Tankering is seen as the first and most immediate response to water crises, with installing well points in rivers and drilling boreholes where surveys have been completed as the next available options. Based on previous experience, WASA anticipates that problems will develop first in Butha-Buthe, Morija, Quthing, Teya-Teyaneng, and Roma. WASA began trucking water to Butha-Buthe in mid-September, and Teya-Teyaneng is operating on limited supplies. Morija and other towns' water supplies are now being more closely watched. The reservoir in Maseru is low, with an estimated two-month supply remaining. Voluntary water restrictions have been announced, but WASA has no legal authority to enforce them at this time, nor does WASA have the authority to increase tariffs to encourage conservation. Some observers believe that the situation in Maseru is not as critical as WASA portrays, as it had announced in April that supplies would be exhausted by August. This should not minimize the fact that an emergency situation will certainly arise should the 1995-1996 rains fail.

Rural Water Supply

An estimated 55-60% of the rural population normally has access to improved water

supplies. The remaining population obtains water from unprotected springs and shallow wells. The recently constituted Rural Water Supply Department (RWSD) within the Ministry of Natural Resources has responsibility for installation and maintenance oversight for a range of rural water supply systems including hand pumps, protected springs, piped gravity water systems, and a few pumped water systems such as diesel, electric, solar, wind, and hydraulic ram. The RWSD was originally set up as the Village Water Supply Section, a project-based program supported by USAID through the Rural Water Supply Program from 1981 to 1989.

In response to drought conditions during 1994-1995, RWSD employed Flenner Linn, Groundwater Consultants Bee Pee (Pty) Ltd., to complete a nationwide rapid assessment. *Drought Impact Assessment 1995* sought to identify areas of critical drought impact on the basis of a series of indicators. These indicators included reports of water scarcity and associated health problems, use of drought-vulnerable water sources, and total affected population. The report identified 28 areas of critical drought impact. As expected, most of these areas fell within the lowlands districts of Butha-Buthe, Teya-Teyaneng, Maseru Rural, Mafeteng, Mohale's Hoek, and Quthing. As a result of this survey, RWSD prepared a Drought Relief Program and obtained $285,000 from Switzerland and $50,000 from UNICEF for program implementation. These funds have been designated to develop available springs, drill and equip boreholes, rehabilitate existing water systems, provide portable storage tanks and tanker water to them, and conduct health and safety education over the next year.

The Department of Water Affairs, responsible for water sector planning and resource monitoring, completed a drought monitoring survey in mid-September. Surface water flows and the conditions of spring-fed water systems were reported. This information, together with *Drought Impact Assessment 1995* and RWSD district engineering reports, is being used to target emergency interventions. One such response has already been initiated in the northern districts where, as a direct result, water is being tankered to two communities in Berea District. RWSD anticipates additional tankering to communities in Maseru, Mafeteng, and Mohale's Hoek in the near future. Initial rough estimates suggest that tankering will eventually be required for 50 communities. RWSD has just taken delivery of 10 new tankers, one for each district; for the duration of the drought, they will be assigned as needed.

Although RWSD has a funded drought-relief program, it will be hard pressed to meet all rural needs while maintaining its regular capital and recurrent programs. Currently there are no indications of population migrations to water sources, and even though the water situation is serious in some areas it does not appear to be life threatening. Should this year's rains fail, however, the likelihood of critical, unmanageable emergencies and the impact of multiple drought years will increase significantly.

D. Health

The current health and nutrition situation as it pertains to the drought is difficult to determine. No disease surveillance or nutritional monitoring tools to assess these factors currently exist in Lesotho. No current, reliable data are available on the nutritional status of children under five. World Vision and the FNCO conducted a nutritional survey in August of this year, however, data input and analysis have been slowed because of technical and budgetary constraints. A preliminary report of survey results is expected to be available by the end of October.

The only other nutritional status information available comes from results of a rapid nutrition assessment survey conducted in 1993-1994 by MOH with assistance from UNICEF and WHO. This report indicates that the amount of stunting (low height for age) has increased from 32% in 1992 to 42% in 1994. Underweight malnutrition (low weight for age) has slightly increased from 15% in 1992 to 18% in 1994, while wasting (low weight for height) has more than doubled from 2.6% in 1992 to 5.7% in 1994. Furthermore, the same survey reported that micro-nutrient deficiency diseases (iron, iodine, and vitamin A deficiencies) in Lesotho were significant. From this data and from what health officials currently report, rates of malnutrition may have increased, particularly rates of stunting and acute cases. The reasons for the increases in these rates are not clear even though the increases coincide with the current drought.

At present, no data exist that disaggregates baseline rates of morbidity and mortality from drought-related effects. Health officials from government and international organizations indicate that the MOH's health information system is incapable of detecting statistically significant differences in health and nutrition data for this year compared to previous drought years. In spite of these limitations, officials suggest that the current increases in malnutrition and water-borne diseases such as diarrhea, typhoid fever, and gastroenteritis are due to issues of poverty and are exacerbated by drought. The 1993 MOH survey also showed that households with seriously malnourished children in hospitals were dramatically poorer than households without malnourished children. Health officials agree that long-term strategies to mitigate the effects of chronic public health nutrition problems should be carefully considered.

Perhaps the most important health and nutrition problem in Lesotho at this time is the lack of a timely, sensitive, and reliable monitoring and surveillance system to track the nutritional status of children under five in affected areas. Strengthening the technical and administrative capacity of MOH and its Nutrition Unit is essential. Donor assistance has been pledged to MOH to promote and reinforce the development of nutritional surveillance. DRIG and MOH are currently directing attention to establishing sentinel sites in all of Lesotho's 10 districts in order to identify vulnerable children under five and to provide needed nutritional status data.

The PVO/NGO community assigned to districts where food distribution is planned is

assisting community health workers with monitoring the growth of children under five, with registration of targeted children under five, and with food aid distribution. Community health workers are being trained in growth-monitoring techniques on an ongoing basis with assistance through UNICEF.

E. Food and Logistics

Agriculture

Little to no rainfall was registered in most areas of Lesotho during the 1994-1995 agricultural season. While January received good rain, the heat resumed by the end of February, which put stress on the maize crop, reducing yield and therefore overall maize production. Late plantings were not expected to produce much grain due to lack of rain and frost danger.

In good agricultural years, Lesotho imports 40% of the grain it consumes. Crop estimates have been revised upward to 9,600 MT for winter wheat, 72,400 MT for maize, and 6,800 MT for sorghum. This year's summer grain and pulses harvests were estimated at 88,900 MT, roughly half of the last five years' already-low average.

Total 1994-1995 cereal production is estimated to be 88,800 MT, with stocks in-country (on-farm, government, etc.) calculated at 51,000 MT, for a total domestic grain availability of approximately 139,800 MT. The total consumption requirement for Lesotho is an estimated 417,000 MT, which leaves 277,200 MT for importation. Of this amount, 221,200 MT are required as commercial import and 56,000 MT are relief and development food aid. The GOL reports that no shortage in the cereals market is expected as the country enjoys the status of "local market" within the commercial zone of the Republic of South Africa.

Relief Food Program

The USAID/FFP contribution of 8,000 metric tons of sorghum worth over $2.4 million appears adequate at present. The relief program currently has adequate food resources through the end of March 1996.

The total food aid needs for Lesotho for relief and development are estimated at 56,000 MT. The drought relief component is approximately 37,000 MT for general distribution. WFP issued an Emergency Operation (EMOP) appeal for Lesotho of 13,000 MT of cereals and pulses that has been fully resourced. Total pledges to the Lesotho drought relief program to date are calculated at over 54,000 MT, with the GOL resourcing 15,000 MT up front to start the program.

WFP and the Food Monitoring Unit (FMU) appear both able and sufficiently organized to

handle the relief food distribution needs. The current drought needs represent an expansion of an already existing relief and development program. In spite of an early drought declaration and appeal, food aid is just now beginning to be distributed. However, there has been no major outcry over these delays, suggesting that last year's better-than-anticipated harvest and household coping strategies are still sufficient to meet immediate food needs. The DRIG, however, could be better organized. This has led to delays in registration, distribution, and overall implementation of the drought relief program at the local level. The registration of more than 550,000 people for vulnerable group feeding and food-for-work programs in all 10 districts has taken considerably more time than expected and is just now complete.

DRIG has formulated stringent guidelines for beneficiary selection under the food program. Households with wage incomes or food-for-work participants are excluded, as are households that have livestock or harvested crops. The number of beneficiaries on final registration for general distribution is approximately 550,000.

Roughly $230,000 in funding has been received by the GOL from the governments of China, Thailand, and Ireland. Counterpart funds in excess of approximately $2 million have been made available to the GOL by the government of Japan. As yet, a plan for use of the counterpart funds has not been articulated by the GOL. Expenditures designated by the GOL include funds to purchase 15,000 MT of maize for the relief effort and over $3 million toward maize price stabilization.

The donor community finalized food aid registration in August and began distribution in September. PVOs/NGOs participating in the drought relief program include the Christian Council of Lesotho, the Lesotho Red Cross, Adventist Development and Relief Agency (ADRA), CARE, and CARITAS, all under the auspices of DRIG. Oversight of registration and food aid distribution has been entrusted to five groups: ADRA in Butha-Buthe and Leribe Districts; CARITAS in Berea District; CARE in Maseru rural; Christian Council of Lesotho in Mafeteng, Mohale's Hoek-west, and Quthing Districts; and the Red Cross in Qacha's Nek, Mohotlong, Thaba-Tseka, and Mohale's Hoek-east. The Lesotho Council of PVOs/NGOs (LCN) is providing assistance, guidance, and a point of contact with DRIG for smaller participating PVOs/NGOs. WFP is responsible for primary commodity pledge coordination and arranging commodity transport to the district level. The FMU and Save the Children Fund/United Kingdom (SCF/UK) are in charge of transportation from the district level to the end-point distribution centers. SCF/UK is organizing and contracting for both primary (port of entry to warehouse) and secondary (warehouse to distribution site) transportation using a fleet of 50-60 trucks. There are an average of 15 distribution sites per district.

One immediate concern is that with so much food aid arriving over the next several months, there will not be sufficient warehouse storage; storage space for 23,000-25,000 MT is available. The current plan is to distribute two months' worth of rations during the first month to alleviate the problem. The overall distribution is scheduled to take place

every two months, with each beneficiary receiving a two-month ration of 20 kilograms of cereals and one kilogram of pulses.

Registration of children under five for supplementary feeding is targeted at 63,000 beneficiaries. To date only 11,000 have been registered, but a second round of registration is planned in the coming months. Therapeutic feeding of a high protein and carbohydrate feeding mixture called UNIMIX provided by UNICEF to acutely malnourished children under five has begun. The details of this program are unclear, however, as is the hospital referral system for the severely malnourished.

The food aid relief program appears to be operating reasonably well, but monitoring and analysis of logistical performance is planned to begin in October to solve any developing problems and to refine the delivery system.

The child supplementary feeding program and the referral service for severely malnourished children are not well defined. A reliable and sensitive surveillance instrument is needed to closely monitor and report the nutritional status of children under five and vulnerable groups in affected areas so that enrollment of beneficiaries in Supplementary Feeding Programs can be increased should nutritional status deteriorate. The lack of such an instrument is a serious short-coming in efforts to target child supplementary feeding.

F. Recommendations

1. No additional USAID food or water assistance is required at this time.

2. WFP should continue to monitor the food relief program and provide assistance to DRIG where possible to help with distribution.

3. DRIG, WFP, and PVOs/NGOs should closely monitor the water supply situation for the major towns and rural areas in the lowlands, consider assistance to RWSD or WASA if the rains do not begin within the next 45 days, and prepare contingency plans in case current planting and germination cycle rains do not occur.

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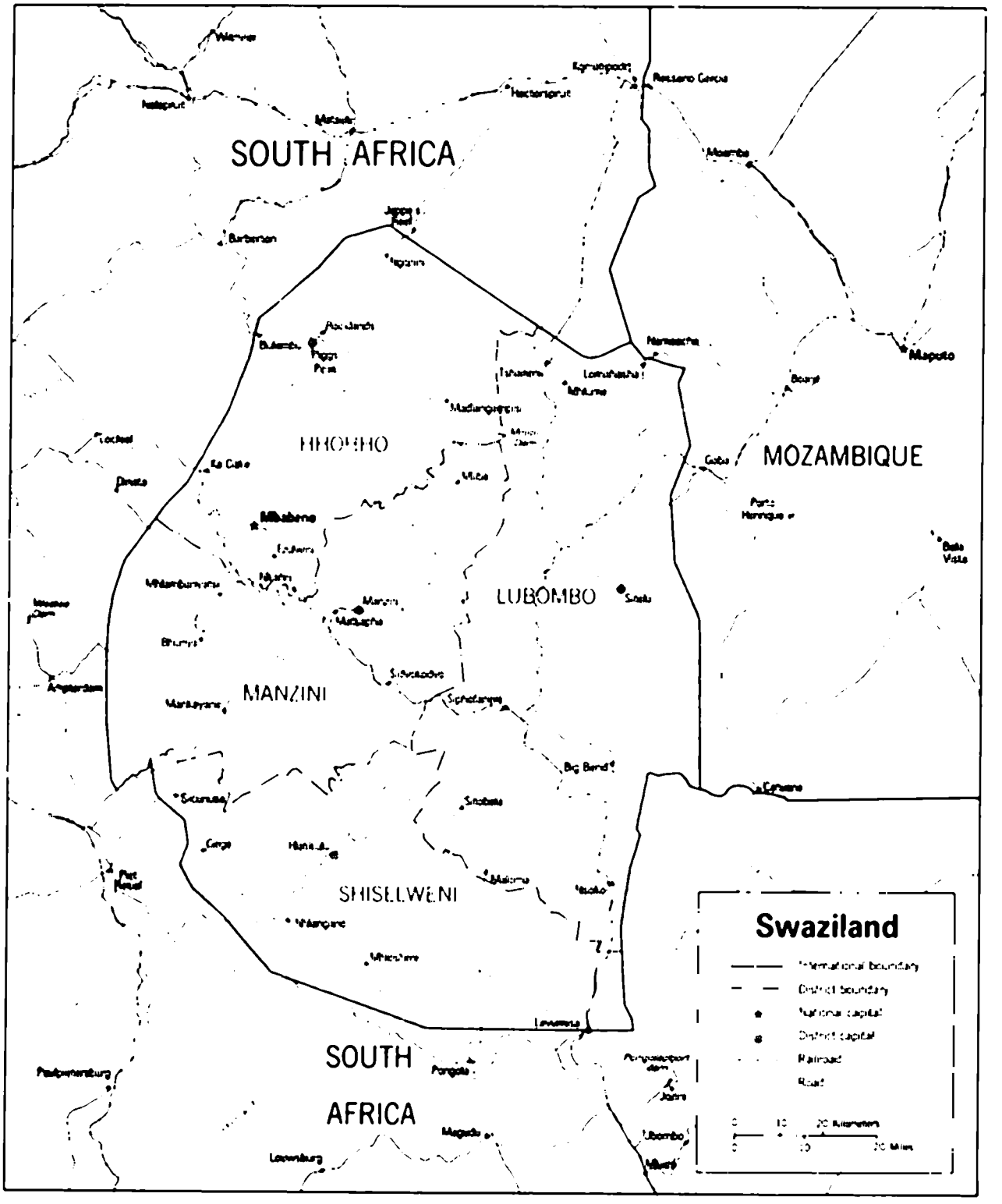

SOUTH AFRICA
HHOHHO
LUBOMBO
MANZINI
SHISELWENI
MOZAMBIQUE
SOUTH AFRICA
Swaziland

V. SWAZILAND

A. Background

The kingdom of Swaziland is a small, landlocked country with approximately one million inhabitants living in three ecological zones. These three regions each extend north and south. The zone furthest to the west is known as the high veld; the next region to the east is the middle veld; and furthest to the east is the low veld. For the past four years, Swaziland has been experiencing the effects of drought and continuously diminishing rainfall. Reports from government officials indicate that people living in the middle and low velds are particularly suffering the impacts of the drought.

A household-based needs assessment was conducted by various PVOs/NGOs in February and March of 1995 in an attempt to identify groups vulnerable to the drought. Funding for the assessment was provided by WFP, Dutch Quality Improvement Fund, and the United Nations Development Program (UNDP). Based on the results of the assessment, a total of 60,000 persons were identified as highly vulnerable to the consequences of the current drought. This figure was later revised upward to 90,000 persons. Land degradation and overgrazing, severe shortages of water in various sectors, and increasing levels of stunting malnutrition (low height for age) throughout the affected regions were also reported. Serious crop failures have severely affected homesteads in the middle and low velds as well. Also noteworthy is that, according to the 1993 *Human Development Report*, 46% of the population lives in absolute poverty. This figure is particularly alarming in view of the fact that the current drought may only intensify the effects of poverty and human suffering.

Swaziland has never fully recovered from the drought of 1991-1992. Lower-than-average rainfall in each of the past three years has resulted in another year of poor harvest, particularly in the low veld, and growing concern about water resources. Almost every person interviewed indicated that rivers and streams were drying up and that water tables were falling. All concerned persons indicated that water is one of the major issues at this time.

B. Situation Report

The water shortage in Swaziland is nearing a critical state. Urban and town water supplies have been seriously affected by four years of below-normal rainfall. This has already required the WSC to undertake extraordinary measures in several cases. Rural water supplies have been badly affected as well. The relatively large-scale water trucking program is an indication of the serious water shortage being experienced throughout the country. This condition could deteriorate if the rains do not begin within the next several weeks. The water supply situation should be monitored closely over the next several

months. Should the Manzini-Matsapa twin cities run out of water, outside intervention may be required.

The impact of the current drought on health and nutritional status is poorly understood. No contemporary nutritional status information exists on the population. In addition, there is no reliable monitoring or surveillance tool with which to assess the nutritional and health status of vulnerable children under five years of age. Health officials in various regions of the country maintain that the drought is probably exacerbating chronic cases of malnutrition. Health officials also suggest it is important to monitor vulnerable groups, particularly children under five, throughout the country to ensure food security and/or that food distribution is maintained and consistent.

C. Water

Water is in critically short supply in several areas. Pigg's Peak, one of the largest urban areas in Hhohho District, is now without water. Tankers delivering water are losing the battle to stay ahead of demand until new boreholes just now being completed can be put into operation. Several other towns are now experiencing sporadic water service in the face of dwindling supplies. The largest and most important industrial area in the country, Manzini-Matsapo, may be without water if the rains do not come within the next month. Rural areas, particularly in the low veld from Lavumisa toward the north, are also badly affected. Hand pumps and piped supplies seem to be addressing much of the need. But the large rural population that traditionally depends on springs and surface water is under increasing stress as these sources yield less and less water. The situation in many areas may become desperate in the coming months unless the rains begin soon. A normal rainfall year will not entirely alleviate concern, however, as several years of good rains will be required to recharge the aquifers on which the rural population is increasingly dependent.

Urban Water Supply

The WSC provides for water and sewerage needs in 17 areas including Mbabane, Manzini-Matsapa, district centers, and other growth points and industrial areas. The WSC provides metered service and collects fees-for-service. All systems except Lavumisa depend on surface water sources, either through impoundment or direct river extraction. All water is treated before delivery to customers.

Water resources for three WSC systems are in critically short supply, with a fourth nearing the critical stage. As of late September, the water supply situation in Pigg's Peak was very serious. Late in August, as the river source began to dry up, stoppages in service were required as a forced rationing procedure. The situation deteriorated daily until mid-September, when no water remained. For several weeks a fleet of tankers was trucking water from an old abandoned source for delivery to the water treatment plant to

be distributed through the existing pipe network. This approach was not working, and as of the last week in September water was being trucked to temporary storage tanks located throughout the town. As a result no water has been available for the distribution system, necessitating the closure of schools and some businesses. WSC is now drilling wells near Pigg's Peak with the intention of restarting reticulated water delivery by early October. Best estimates are that well under half of the normal water demand will be met. If this solution is successful, the worst for Pigg's Peak will have passed.

WSC has growing concern about the reliability of water supplies at Siteki, one of the largest towns in the low veld. Siteki's supply is being augmented through a temporary pipeline from the source that serves Magomba. However, there is growing concern that this source will not be able to continue meeting the demand of both areas. Well drilling equipment will be moved from Pigg's Peak to Siteki as soon as possible in order to drill emergency boreholes for additional water.

Water is only available for limited time each day in the southern towns of Hluti and Hlathikhulu. Reports indicate that Hluti may go for lengthy periods without water, and the main dam at Hlathikhulu is now dry. Plans are to move drilling equipment into these areas as soon as possible.

These extra efforts by the WSC have been necessitated by the long drought period and its impacts on water resources. The drought of 1994-1995 is more severe from a water-resources perspective than the drought of 1991-1992. Although the WSC has contingency plans, most of them are now exhausted. A recent inspection of the major water source for the Manzini-Matsapa area suggests that if there are no rains within a month, this major commercial and industrial area will likely be without water.

Rural Water Supply

The Rural Water Supply Board, formerly a project within the Ministry of Natural Resources and Energy, has been renamed the Rural Water Supply Branch (RWSB). The RWSB has been responsible for the establishment of improved water supplies in about 270 communities located on Swazi Nation Land (SNL). Water supplies on private land and agricultural estates are the responsibility of the land owners. The RWSB operates a repair shop, a central stores facility, and a water quality lab at Matsapa, as well as regional maintenance centers at Mbabane, Siteki, and Nhlangano.

The RWSB has $570,000 for emergency drought relief efforts. Apparently much of the relief effort is being made in response to emergency situations as they arise. Some of the available drought relief funds are being used to drill 100 boreholes to be fitted with hand pumps and to truck water to about 70 communities in drought-affected areas. Decisions to truck water are based on requests from Community Development Officers, Regional Administrators, PVOs/NGOs, and others. Of the first 37 boreholes completed, only 22 were considered successful. This 60% success rate is considered low for the area where

drilling was taking place; alternate private contractors may be employed to complete the program.

Water is being delivered with tankers borrowed from the Roads Department of the Ministry of Public Works. Although the RWSB expected to have eight tankers operating, only five have been provided and of these one is usually in the shop for maintenance or repair. In addition, the RWSB is concerned that the Roads Department could recall the tankers at any time for its ongoing roads projects. With only four tankers operating, it would be impossible to keep up with the demand for water. In some areas water is being delivered only once a month, leaving people to find alternative sources as they are able. The RWSB does not have the resources either to buy or to hire tankers for water delivery. It is clear that the effort to obtain water is an increasing hardship for a large part of the rural population in the low veld as well as in some areas of the middle veld.

Efforts are now being planned to address long-term water security. As a result of an announcement by the King that water was to be a priority in Swaziland, a Cabinet Committee on Water has now been formed. A new Water Relief Fund of $8.6 million has been established to rehabilitate existing schemes, to install new large schemes, to provide sanitation, to drill boreholes to be equipped with hand pumps, to provide reliable water supplies for schools, to create small dams, and to provide community training for water systems management. This three-year program will help provide water-supply security to rural Swazis. It is not clear that the RWSB has the capacity to implement the program components for which it will be responsible. RWSB expects to rely heavily on the private sector and PVOs/NGOs. Concerns about this approach are that private-sector contracting for construction is expensive and does not adequately address community water system management training. PVOs/NGOs are enthusiastic and have good training credentials, but often lack the technical capability required.

D. Health

At present, the health and nutrition situation of children under five years of age in Swaziland is not known. The Central Statistical Office (CSO), currently under the Ministry of Economic Planning and Development, conducted a country-wide household survey with an incorporated nutrition component in 1994. Data collected during the survey are still undergoing statistical analysis. A similar survey for 1995 is currently in the stages of data collection, and is expected to be completed at the end of October.

E. Food and Logistics

Agriculture

Swaziland is usually an agriculturally rich country that produces several types of fruits,

vegetables, and grain. Recurrent drought and erratic rainfall patterns since 1992 have severely hampered the country's agriculture. Favorable rains prevailed during the planting and germination part of the agricultural season. Good crop yields were anticipated even though rains were below normal and inconsistent in the middle and low velds. A dry spell and heat wave prevailed from January through February with devastating effects on the non-irrigated crops.

The maize harvest for the 1994-1995 crop cycle is estimated at 70,000 MT with 700 MT in carry-over stocks from last year. The total domestic requirement is pegged at 124,000 MT, leaving a shortfall of 53,300 MT. The National Maize Council (NMC) is expected to import 20,000 MT of this; over 4,000 tons have already been delivered. For the balance of 33,300 MT, 12,000 MT have been received as food aid; 6,000 MT of this is a maize contribution from USAID/FFP valued at over $1.7 million. Unconfirmed pledges have been received for an additional 10,000 MT of grain. The total maize shortfall is estimated to be 11,000 MT.

It is anticipated that the commercial sector will import most of the remaining grains needed to sustain Swaziland until the next harvest. There are, however, persons in need of drought-relief food assistance in the low and middle veld areas subject to chronic crop failure due to persistent drought conditions. These unrelenting conditions have left certain households vulnerable to food insecurity due to continuous asset depletion. As such, the Government of Swaziland (GOS), WFP, and the Coordinating Assembly of PVOs/NGOs (CANGO) have produced a drought-relief program to assist with the unmet food needs of those affected.

Food Relief Program

The USAID/FFP contribution of 6,000 MT of maize valued at over $1.7 million appears to be sufficient at present. The food relief program is fully subscribed through March of 1996.

The FAO and WFP have estimated the number of drought-affected persons in Swaziland requiring food assistance as approximately 90,000 for an eight-month period commencing in September and ending with the March 1996 harvest. CANGO undertook a household-level vulnerability assessment during the months of February and March 1995 to ensure strict beneficiary selection and estimated 60,000 beneficiaries. The FAO/WFP assessment increased this number to arrive at the 90,000 estimate in order to assure coverage for areas not screened by CANGO.

The drought-emergency program functions through collaboration between the GOS, WFP, and CANGO. WFP issued EMOP 5671 to cover an emergency food need of 9,288 MT of cereals and pulses for the relief program. The GOS facilitated the process by locally procuring 3,200 MT of maize in June. Currently the program is fully resourced with contributions of over 12,000 MT. WFP and CANGO are well staffed and prepared to

undertake the drought-emergency program. WFP began pre-positioning maize and other commodities in July in anticipation of starting the program in September.

UNICEF, FAO, Peace Corps, and World Vision Relief and Development (WVRD) have committed to providing technical assistance. PVOs/NGOs are implementing the program at the local level, as was the case during the past drought. NGO participants include the Swaziland Farmer Development Foundation, Lutheran Development Services, WVRD, African Cooperative Action Trust, the Baphalali Red Cross Society, Save the Children/Swaziland, Caritas/Swaziland, the Women's Resource Center, and the Swaziland Council of Churches. These PVOs/NGOs will coordinate with the local traditional leadership known as Tinkhundla.

WFP is responsible for handling road and rail transport for the importation and local purchase of food commodities to the various destinations within Swaziland. The program utilizes the port of Durban in the Republic of South Africa. Management and storage of food commodities is primarily the responsibility of the Ministry of Agriculture and Cooperatives, with oversight by WFP. WFP is charged with distribution from central storage to zonal stores and from zonal stores to distribution sites. Both GOS trucks -- donated by WFP during the previous drought -- and private-hire transport are being used to distribute commodities.

Food distribution to the PVOs/NGOs is to be done on a monthly basis. The ration size is 400 grams of maize and 30 grams of beans per person per day for six persons. Family size has been estimated at six persons per household.

The concept of food-for-work was introduced in 1994 and was widely accepted by the PVOs/NGOs as well as traditional leaders. Past activities have included construction and rehabilitation of earth dams, pit latrine construction, erosion control, fencing, and various other community-based, labor-intensive activities. The same types of food-for-work projects are to be undertaken during the current relief cycle. Food-for-work activities require various inputs in addition to food. CANGO compiled an appeal on behalf of the various NGO participants for approximately $1 million to undertake the food-for-work program. To date the appeal, which was circulated domestically as well as internationally, has rendered just over half of the needed funds.

F. Recommendations

1. USAID/OFDA should assist indigenous PVOs/NGOs in their implementation of food-for-work activities in affected areas.

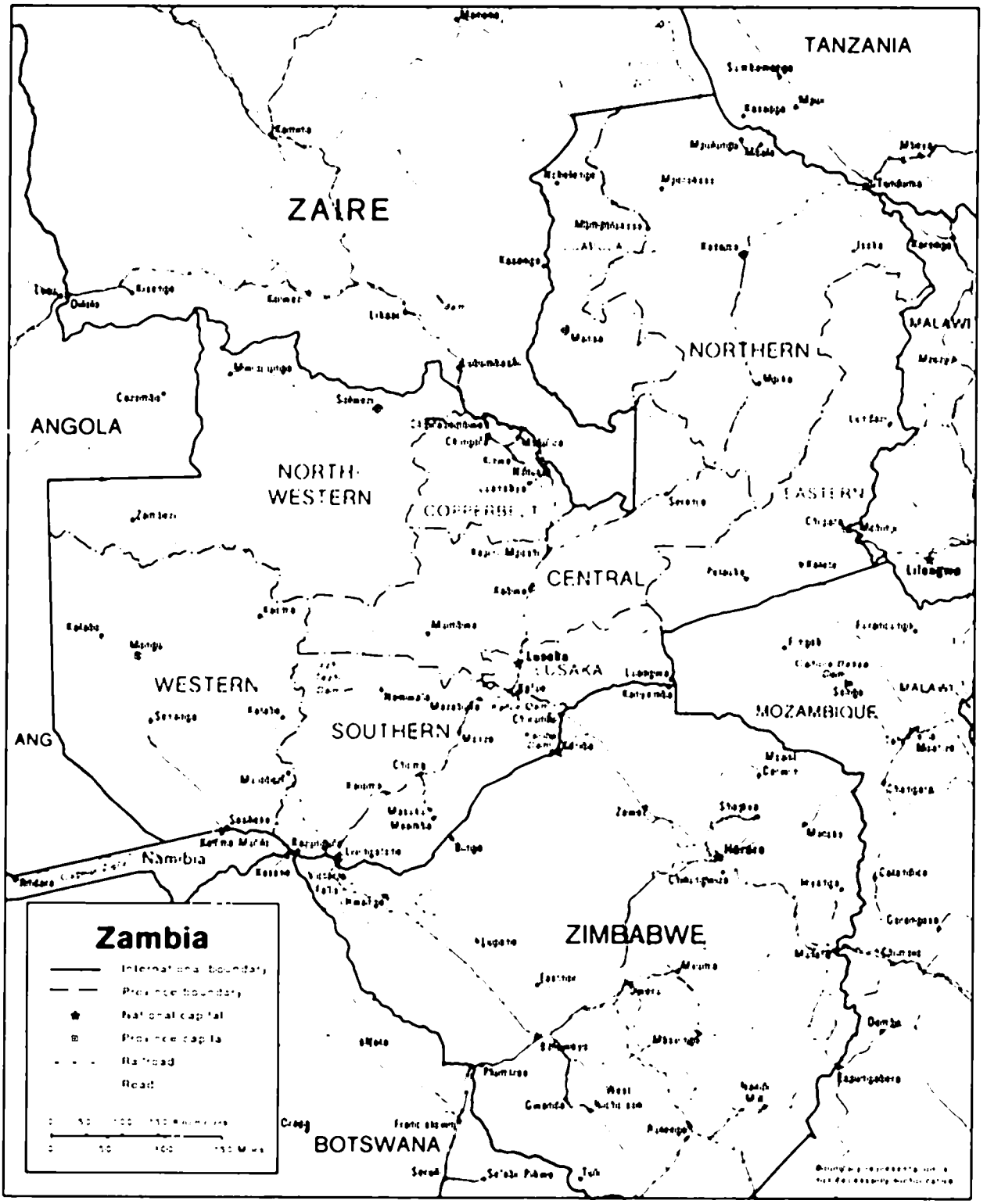
2. The water supply situation is nearing a critical stage for several urban areas. If the rains are delayed for an additional 30-45 days serious consideration should be given to assisting the WSC in finding supplementary sources for urban areas and assisting the

RWSB with its emergency water delivery program. USAID/Mbabane and USAID/OFDA should closely monitor the water supply situation over the next several months. If Manzini-Matsapha towns run out of water, USAID/OFDA should fund emergency water measures.

3. USAID/Mbabane should collaborate with USAID/BHR and USAID/AFR to design a contingency plan for managing the current drought. Swaziland has suffered three straight years of drought, including the devastating 100-year-record drought of 1991-1992 from which it has not recovered. USAID/FEWS and USAID/Mbabane should continue to monitor and report on the regional and national rainfall outlook.

4. For two years the National Disaster Task Force has reportedly been seeking legislation for a Disaster Trust Fund that would give the Task Force streamlined relief funding and procedures. The Deputy Prime Minister has urged immediate consideration and passage of this legislation by Parliament, but the redrafting and clearance process among the multiple ministries involved is moving slowly. The international community should use the momentum and profile of the ongoing drought to urge moving this legislation to early passage; following passage, the UNDP, Red Cross, and USAID should renew their present offers of technical assistance and disaster management training to the new Swazi institutions. There appears to be a continued high tolerance in Swaziland for expatriate operational involvement.

5. As part of a regional and bilateral drought mitigation strategy, a sustained, joint international and Swazi strategy should be mounted to create the high-level Swazi political will to see drought as a continuing phenomenon and to build the internal capacity to manage all aspects of drought relief and mitigation. This would extend to food-for-work, to the integration of relief and recovery planning into economic development, and to placing a higher priority on Swazi management for food and water security. Specific elements of this strategy should be elaborated through joint USAID/BHR-USAID/AFR strategic planning in close cooperation with USAID/Mbabane and the USAID/RCSA.


TANZANIA
ZAIRE
NORTHERN
MALAWI
ANGOLA
NORTH-
WESTERN
CENTRAL
EASTERN
WESTERN
SOUTHERN
LUSAKA
MOZAMBIQUE
ANG
Namibia
ZIMBABWE
BOTSWANA
Zambia
International boundary
Province boundary
National capital
Province capital
Railroad
Road

VI. ZAMBIA

A. Background

The assessment team visited Zambia September 18-22. Drought-assessment information was obtained through interviews with GRZ officials, through documents, and through meetings with donors, PVOs/NGOs, technical specialists, and Mission officials. Site visits were undertaken to the drought-affected areas around Livingstone and Siavonga in the Southern Province. These visits included consultations with CARE, trips to health care facilities, inspections of water points, and interviews with drought-affected persons.

The GRZ issued an appeal on April 27, 1995 calling for up to $58 millon in drought assistance in the food, agriculture, livestock, water, and health and nutrition sectors. Approximately 75% of the rural population in severely affected regions has had serious crop failures. Government and donor officials indicate that approximately two million people living in the rural sector are affected by the drought. This has been evidenced by a dramatic decrease in domestic food production and concomitant economic stress, reduced water sources that are accessible for human and animal consumption, increased numbers of heads of livestock lost to water and food shortages, and increased rates of chronic public health morbidity such as malnutrition, diarrheal diseases, anemia, and skin and eye infections.

B. Situation Report

Drought in Zambia is exacerbating chronic stresses in the water, health, and food sectors. Incomplete recovery from the drought of 1991-1992 is intensifying the impact of the current drought. Adequate rains are needed in the coming months to prevent the situation in Zambia from becoming critical by early 1996.

To date, 31 of Zambia's 68 districts have been designated by the GRZ as partially to severely affected by drought, with another 15 possible. The impact of the drought is greatest in the southern half of the country, and is most severe in the districts along the southern and southeastern border, particularly the Gwembe Valley. The population in these areas is particularly vulnerable to drought because of asset depletion during the 1991-1992 drought. High malnutrition and morbidity rates stemming from a chronic lack of adequate food and water have continued into the current drought. The GRZ's April appeal for drought assistance, including transport, and food aid, seeds, tools, and irrigation equipment; livestock drugs and vaccines; boreholes and well, dam, and borehole rehabilitation; and health and nutrition supplies, equipment, vaccines, training materials, and monitoring.

The focus of donor response has been on the food sector because of its implications for

GRZ grain policy. Projected food needs are to be met from two sources, commercial trading and relief distributions. 82,000 MT of relief grain will be distributed via food-for-work, vulnerable group distribution, and monetization[2]. A Public Law 480 Title II USAID/FFP contribution of 20,000 MT of sorghum channeled through WFP arrived in Lusaka in mid-October. The remaining non-emergency requirement of the approximately 300,000 MT of grain needed to balance the national food budget is expected to be undertaken through commercial channels. While sources in-country expressed confidence that both relief and commercial targets would be met, the conditions and requirements that must be satisfied for this to occur make close monitoring of relief and commercial food deliveries to the affected population essential. Commercial food prices are rising, which may limit its accessability to people with low incomes.

While national grain policy considerations have kept food in the spotlight, water could be an even greater humanitarian assistance need. Water supplies in many rural areas are chronically inadequate, a situation worsened by the drought. Participatory Rural Appraisals by CARE in Southern Province identified dam rehabilitation as an expressed priority of affected communities. Isolated reports of population movements to reliable water points are now being heard.

The Food Health and Nutrition Information System (FHANIS) of the Central Statistical Office (CSO) in Lusaka reported that national urban and rural rates of malnutrition have increased each year since the 1991-1992 drought. Current levels of 50% or greater in the prevalence of stunted children (low height for age) are observed in some rural areas. Stunting rates in the urban sector have increased from 35% in 1991 to over 40% in 1995, a period during which three major droughts occurred. Health officials in Southern Province stated that they are seeing greater increases in wasting rates of children (low weight for height) since the 1991-1992 drought.

C. Water

Overview

Of its 68 total districts nationwide, the GRZ initially declared 18 in Southern, Eastern, Central, and Lusaka Provinces to be drought stricken. This determination was based on poor harvests and local food availability, not on water availability. Analyses of both available data and field visits to drought-affected areas confirmed that the potable water supply situation in some districts appears serious. Droughts during three of the past four years and a long-term decline in rainfall have lowered water tables in many areas. Many wells are now dry. There are isolated reports of population movements to reliable water points.

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[2]Food sales to raise revenues in local currency.

The Community Management and Monitoring Unit (CMMU), set up to inventory rural water sources in the wake of the 1991-1992 drought, has identified seven of the first 18 drought-declared districts as areas where the water supply situation is particularly precarious. Water supply projects in support of drought relief in the most affected districts should be seriously considered. In addition, support to the CMMU to allow for an analysis of additional drought-declared districts would help ensure the effective targeting of other donor-funded water sector drought-relief projects. UNICEF has been asked to help mobilize resources for drought-related water supply and health interventions.

The impacts of the drought on water supply and sanitation services are exacerbated by past institutional weakness, by lack of investment, and by poor operation and maintenance in the sector. In urban areas, access to safe drinking water is an estimated 70% and to adequate sanitation services, an estimated 43%. In rural areas only a third of the population has access to potable water supplies and adequate sanitation facilities. These figures suggest that much of the population is at risk during drought conditions.

The current changes in water sector policy and functioning are designed to address this relatively poor water and sanitation coverage and to provide improved water supply security to the Zambian population. The GRZ, with donor support, is committed to these changes. However, it will take time to restructure the sector, strengthen sector institutions, construct new water and sanitation systems, and design and implement systems to ensure adequate operation and maintenance support. In the meantime much of the rural population, particularly in the southern drought-affected areas, must contend with inadequate water availability both for drinking water and for livestock watering.

The UN has agreed to work with the GRZ's Office of the Vice President to mobilize international resources to assist with these issues. Specifically, UNICEF is working to support actions in the fields of health and water supply, and has prepared relief projects for the most drought-affected areas. Representatives of UNICEF believe that it is important to implement these projects within the context of the new GRZ policy objectives. Therefore, these projects seek to strengthen the planning and management capabilities within the target districts; strengthen target community capacity to plan, construct, operate, maintain, and manage water facilities; establish or rehabilitate water points; establish community capacity for construction of pit latrines; and encourage adoption of improved sanitation and hygiene practices.

Although some 31 districts have been declared as drought stricken, this declaration was based on agricultural production and food availability, and not on water availability for humans or livestock. As a result, there may be areas within Zambia without drought declarations where water shortages are more serious than in the currently declared areas.

Water Resources

Mean annual rainfall for Zambia varies from 1,400 millimeters in the north to 700

millimeters in the south along the shores of Lake Kariba in Sinazongwe, Gwembe, and Siavonga Districts. Zambia has a well-distributed system of perennial rivers, streams, lakes, and swamps. Major river systems include the Zambezi, Kafue, Luangwe, Chambeshi/Luapula, and Tanganyika. In addition, the country is considered to have significant groundwater resources in terms of depth, storage capacity, available yields, and exploitation potential. However, much of Zambia has experienced reduced rainfall during three of the past four years. The hard-hit Gwembe Valley has received 40% less than the 30-year average rainfall over the 1993-1995 period. Some areas have received as little as 20% of normal rainfall during the past rainy season.

These poor rains have resulted not only in widespread crop failure, but the drying up of primary water sources including dams, shallow wells, and some boreholes. Claims are made that there is a generalized lowering of the water table in the most drought-affected areas. A recent study of rainfall patterns suggests an overall long-term decline in rainfall over much of the country, with southeastern and extreme northern areas most affected. Although no data exist to validate a specific claim of lowering water tables, it does appear logical in the aftermath of several years of drought.

Water Supply Sector Institutions

The 1994-1995 drought comes at a time when Zambia's water sector policies and institutional arrangements are in transition. In the past, local authorities and, in some cases, Zambia Consolidated Copper Mines Limited (ZCCM) operated and maintained water supply services for urban municipalities and urban township councils. The Department of Water Affairs (DWA) in the Ministry of Energy and Water Development was responsible for rural and some smaller urban townships. The Ministry of Public Works and the Ministry of Education also established, operated, and maintained water supply and sanitation systems at public institutions. A number of other ministries and agencies had responsibility for related works, such as dam construction and irrigation systems, water pollution control, and water management and use for power generation.

A new national water policy, developed by the DWA to address the diffuse structure and lack of clear guidelines and coordination within the sector, was approved in November 1994. Under the new policy the DWA is identified as the main public institution charged with overall water resource management. As such it is responsible for water resource planning and management and has regulatory and executive functions. It no longer has water supply and sanitation-service delivery functions; these responsibilities will be passed to the Ministry of Local Government and Housing. The detailed changes in organizational structure, staffing, and program development resulting from this new policy have just recently begun.

At the same time that these policy changes are being made, the Water Sector Development Group (WSDG) is working on a major restructuring of water supply and sanitation services in urban, peri-urban, and rural areas. Urban and township water systems are

scheduled to become regulated private enterprises. Lusaka and Chipata have been operating as private schemes for more than a year. Plans have been made for the privatization of water supply and sanitation services in Kitwe and Ndola. All township water supply and sanitation services in the northwest district except Solwezi are scheduled to be formed into one council utility company. Provision of rural water supplies will be devolved largely to village and district Water, Sanitation, and Hygiene Education (WASHE) committees. Pilot activities related to establishing WASHE committees and developing community-based operation and management systems for the provision of rural water supplies are underway in six districts.

These transitions in Zambia's water sector add a level of confusion that makes a coordinated response to the drought difficult. However, coordination at an operational level among UNICEF, DWA, district authorities, and the responding PVO/NGO community appears to be functioning smoothly.

Urban Water Supply

A restructuring of the urban water and sanitation sector is currently in progress. A number of international donors, including the African Development Bank, KfW, the Japanese International Cooperation Agency (JICA), and others are funding programs following the general recommendations of a World Bank study. Under these programs, donors will provide support for the creation of autonomous urban water utilities and the improvement and upgrade of water and sanitation facilities. Current urban water supplies – about 20 nationwide – have reportedly not provided secure, 24-hour service for some years. No detailed service and coverage information for these municipal authority or mine-managed systems is readily available. Sporadic reports of temporary water outages are seen in the public newspapers. However, most outages can be traced to system breakdowns and poor operation and maintenance. For example, the Ndeke Secondary School in Kitwe was closed due to blocked pipes, not lack of water. No major long-term, drought-related disruptions of urban water supplies are anticipated at the present time. This will change if the drought continues into another year, as water reservoirs will not be recharged.

Township water systems operated and maintained for local authorities by DWA are plagued with a range of problems. These include overlaps in responsibility between DWA and local authorities, inadequate water sources, poor maintenance, and lack of financing. DWA participates in the construction, operation, and maintenance of 45 systems. Of these, 12 depend on groundwater resources, and the remainder are served from reservoirs or direct river extraction. Water purification systems exist, but a lack of granulated chlorine has rendered most inoperative. The district towns of Gwembe, Nyimba, Katete, and Mumbwe are reported to be without water. In Gwembe, the hospital has been closed and its patients transferred to Monze or Choma hospitals. People are going to nearby settlements to obtain water from hand pumps and wells. Almost all township water systems have been in poor condition and in need of investment for capital improvement

for many years. DWA is prepared to respond, but its limited capacity, and virtually non-existent budget allocations, are hampering efforts.

Rural Water Supply

In the wake of the 1991-1992 drought, the GRZ established the CMMU to develop a water point inventory catalogue. To date, the CMMU has surveyed more than 16,000 water points, and is nearing completion of the national inventory. Inventory results are available in tabular summaries by district. The national digital database is maintained by the CMMU. Survey results indicate that the rural population depends primarily on boreholes equipped with hand pumps, dug wells with windlasses, or unprotected traditional sources. It is estimated that less than 35% of rural dwellers have access to improved water sources.

Analyses of the CMMU water point inventory database indicate that in the 18 first drought-declared areas there are 3,158 reliable water points available to serve a population of 2,352,000, or 745 persons per reliable water source. In seven of the most affected districts – Sinazongwe, Katete, Kalomo, Siavonga, Gwembe, Choma, and Mazabuka -- there are more than 1,000 users per reliable water point; design targets are 250 users per water point. Some water points previously considered reliable are also now dry. Claims have been made that 50% of the water points in some districts are not producing. Significant additional pressure is being placed on working pumps. This additional use is increasing the breakdown rate. People are reported to be sharing water sources with livestock, with all the attendant health implications. Interviews in Sinazongwe, Livingston south, and other districts during field trips revealed that some families are moving from rural settlements to find water; clinics and schools are without water, causing closure in some cases; and district council resources are extremely limited. Transportation is limited, spares for some types of hand pumps are not available, and there are no funds to drill new boreholes to establish additional reliable water points.

Although a general overview of the relative impact of the drought on water availability can be gained by analysis of the CMMU database, specific emergency interventions must be determined at the district level. The district authorities, including the district administrator, water technician, health inspector, NGO representatives, and others, are in the best position to identify specific communities in need. Populations are not uniformly distributed and neither are reliable water sources. Therefore it is important to solicit district input to flesh out details of overall drought relief programs. The DWA put together an overall plan for wells, boreholes, and dam construction and rehabilitation with a budget requirement of $5.1 million. UNICEF has prepared more detailed programs that support the new rural water sector policy objectives, that include participation of district-level experts, and that work toward addressing the needs of the most drought-affected rural populations through the construction and rehabilitation of water points on an emergency basis.

D. Health

Overview

Based on discussions and consultations with government, donor, PVO/NGO, and local officials, it appears that the current drought is stressing the nutritional status of children under five and other chronic public health problems of affected persons living in urban and rural sectors of Zambia. Given the irregular rainfall, the reduced access to potable water, and the diminished crop yields and food production, it is imperative that the health and nutrition situation be closely monitored and addressed. The 1992 Demographic and Health Survey (DHS) for Zambia reports an infant mortality rate of 107 deaths per 1,000 live births. Furthermore, approximately 20% of all Zambian children die before they reach the age of five. Deteriorating economic conditions, chronic and acute undernutrition, and HIV/AIDS are possible factors contributing to these high rates of mortality.

Current in-country public health and nutrition intervention programs are not sufficient to address the increased rates of malnutrition and chronic health problems. If drought conditions worsen, and as poverty becomes more pervasive and socio-economic factors become increasingly compromised, current intervention programs may have only minimal effects on present levels of malnutrition. Child malnutrition rates, at approximately 40% throughout the country, are slowly increasing. Clinic data from hospitals and health centers show increasing prevalence rates of 50% or greater of moderately and severely malnourished children. Although there is a paucity of community-based health information and data, officials also report steady increases in the rates of malnutrition and other health problems in rural areas. Complicating factors such as increased caseloads of diarrhea, outbreaks of dysentery, measles, and polio in various regions of the country will only worsen the already-compromised nutritional status of affected children and vulnerable groups.

It is crucial that clinic and community-based programs be implemented to closely and consistently monitor and ensure the management of the nutritional status of children under five and vulnerable groups. Moderate and severe malnutrition are likely to increase as drought conditions further develop. For this reason, the nutrition situation of affected individuals must be evaluated and addressed, and child supplementary feeding programs considered, should health conditions deteriorate.

The actual effects of the drought on human health have not been quantitatively determined or disaggregated from the chronic public health problems that have been occurring since the 1991-1992 drought. In other words, because malnutrition rates tend to fluctuate, it is difficult to determine how much of the current malnutrition is due to the drought and how much is due to the chronicity of public health problems. However, health officials report that the prevalence of malnutrition in children under five years of age is 50% or greater in

rural areas, and express concern that chronic public health problems are worsening because of the current drought. It is assumed that the current drought will have potentially serious public health impacts on children and adults as water accessibility and quality and as food availability are further compromised in the absence of certain mitigation measures. Such impacts may only increase and aggravate chronic cases of malnutrition in children under five and compromise the general health status of vulnerable and otherwise healthy groups.

Current Nutritional Status

The malnutrition rates of Zambian children under five years of age are alarmingly high. The 1992 DHS for Zambia reports that over 40% of children under five are stunted, or chronically malnourished. This percentage denotes a level 17 times higher than what would have been expected in a Zambian population. Over 25% of the same target population is underweight[3]. This figure represents a level 11 times that of what would have been expected in a Zambian population. Furthermore, approximately five percent of children in Zambia are wasted (low weight for height), or acutely undernourished. This represents twice the level of wasting than what would have been expected in a Zambian population.

Each year since the 1991-1992 drought, FHANIS has reported that national urban and rural rates of malnutrition have increased. In the rural sector, prevalence rates are reported at 50% or greater of children under five who are stunted. Stunting rates in the urban sector have increased from 35% in 1991 to over 40% in 1995. Health Officials visited in the southern rural sector stated that they have been seeing greater increases in the rates of wasting in children every year since the 1991-1992 drought. No empirical data were available to corroborate this anecdotal evidence.

Current Nutritional Surveillance

1. The National Surveillance Program

The National Nutritional Surveillance Program (NSSP) for children under the age of five is a program currently operating under the Ministry of Health (MOH) and coordinated by the Nutrition Unit and the National Food Commission. It works to collect comprehensive health data from primary and maternal child health clinics in all districts of the country and to report those data on a monthly basis to the MOH. Weight-for-age data are collected on children under five, as well as information on the number of children attending clinics. Data are compiled on the number of children weighed, those who are growing normally, and those who are falling below the 80% line on weight-for-age.

The NSSP suffers serious programmatic constraints. It is neither a sensitive nor a timely

[3]At least two standard deviations below the median weight-for-age value than what would have been expected in the population.

surveillance system and it does not track children who once attended the clinic and then discontinued use. It is slow to report data to district, provincial, and central levels, and is approximately three years late in disseminating a health and nutrition report to the MOH. Information collected is not considered reliable, nor are data collection, analysis, and record-keeping procedures accurate or consistent. Clinics also suffer from a paucity of adequately trained staff to collect and record data. Although the system attempts to report malnutrition prevalence rates to the MOH, health officials in-country report that the primary and maternal child health care clinics are not sufficiently equipped to take immediate action in effectively treating the malnutrition problems.

2. FHANIS

FHANIS is operated by the CSO and is chaired by the Permanent Secretary of the National Commission for Development Planning (NCDP). FHANIS collaborates with the MOH NNSP and other government, international, and non-government organizations to provide technical support in accurate data collection and reporting procedures and to discuss food security, nutrition, and health information. It also attempts to coordinate efforts for these organizations to solve problems based on information reported from the system.

FHANIS is currently operational in approximately 50 districts of Zambia. FHANIS officials are collecting basic nutrition, health supplementary feeding, and census information utilizing five communities and five clinics from each district as sentinel points for data collection. Among myriad other tasks, FHANIS investigates food stocks, water and livestock situations, and percentage sales of livestock. Data are collected from health centers in those districts on a monthly basis, analyzed, and submitted to the FHANIS offices in Lusaka. FHANIS then submits a report to the NCDP.

Although FHANIS is fully integrated into the decision-making fabric of the central government and appears to have the potential institutional capacity to monitor health and nutritional status throughout the course of the drought, it is currently experiencing some budgetary and programmatic constraints. FHANIS is backlogged approximately four months with data reporting, and is in need of a further expansion and development so that it can meet all the demands placed on it. Officials at FHANIS are also concerned about ensuring its sustainability by the government. FHANIS has expressed the need to expand coverage to include more urban and peri-urban areas, as some of those areas are not food secure and rates of malnutrition and other health problems are reportedly increasing. Officials also indicate a need to strengthen the use of FHANIS at the district level in the context of decentralization and the development of district-level planning, and to improve access to and use of the FHANIS database at a national level. The promotion of better linkages between FHANIS output and data from other sources is also needed.

Child Supplementary and Other Feeding Programs

At present, only a small percentage of the children under five who are moderately malnourished are receiving supplementary feeding. High Energy Protein Supplement (HEPS) is currently being distributed to only six percent of children under five, in 29 districts throughout the country. HEPS is provided as a take-home ration to moderately undernourished children attending clinics. WFP is currently working with District Medical Officers (DMOs) who in turn are coordinating food distribution efforts. The DMOs are utilizing some local transport for food distribution. However, some district-level officials have cited transport problems and irregularities that complicate the timeliness and consistency of food distributions.

WFP also operates a feeding program for severely malnourished children. At present, only 2,000 clinic-based children throughout the country are receiving rations of HEPS, dried skim milk (DSM), oil, and sugar. Accompanying mothers are receiving pulses and maize.

In addition, WFP is providing food assistance through a home-based care program to vulnerable groups such as the elderly and chronically ill. To date, 1,500 families throughout the country are receiving rations of pulses, maize-meal, HEPS, and oil. These families are identified as those currently living in absolute poverty with no means for additional support or remittances.

Church-based groups are also offering some supplementary feeding throughout the country. No information or statistics were made available, however, on the number of persons receiving food or detailing in what areas of the country such programs are being implemented.

E. Food and Logistics

National Food Situation

The total national grain requirement for Zambia is estimated at 1,530,000 MT. The 1995 harvest was estimated at just over 1,000,000 MT, leaving a shortfall of 530,000 MT to be imported. The relief requirement is estimated at 150,000 MT by the Program Against Malnutrition (PAM). Approximately 150,000 MT of the shortfall is comprised of wheat and rice imports, strategic reserves, and commodity assistance, which are to be imported privately through various measures. This leaves the commercial sector import gap at roughly 298,000 MT of maize. These figures do not reflect the production of other protein sources such as cassava and potatoes.

Relief Food Aid

The relief program has experienced a slow start. One factor is disruption from the recent reorganization of the Office of the Vice President, which has overall responsibility for relief coordination. During the past drought, PAM's primary role was the implementation and coordination of NGO relief activities. With its new mandate calling for recovery and rehabilitation, it is unclear whether PAM has the capacity to fully coordinate the relief program in addition to doing the other activities. The PVOs/NGOs' capacity to undertake such a large-scale food-for-work and free distribution program within the time frame required and to the appropriate beneficiaries is also unclear.

The GRZ has chosen two types of food relief activities with which to combat the ill effects of the drought on approximately 1.3 million people. These two activities are food-for-work (80%) and free food distribution (10%). A small grain monetization activity undertaken by PAM will make grain available at market prices and is expected to provide market access to an additional 10% of drought-affected persons. The details of this monetization program are unclear.

To be a recipient of the free food program, a beneficiary must reside within a declared drought-stricken area, be elderly or physicaliy unable to work, and be unable to attain assistance from relatives. A qualified recipient of the free food program is to receive a ration of 300 grams of cereals per day provided in a two-week increment, or 4.2 kilograms twice a month. The number of recipients for the program is estimated at 130,000.

To be included in the food-for-work activity, one must reside in a drought-declared area, have a loss of livelihood due to drought, and have no other source of income or assets. Persons participating in the food-for-work activity receive a family ration of 300 grams per person per day for five people on a bimonthly basis, or 21 kilograms every two weeks. The number of beneficiaries for this program is estimated at just over one million.

Implementation

The GRZ's Office of the Vice President is responsible for the overall relief program in coordination with PAM, WFP, and the NGO community. WFP is tasked with coordinating all donor pledges, arranging for commodity storage and transport from the central level to the district level, and monitoring and reporting commodity movements and usage. WFP has issued an emergency operation appeal for the Zambia relief program for 70,000 MT of grain against the estimated need of 82,000 MT. The relief effort has received pledges for over 75,000 MT of cereals and pulses, which includes a Public Law 480 Title II USAID/FFP contribution of 20,000 MT of sorghum.

PAM is an indigenous NGO created during the previous drought to assist with relief program implementation at the district level. Currently, PAM is financed 37% by the

GRZ and is the designate of the Office of the Vice President charged with coordinating NGO programs during the present drought. PAM has also taken on the additional responsibilities of post-drought recovery and rehabilitation activities.

Most people interviewed believed that PAM was able to do these assigned tasks, but several concerns about the program were expressed: the lack formal agreement, leading t less-than-clear responsibilities, of the major organizations involved; slowness to start deliveries, raising concerns of ability; extensive confusion regarding PAM monetizing some, but not all, food; evidence of more government direction to PAM than before, opening questions of PAM's technical independence to act and of possible political pressure just before the upcoming elections. If the government orders a 50% expansion from 82,000 to 120,000 MT for more beneficiaries as is under consideration, it remains unclear what changes PAM will need to make quickly, whether its system is up to it, and how much relief effectiveness will be lost as PAM is stretched into recovery work within the same organizations.

The PVOs/NGOs have the primary responsibility for district-level implementation of food-for-work activities and the free distribution program. This entails administration and implementation of the relief programs including project identification, beneficiary selection, and end-point distribution of commodities. CARE, Lutheran World Federation, WVRD, Harvest Help, and various church organizations are providing end-point distribution in the most affected areas of Zambia.

Commercial Sector Import Gap

There is consensus that there exists a grain shortfall in Zambia's commercial sector of approximately 300,000 MT of maize that will be needed over the next four months. Government policy calls for grain importation and distribution by the private sector. Some concerns remain about the newly-emerging and relatively untested ability of the commercial sector to satisfy this large a demand in so short a time. The commercial sector capacity to import is affected by several factors. First, availability of foreign exchange was cited by several sources as an impediment to importing. The GRZ, along with several donors, has agreed to a foreign-exchange revolving-credit program of approximately $25 million to be made available to the commercial sector. The target amount of foreign exchange needed is pegged at approximately $75 million over the next five-month period. The $25 million turning over in a revolving fund should provide the foreign-exchange liquidity needed over the next few months.

Even with the availability of foreign exchange, the private sector will still need to pay for it with the local currency, the kwacha. Whether enough kwacha are available in the market place and whether the private sector is willing to borrow at current interest rates of 40%-50% remain to be seen. Once all costs, including importation, foreign exchange, and kwacha cover, are calculated into the retail price of maize, the grain must still be affordable to the Zambian consumer. Maize prices have steadily increased over the last

couple of months and continue to rise. It is not known whether the urban consumer's disposable income can overcome grain price increases. Reports of rising grain prices in terms of livestock per bag were received but were not verified. The tracking of livestock off-take and prices must be monitored much more closely to ascertain to what degree asset depletion is taking place at the rural household level, as well as household incomes.

Given all of the uncertainty in the private sector, and given that an election year is coming up, the overriding question is whether the GRZ will feel the need to intercede in the grain market to ensure low urban grain prices. The GRZ has gone to great lengths to reassure the private sector of its intent at non-intervention, even to the extent of placing notification in the local newspapers. Given the retail price of imported grain, the government needs to continue sending confidence-building signals that it will not interfere in commercial importation pricing or distribution for any reason, including seeking political credit or personal gain. This would help ensure a full response by the commercial sector to operate effectively in the regional and world markets for the best price, quality, and timeliness of grain imports.

Donor Response

Although there appears to be unanimity about the nature of the drought relief and recovery problem and its wider context, there are many different donor strategies operating to address it. Some are working at cross purposes to each other, undermining prospects for success. The most glaring example of conflicting donor strategies is in the extent of donor support for government intervention in the grain market at this time. Some donors are actively promoting special government foreign exchange and farmer credit schemes, while others, including the USG, are urging sole reliance on market forces. Considerable work remains to harmonize a common donor strategy.

F. Recommendations

1. No additional USAID food is needed beyond the USAID/FFP food assistance contribution to the relief program of 10,000 MT of sorghum (valued at over $7.8 million) already provided.

2. Given the especially severe drought impacts in some areas of Zambia, there are key factors that need to continue to be monitored and reported by USAID/FEWS and USAID/Lusaka to ensure that a crisis is not developing:

   a. PVOs/NGOs need to be monitored in their roles as end-point distributors of relief assistance to ensure the timely and effective implementation of the food relief program at a local level.

   b. Given that relief to the most vulnerable sections of the population is

coordinated by PAM and given the multiple, albeit low-key, concerns expressed about the program, PAM should be closely monitored to ensure a cohesive approach to the relief program.

c. Household-level vulnerability indicators such as grain and livestock prices and off-take rates as well as household incomes should be monitored to the extent possible, including data available through FHANIS.

d. Given the demands on the commercial sector to import and distribute nearly 300,000 MT of grain in the next four months, current and potential constraints on this sector should be closely monitored.

3. A commercial import distribution contingency plan should be developed by USAID/Lusaka in cooperation with other donors, to be implemented should the current commercial system fail to import and distribute adequate grain. The plan should include emergency relief contingencies should prices rise to levels where marketed grain is not affordable to poor households. The plan could also include child supplementary feeding programs for children under five throughout affected regions of the country that could be implemented through assistance to UNICEF.

4. Farmers are increasingly interested in sorghum and millet, which often produce better yields under drought conditions. Technical assistance should be provided to replicate CARE's Southern Province successes in distributing sorghum and millet seed and achieving good harvests in other drought-prone areas. These efforts should be supported by both the GRZ and USAID. The programming of food assistance such as sorghum should continue to reinforce a return to more drought-tolerant crops.

5. USAID/Lusaka should assess and report on whether emergency water interventions are needed. Water interventions that should be considered include projects in support of activities in the already-identified seven most-affected districts. Suggested activities include: support for consultations with district authorities to prioritize emergency needs; provision of stocks of spare parts for rehabilitation of hand pumps and windlasses; and provision of funds to allow for emergency trucking of water to clinics, hospitals, and schools. Support to the CMMU for further analysis focused on water supply interventions would facilitate a more effective targeting of water sector interventions in other areas. All of these activities could be managed by UNICEF as part of the coordinated water sector response.

6. Malaria and cholera outbreaks are to be expected following the expected onset of the rains. MOH and health workers should be prepared and should have adequate stocks of drugs and supplies to prevent increases in morbidity and possible mortality due to malaria and cholera outbreaks.

7. The GRZ Office of the Vice President charged with national coordination is being

restructured and new staff added. Training to the national disaster section of this office should be provided through USAID/OFDA's regional disaster management training program if possible. This National Disaster Coordination Office will need to be greatly strengthened if it is to effectively fulfill its mandate.

Zimbabwe
International boundary
Province boundary
National capital
Railroad
Road
ZAMBIA
MOZAMBIQUE
BOTSWANA
SOUTH AFRICA
MATABELELAND NORTH
MATABELELAND SOUTH
MIDLANDS
MASVINGO (VICTORIA)
Lusaka
Harare
Kariba
Chirundu
Livingstone
Victoria Falls
Hwange
Gweru
Bulawayo
Plumtree
Gwanda
West Nicholson
Beitbridge
Messina
Mutare
Kadoma
Francistown

VII. ZIMBABWE

A. Background

Zimbabwe is at a critical stage of an extended drought. Poor and irregular rainfall during the rainy season of 1994-1995 reduced crop yields to approximately 55% of average national levels. Yields were reduced by 90% in some seriously affected districts. The areas most crippled by the effects of the current drought are those on the periphery of the country -- Northern Mashonaland, Matebeleland North and South, and the southern regions of Masvingo in particularl. In some areas the situation is reported to be worse than it was during the 1991-1992 drought. The GOZ declared a disaster and issued an appeal for assistance on July 28, 1995. The appeal outlines a drought-relief program consisting of four main components:

1. A food relief program including the Grain Loan Program (GLP) designed to deliver 10 kilograms of maize per person per month on a reimbursable basis to five million registered drought-affected persons, and a targeted food program to provide five kilograms of maize per month to approximately 733,000 elderly, disabled, and chronically ill beneficiaries;

2. An expanded child supplementary feeding program consisting of maize, beans, groundnuts, oil, and salt that targets one million children under five for 12 months, beginning in July 1995 (this program is three years old and ongoing);

3. An agricultural recovery program consisting of crop packs of seeds and fertilizer targeted for 1.3 million beneficiaries by mid-October and a livestock program consisting of a calf/heifer loan as well as livestock water-resource development; and

4. A water resources program to address both short- and long-term needs for water security in rural areas through borehole drilling, well deepening, water cartage, water system repairs, and surface water reservoir construction.

B. Situation Report

The U.S. Ambassador to Zimbabwe declared a disaster on August 29, 1995 requesting $25,000 for the staffing of a transport unit to address significant bottlenecks in GLP distributions. Based on rates of enrollment in the GLP nearly half of Zimbabwe's population, or approximately six millon inhabitants, have been, to varying degrees, affected by drought. At this time there appears to be no large-scale life-threatening emergency that would warrant additional disaster assistance at a national level.

Water rationing has been imposed in some urban areas. Although there are isolated rural

areas where availability and access to domestic potable water supplies are problematic and obtaining water requires significant expenditures of time and energy, the overall water supply situation is not critical at this time.

National consumption/production shortfalls resulting from the current drought have been met through carry-over grain stocks and imports. Sufficient food per capita is available in-country through mid-February 1996, though an estimated additional import of just over 200,000 MT may be required to meet needs until the April 1996 harvest, according to current USAID/FEWS information and GMB estimates. Availability notwithstanding, increased levels of infant and child malnutrition have been reported in some rural areas due to insufficient access to food. Problems with access to food have resulted from reduced local production of grain, lack of household resources to purchase grain, and the pace of GLP distribution. Lack of adequate financing for grain purchases and transport at the national level has translated into delayed distributions for the relief programs at the local level.

In districts that have experienced complete harvest failures, such as the northwest districts of Binga and Gokwe North and South, site visits revealed that the majority of inhabitants reported they have reduced their number of meals per day, begun to consume wild foods traditionally eaten only during food shortages, and are relying on the GLP to avoid liquidating assets. At the local level GLP deliveries are being constrained by lack of available GOZ transport, and private sector transport was observed being used only when financed by the GLP beneficiaries themselves. Agricultural inputs are in short supply and many farmers are relying on the crop pack program for the coming growing season.

Child malnutrition rates in these districts are reported as "much worse" this year than in normal years. Malnutrition rates of children under five in these districts ranged from 17% to 27% of children admitted to clinics, where 15% is an approximate norm.

GOZ finance allocations for the GLP currently cover approximately half of the costs of grain and transport to GLP participants. Requested donor contributions for the remaining half have so far not materialized. At current levels of financing the program will provide only half the grain indicated. Without further funding, the ration size will either have to be halved to five kilograms per person per month, or rations provided will cover only four of the programmed eight months. The success of halved GLP deliveries in averting famine depends on two factors: the adequacy of traditional coping strategies, e.g. remittances, stocks held at the household level, livestock liquidation, wild foods, and reduced consumption; and the arrival of the rains in October to allow for harvesting fast-growing vegetables. It is recommended that donors and the GOZ prepare contingency plans for emergency funding of the remainder of the GLP in the event that the rains fail.

Based on meetings at the Ministry of Agriculture, the assessment team understands that the crop pack program, including transport, has been fully funded and has begun distribution. Surplus funds are being used for additional livestock restocking activities

under this program as well.

C. Water

Situational Overview

Although there are isolated rural areas where availability and access to domestic potable water supplies are problematic and obtaining water requires significant expenditures of time and energy, the overall water supply situation is not critical. No immediate action is recommended. However the water supply situation should be monitored carefully, particularly if the anticipated rains do not materialize. Should the drought continue into 1996, the water supply situation will become critical in several urban areas and in some southern and western rural districts as additional water sources dry up.

The National Action Committee (NAC), responsible for coordinating water sector activities among a number of Ministries, drafted an *Emergency Water Plan for the Drought Situation in Zimbabwe* in August. The objective of the plan is to "quickly respond to the lack/shortage of drinking water throughout the country caused by the prevailing drought condition." The plan calls for drilling and equipping 1,400 boreholes for hand pumps in rural areas; cleaning and hydrofracturing 700 dry or low-yield boreholes; deepening 1,650 deep wells; rehabilitating 500 piped water schemes; reducing water consumption by 25% in the most affected municipalities and by 10% in all other municipalities; and supplementing bulk water to the most affected urban communities. The program also includes provisions for bowser operations (trucking water) in some areas. The budget request totals $19.75 million, with an additional request of $188 million for medium- to long-term actions. The plan was incorporated into the GOZ's appeal for assistance to donors. Few if any of the proposed drought responses outlined in the emergency water plan could be implemented quickly enough to have an impact before the scheduled onset of the coming season's rains.

Efforts to provide increased water supply security to both the urban and rural populations of Zimbabwe have been underway for many years. National planners recognize that the provision of improved potable water supplies increases water security and reduces the health risks associated with unimproved sources that are dependent on seasonal recharge. The Department of Water Resources (DWR) has increased surface water storage by more than 40% since 1980. DWR, along with the District Development Fund (DDF), drills approximately 2,000 boreholes each year. However, funding constraints seriously hamper plans. Sector professionals understand that short-term solutions to potable water needs are expensive and difficult to implement. Surface water reservoirs can provide long-term security but are not short-term solutions. Mobilization for drilling boreholes takes time, and without proper siting, success rates may be low. Using bowsers to deliver water is prohibitively expensive and can only be considered in isolated cases.

All of the obvious activities to address water problems have been identified and actions have been planned or initiated. These activities include: water rationing and restrictions in urban areas; emergency programs to address the most needy of urban centers; refocusing rural water programs to address the priority of drought-stricken areas; and providing spare parts to facilitate rapid equipment repairs.

The most serious period of water shortage will be during the next month to six weeks before the rains begin, assuming that they begin at the normal time. Within this time frame, there is little that can be effectively accomplished to alleviate existing water shortages. Although there are clearly areas in a number of districts with serious water problems, by the time these could be identified and plans made to address individual community needs, the rains should have begun and the worst of the water shortages past. However, if the rains do not materialize, a serious examination of both urban and rural water supplies will be necessary. Priority interventions in support of planned and ongoing water sector drought relief activities should be seriously considered.

Water Resources

With annual rainfall figures of 400-600 millimeters per year, most of Zimbabwe can be classified as semi-arid. Nevertheless the country depends heavily on surface water sources to satisfy its potable water needs as well as the needs of industry and agriculture. Medium and large-scale dams provide much of the water needed to satisfy urban and irrigated agricultural requirements. National policy seems to continue to support a focus on utilization of surface water resources. There has been a 43% increase in surface water storage since 1980 and 43 medium and large dams have been constructed since independence. The GOZ's long-term drought mitigation plan includes provisions for the completion and construction of 28 medium and large dams for water supply and irrigation. Rural areas are also heavily dependent on surface water resources, as small dams and shallow hand-dug wells are the primary water sources for an estimated 57% of the rural population.

Deep groundwater resources have not been fully studied or exploited to date. However, boreholes and deep wells (dug wells extending below the first impervious strata) are being increasingly exploited to supply the needs of rural populations and to augment urban supplies. A national network of more than 20,300 boreholes and 10,300 deep wells is the primary water supply for an increasing percentage of the rural population. Plans are in place to expand significantly the utilization of deep groundwater resources in almost all rural districts through a series of donor-assisted, integrated water supply and sanitation projects.

Large-scale water transfers from the Zambezi River in the north through the western provinces of North and South Matebeleland to Masvingo are currently being debated. However, the international arrangements for sharing this resource among riparian countries are not complete and financing has not been secured.

Water Supply and Sanitation Sector Institutions

The water supply and sanitation sector in Zimbabwe is relatively decentralized. The NAC, chaired by the Planning and Coordination Unit at the Ministry of Local Government, Rural and Urban Development, is responsible for overall sector coordination. It was originally set up during the International Drinking Water Supply and Sanitation Decade (IDWSSD). A National Coordination Unit with management and technical functions supports the coordination efforts of the NAC.

The DWR in the Ministry of Lands and Water Resources is responsible for overall water resource planning. In addition to its headquarters in Harare, DWR has provincial offices in Masvingo, Mainland, Matebeleland, Midlands, and Mashonaland. Its focus tends to be surface water resource management for both irrigation and urban water supplies. However, DWR is also responsible for groundwater management and planning and has a range of large and small drilling equipment (both rotary and cable tool rigs), drilling on the order of 1,500 wells annually. Both the Design and Operations Sections participate in the design and construction of surface water reservoirs. Many of these reservoirs are designed and constructed in support of district and municipal authority efforts to supply water to urban and industrial areas. Ownership and operation for these reservoirs depend on how financing has been arranged.

Management of the piped water distribution and sanitation systems is the responsibility of municipal authorities. As such, they have considerable autonomy regarding how they operate. This has two significant implications for drought monitoring and response. First, detailed information concerning water availability and use is available only at the municipal level. Second, each municipality's response to the drought may be different, so there is not uniformity among water conservation and management strategies. This is not necessarily a problem, as the need to manage water does vary with locality, security of the source, and other factors. DWR monitors the water levels in most important reservoirs.

Rural water supply is managed at the district level by rural councils through the DDF, which supports the establishment and maintenance of rural water supplies. These consist of boreholes and deep wells equipped with hand pumps, shallow wells equipped with windlasses, small- and medium-sized dams, and scattered piped water schemes. Each district has a District Officer for Water who oversees a small staff and 10-20 "pump-minders," who provide minor maintenance for the district's water points. District water offices are understaffed and have very limited capital and recurrent budgets. Districts do have access to bowsers, used primarily for road construction and rehabilitation; these can be reallocated for trucking water as necessary. Limited engineering and technical support is available to districts from provincial offices.

The establishment of new primary water points is dependent on donor programs or the limited capability of provincial-level engineering staffs and well-drilling crews. The National Primary Water Supply Information System, supported by UNICEF, has recently

established a national reporting for more than 33,000 water points under the jurisdiction of the rural councils to monitor water availability in rural areas. A national program to establish additional primary water points and to build district capacity in the water sector will be initiated with donor support within the next year. Several donors are participating and providing assistance in different provinces and districts.

The Ministry of Health (MOH), through an extensive cadre of Environmental Health Technicians (EHTs), is responsible for monitoring shallow, hand-dug "family wells" -- privately constructed and informally maintained dug wells -- and for latrine construction programs nationwide. The MOH also has a mandate to complete the bacteriological and chemical monitoring of these water sources. The MOH has no regular, formal reporting mechanism for the condition of shallow wells. However, it did complete a water points inventory in 1990, and recently it conducted a rapid assessment in the Matebeleland North and South, Masvingo, and Midlands Districts.

Urban Water Supply and Sanitation

Most urban water supply reservoir levels are being monitored and water levels are in all cases lower than at comparable times in normal years, though not as low as during the 1991-1992 drought year. Urban water supply sources, which consist primarily of surface water reservoirs, continue to provide adequate supplies with water rationing in place in many urban centers. Voluntary restrictions are in place in some cities and towns, and tariff surcharges are in place in several others. Water Shortage Areas have been declared in eight of the 21 cities and towns; Chipinge, Shurugi, Chegentu, and Mutare are the most seriously affected. The DWR, in collaboration with municipal authorities, is implementing emergency measures in these areas, including rehabilitation of emergency boreholes and pipelines that were last used during the drought of 1991-1992. The DWR indicates that it has the technical and logistical resources to implement all required short-term, medium-term, and long-term drought mitigation plans. However, it does lack sufficient financing to carry out all components of the program laid out in the *Emergency Water Plan for the Drought Situation in Zimbabwe.*

Rural Water Supply and Sanitation

The National Primary Water Supply Information System reports that 12% of boreholes, 27% of deep wells, 22% of dams, and 18% of piped water schemes were dry as of the first of September. There is no adequate reporting of the condition of "family wells," but as they depend largely on seasonal recharge, it is expected that as many as 60% will be dry before the onset of rains. These statistics mask two important factors. First, this is the end of the dry season, when water sources are traditionally more likely to be dry. Unfortunately, national statistics for previous years are not available. However, indications are that in most areas, the situation is better than it was during the drought of 1991-1992. Second, some geographical areas are more affected than others. Matabeleland North and Masvingo are the most seriously affected. Matabeleland North reports 24% of

boreholes, 45% of deep wells, and 75% of dams dry. Masvingo reports 28% of boreholes, 39% of deep wells, and 20% of dams dry. The most affected districts are Tsholotsho, Matabeleland North, with 45% of all primary water sources reported dry, and Mwenezi, Masvingo, reporting 39% of primary water sources dry as of mid-August. There have been isolated reports of villagers having to travel up to 20 kilometers for water. Statistics suggested that conditions in September, just prior to the expected onset of the rains, would be worse than August.

In spite of these indications of lack of water, actions at the district level do not indicate crisis. No widespread transport of water to affected areas is currently envisioned or planned. Should such a situation arise in the coming months, district-level DDF offices appear to have adequate water sources and sufficient water bowsers to avert a water crisis. Concern exists about the availability of trucks or tractors to move trailer-mounted bowsers and of financial resources to pay for fuel and for equipment repair.

Sanitation conditions in urban and rural areas have not been adversely affected by the drought. National coverage for sanitation is nearing 50%, with just over 30% of the rural population served. A program to promote Blair Latrines[4] has been ongoing since 1982. Expectations are that the program will be slowed as a result of the drought, and that no sanitation-related complications of the drought will be felt unless the drought continues and a large migration to urban areas takes place.

D. Health

Based on consultations with officials from local government, PVOs/NGOs, and IOs, as well as site visits to Matebeleland North and South, it is clear that the current drought has potentially serious implications for the health of the affected population if certain conditions are not met. The lack of adequate rainfall and the consequential paucity of sufficient potable water, the lack of timely distribution of food commodities to affected persons and vulnerable groups, the lack of consistent finance, management, transport, and implementation of drought-related nutrition programs, and the lack of sufficient program-based baseline data to determine the future course of nutritional deficits, all only worsen the already debilitating effects of drought on the lives of affected individuals. Although no immediate or life-threatening, large-scale drought-related health and nutrition consequences were noted during the site visits, it is crucial that all possible measures be taken by governmental, non-governmental, and donor officials to mitigate the potentially disastrous effects of continuing drought on human life.

Nutrition studies conducted, although limited in number and scope, indicate that the current nutritional status of children has continued to worsen since the drought of 1991-

[4]A ventilated improved pit latrine designed in Zimbabwe by the MOH. Its identifying feature is its spiral structure with a vent pipe. This design helps ensure minimum odor and insect problems.

1992. Furthermore, officials encountered during site visits indicated that mortality and morbidity due to drought conditions were on the increase throughout hard-hit areas. Cases of marasmus[5] and kwashiorkor[6] and related nutrition-deficit disorders, e.g., skin infections and diarrheal disease, were observed in the district hospitals. Medical officials also indicated that increases in caseloads of malnourished children and adults are currently being observed in rural health clinics and district-level facilities. If the drought continues to worsen in all areas of Zimbabwe, the toll on human life could rise significantly. Not only could caseloads of malnutrition and infectious diseases increase, but population migrations, crop failures and consequential food insecurity, and financial burdens on already-constrained government budgets would undoubtedly ensue as well. Health surveillance systems with strong sensitivity and specificity must be implemented in order to identify and track vulnerable groups and to determine the extent or severity of malnutrition in all age groups. If such systems are not put into place it will be nearly impossible to detect potentially critical health outcomes, thereby precluding organizations from mitigating the crippling effects of this chronic, enervating drought.

Background

A majority of Zimbabwe's population is suffering some consequences and ill effects of the current drought. It is important to note that the lack of adequate food production further exacerbates the pre-existing nutritional vulnerability of the nation as a whole. Children under five years of age and populations such as the elderly, the disabled, and the chronically ill are adversely affected by drought and will be particularly vulnerable if the drought continues to worsen over time.

According to the 1994 DHS data for Zimbabwe, 15.5% of children under the age of three years are prevailingly underweight, while an estimated 21.4% are stunted (low height for age). Furthermore, an estimated 5.5% of all children are now wasted (low weight for height). These statistics illustrate a deterioration in the nutritional indicators of children under five compared to those profiled in the 1988 DHS. Whether the current drought situation is a direct causal factor associated with this degradation of nutritional status has not been empirically determined. However, it is realistic to presume that the severity of the current drought and its repercussions does affect the already-compromised nutritional status of children and other groups in both urban and rural areas of Zimbabwe.

Additional information provided in the 1994 DHS illustrates that the child mortality rate for Zimbabwe is 77 deaths per 1,000 live births and the infant mortality rate is 53 deaths per 1,000 live births. The data indicate no rate decrease over time in the mortality of children under five since the previous DHS report. National immunization coverage for children 12-23 months is remarkable with 80.1% of children to date having received

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[5]Malnutrition due to deficiency of all nutrients.

[6]Malnutrition due primarily to deficiency of protein.

vaccinations for all EPI immunopreventable diseases. In addition, according to the *UNICEF Situation Analysis Update-1994* for Zimbabwe, the leading causes of outpatient morbidity in 1992 for children under five years of age were respiratory diseases (54.8%), skin diseases including scabies (16.4%), diarrheal diseases (12.9%), injuries (6.6%), and eye diseases (6.3%). Malnutrition was not cited as one of the principal causes of childhood morbidity in 1992. However, it is important to reiterate that current drought conditions may aggravate or worsen childhood morbidity and mortality over time. At present, specific, thorough, and quantitative drought-related health, morbidity, and mortality information is not available, although WVRD and the MOH recently completed a baseline nutrition survey in one affected district of the country.

Current Nutrition Situation

According to consensus among health officials, Zimbabwe suffers from a chronic nutritional deficit. Apart from undernutrition, other health problems such as micro-nutrient deficiencies, low vitamin-A levels, pellagra, and iodine deficiency disorders are prevalent and are considered to be public health concerns. Diet-related chronic diseases such as diabetes and cardiovascular-related pathology are also increasing.

With respect to undernutrition, statistics from the 1994 Zimbabwe DHS indicate that nearly one-fourth of the 21.4% of stunted children are severely stunted[7]. Other data show that 5.5% of all children are wasted. This nutritional classification indicates a sign of acute or recent undernutrition. Approximately 1% of these wasted children are severely wasted[8]. Wasting is a good predictor of future mortality risk. Nutritional stunting is only slightly more prevalent in the rural than the urban sector, while wasting is only very slightly higher in urban than in rural areas. Wasting is highest in Matebeleland North (9.8%), Midlands (7.5%), and Mashonaland West (6.8%), although most areas along the north, west, and southern regions of the country report noteworthy levels of undernutrition. These also correspond to the areas hardest hit by the drought.

Limited data from Tsholotsho in Matebeleland North show a steady increase in the number of hospital admissions for children with diagnosed below-the-line malnutrition, or below the 80% line on the growth curve, from January to May of 1995. In January 11.3% of all children weighed fell below the 80% line, compared to 17.1% in May. In the 12-month to 23-month age group, a reported 26.9% of all children weighed fell below the line on the growth curve. This age group represents children who typically have been fully weaned from breastfeeding. The data do not reflect the percentage of growth

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[7]Less than three standard deviations below the median height-for-age value than what would have been expected in the population.

[8]Three standard deviations below the median weight-for-height value than what would have been expected in the population.

faltering.

In the drought-stricken area of Tsholotosho, 33 deaths of children under five due to malnutrition were reported from January to June, 1995. These data were clinic based. A study completed in September 1995 by WVRD and the MOH in the Tsholotsho region showed that 38.3% of children under five were mildly underweight and were at risk for moving into moderate/severe levels of malnutrition soon in the absence of improved conditions. The study results also showed that 17.7% of children under five were mildly wasted and 33.5% were mildly stunted. The study concluded the overall nutritional status of children under five to be critical. Health officials from Gwanda say that regions in Matebeleland South indicate similar trends, with notable increases in admissions of children with reported malnutrition to the district hospital.

Overall, because poor nutrition is an indicator of an increased risk of childhood morbidity and mortality, it is even more important to consider child survival prospects in the midst of adverse drought conditions. District medical staff in Matebeleland North and South indicated that without sufficient rainfall and harvests for the next two consecutive years, and without proper supplementary feeding programs operationalized in these areas, there may be dramatic increases in severely acute child malnutrition and related consequences.

Current Child Supplemental Feeding Program

The current Child Supplemental Feeding Program (CSFP) is sponsored by the MOH and is intended to feed over one million children. To date, UNICEF and a few PVOs/NGOs have committed funding and technical service to the Nutrition Unit of the MOH for overall assistance to the CSFP. The goals of the program focus on improving the nutritional status of children under five years of age in drought-affected and "at-risk" areas. These goals may be attained by providing daily food supplements five days a week to children between six months and five years of age; by evaluating growth or weight-gain responses using mid-upper arm circumferences and weight-for-age measurements; and by providing nutrition and health education at feeding points to reduce vulnerability and strengthen preparedness for future droughts.

This CSFP delineates three major strategies in its overall focus: therapeutic feeding of hospitalized malnourished children; feeding children under five at feeding points and through take-home rations; and feeding school children in grades 1-3. Priority is given to rural children under five years of age. Feeding centers are established in preschools, clinics, churches, and community centers and are supervised by village community workers and MOH staff. Mothers of children assist in the organization and overall function of the feeding centers, as well as in feeding activities. The program specifies that each beneficiary under five years of age receives 66 grams of maize, 20 grams of beans, 20 grams of groundnuts, 12.5 milliliters of oil, and 2.5 grams of salt. These food constituents comprise approximately 40% of a child's daily energy and 88% of a child's daily protein requirements.

In spite of the CSFP goals and design, the program has not been thoroughly implemented in all critical regions of the country. The program has also been functioning at reduced and delayed administrative and operating levels since the 1992 drought. According to the MOH Nutrition Unit, district administrators, local government officials, and medical personnel in Matebeleland North and South, the CSFP program currently suffers from erratic operations that result in inadequate distribution to designated sites. The program also suffers from serious transport logistics, financing, and management obstacles that inhibit timely district-wide food distributions. For example, officials mentioned that the trucks currently being used are deficient and/or poorly maintained due to shortages of spare parts. In addition, the program does not have adequately trained staff at the village and district ward levels. Finally, the program has endured a chronic lack of coordination among the MOH, donors, and the NGO community in overall function and operations of program activities. As the program is currently being implemented throughout the country, it is unclear to what extent and for what duration the donor/NGO community is participating. District administrators have stated that improved communication and coordination between the donor/NGO community and the Nutrition Unit might assuage some of this confusion.

Current Health and Nutrition Surveillance System

The current health and nutrition surveillance system is seriously deficient for purposes related to monitoring drought impact. Although the nutrition monitoring tool utilized in the CSFP is a component of the current MOH surveillance and disease monitoring instrument, it includes no information on other undernutrition-related consequences, nor indicators on growth faltering. Also, timely and sensitive nutrition and health information does not appear to flow from the village to the district, from the district to the province, or from the province to the MOH. Government officials and various IOs currently involved with identifying nutritional effects of the drought have articulated that data procurement and recordkeeping are often lax and inaccurate. Nutrition-related information is often aggregated at the provincial and national levels and as a consequence important data are lost. Information sharing between various levels of government and donor organizations and PVOs/NGOs is also inconsistent or nonexistent. It is not clear whether sufficient baseline nutrition data for the CSFP even exist.

In order to determine the severity of drought-related nutritional problems and to measure the effects of the CSFP over time, it is imperative that program-based baseline nutrition data representative of the target population be collected at the outset of program implementation. It appears that data collection exercises of this nature are not being routinely conducted by the international or the non-governmental communities.

E. Food and Logistics

There appear to be both sufficient grain stocks in-country and planned imports by the

GMB to meet normal and relief food needs through February of 1996. Thus, outside food assistance does not appear necessary at the present time. In addition, Zimbabwe has adequate truck capacity and policy support to properly utilize its supply; a transportation availability crisis does not exist. A relief financing deficit of approximately 50%, however, does exist. Only half of the funding has been pledged by the GOZ to finance the announced GLP and Free Food Program. As the team was unable to meet with representatives from the Ministry of Finance, it remains unclear how the GOZ plans to address this shortfall in donor commitments.

Agriculture

Zimbabwe is typically an agriculturally rich country producing maize, wheat, soy bean, cotton, and tobacco both for domestic consumption and for export throughout the southern Africa region. Since the last drought, 1991-1992, Zimbabwe's agricultural sector has undergone major changes. Grain market liberalization has taken place, including the privatization of the GMB. Farmers are no longer required to sell their surplus only to the GMB, but may enter the market and sell to the purchaser of their choice, be it a commercial miller or a small hammer-miller. The widespread introduction of hammer-mills allow grain to be purchased and ground at the village level. This has markedly increased commercial activity and employment generation at the village level.

The current drought has been felt throughout Zimbabwe to varying degrees. While this drought has had a devastating impact in certain areas, the overall agriculture season reported a better harvest than during the 1991-1992 drought, when over 760,000 MT of grain were provided by the USG to meet relief requirements. Stocks available in-country are markedly higher now, well over the mere 42,000 MT in 1992. Even so, certain areas of Zimbabwe, primarily in the west and south, have reported no harvest at all.

Food Availability and Management

The last phase of the conversion of the GMB from a parastatal to a private corporation was to be completed in September 1995. The GMB now purchases grain from producers and sells it at market-determined prices. As such, the GOZ must now purchase grain for its feeding programs from the GMB. In consultation with GMB officials, calculations on the total amount of grain necessary for the feeding schemes is approximately 453,000 MT which, at current market prices [Zimbabwe dollars (Z$) 1,680/MT], equals approximately Z$761 million for grain procurement. Whether adequate financial resources are available without forcing the GMB to finance the purchase at high interest rates in the short-term commercial market remains a question. The following figure illustrates the grain requirement for the coming months until the 1996 harvest.

GMB Cereal Balance Sheet

Total GMB stocks on hand	515,000	MT
Committed to export	35,000	
Uncommitted stocks	480,000	
Imports secured (as of 9/95)	100,000	
Total uncommitted	580,000	
Millers' and farmers' stocks on hand	100,000	
Total maize available including imports	680,000	
Relief requirements:		
GLP	400,000	
Free Food Program	35,000	
CSFP	18,000	
Total program	453,000	
Drawn from GMB	120,000	
Balance required	333,000	
Uncommitted stock balance	347,000	

With a consumption rate of 60,000 MT per month, the above uncommitted stock balance represents five months' worth of consumption, through February of 1996. The GMB feels that to be prudent an additional 100,000 MT, or a five-month supply, may need to be resourced from outside of Zimbabwe to carry the requirement through to harvest 1996. It should be noted that the above balance sheet assumes that 100,000 MT reside in private holdings in a combination of household-level stocks and commercial miller stocks.

Food and Agriculture Relief Programs and Logistics

The GOZ is currently implementing three food-based drought-relief programs and an agricultural recovery program. The food-based programs are the GLP, the Free Food Program, and the CSFP. The agricultural recovery program includes a crop pack program and a livestock recovery program.

1. Grain Loan Program

The GLP is by far the GOZ's largest food-based program. It is designed to be the safety net provided by government to cater to the needs of those able-bodied individuals who had a reduced harvest this year. The program consists of an allocation of 10 kilograms of maize for approximately five million beneficiaries per month commencing in July 1995 and ending in February 1995. Participants are expected to be able to return the grain over the coming harvests, assuming good rains. Individuals are expected to return the maize

taken with grains such as maize, sorghum, or sunflower.

This is a new program administered and implemented by the Ministry of Local Government. Individuals residing in drought-affected areas interested in participating register with the local government authorities in their respective districts to receive their allocation. Participation in the program hinges on residing in a drought-affected area without regard to the targeting of assistance beyond geographic location. Some individuals interviewed expressed the belief that although the program is intended as a loan, participants will be forgiven and will not have to repay.

The GLP originally had an eight-month requirement from July 1995 to February 1996 of 406,000 MT of grain. This was based on providing approximately 5.1 million beneficiaries with 10 kilograms per month through 23,430 loan groups. Because maize deliveries in the first two months using small, government-owned trucks added up to only 61,000 MT, instead of the planned average of 100,000 MT, there is a common perception that the GLP relief effort is slow and not meeting current needs. The blame for running behind schedule has been assigned to inadequate transport. In response, the ad hoc TU in the Ministry of Transportation and Energy has been formed to execute the transport functions for all the drought-relief programs, including the GLP.

The GLP has been divided into three phases. The first was providing deliveries to program recipients during May and June; the second was during July to October; and the third was during October to January. The July-October GLP deliveries have been delayed. Initial indications were that the major constraints to effective implementation of the GLP were transportation bottlenecks in delivery from GMB warehouses and bag depots to district storage centers, and then onward delivery to communities. However, upon closer examination, the issue appears to be more complicated.

The GOZ has now established a Transportation Unit (TU) within the Ministry of Transport and Energy with overall responsibility to coordinate and manage transportation for the GLP and the Free Food Program. For logistics and planning purposes, the grain and transportation needs of both programs have been combined. USAID has provided funding for the services of a WFP logistician on loan to the newly created TU.

The TU has proposed to accelerate grain deliveries, especially before the October-December rains make dirt roads impassable. The TU is proposing a change in the grain delivery strategy from monthly local deliveries by government-owned, small, five to seven MT trucks to complete, one-time deliveries, augmented by private, large 30 MT trucks on the long hauls. However, for this accelerated delivery schedule to work, at least two major assumptions must hold.

The first assumption is, sufficient grain and financing would be available for bulk, one-time, up-front delivery. The grain to do this is physically in-country, but such a delivery would draw down GMB stocks to such levels that remaining stocks would have to provide

an acceptable remaining reserve. GOZ or donor funds would also have to be sourced to pay the GMB for the full release of all the grain in a short period, as the GMB is no longer a parastatal organization. To date the GMB has not been paid for the 120,000 MT of grain it released through sale to the GOZ for the GLP and USAID/FFP programs. To clear the arrears for the GLP's Z$150 million and the Free Food Program's Z$35 million, for grain released previously and for the balance of 333,000 MT needed to complete the programs on the accelerated delivery schedule, approximately Z$761 million would be needed to purchase maize in the next 90 days.

The second major assumption is, sufficient transport capacity and transport financing would be available. Only 61,000 MT of GLP grain had been delivered by the end of August. This rate followed a strategy focused on monthly deliveries by small, five to seven MT government, parastatal, army, and some private NGO vehicles. To accelerate deliveries the TU proposes to contract approximately a hundred 30 MT private-sector trucks to make one-time, long-haul, full deliveries. The private Transport Operators Association (TOA) has confirmed that the 100 large trucks are physically available in Zimbabwe for the revised three-month delivery period. It is accepted that approximately 333,000 MT could be delivered in 90 days by 11,100 30-MT loadings of large private trucks averaging 250-kilometer turn-arounds, and by devoting the existing smaller government, parastatal, army, and NGO fleet to the radial, short-haul final distributions. At an average of Z$1.00 kilometers/MT, the 11,100 loads would cost Z$83 million. This is approximately Z$5 million over the Z$78 million estimated by the GOZ in its relief appeal. There was an original shortfall in transportation of the grain programs as outlined in the GOZ appeal: unresourced funds of Z$40.4 million (Z$78 - Z$37.6 = Z$40.4). There is no indication if any of the shortfall has been sourced by any other donors. However, there are additional financing problems surrounding the grain transport. The GOZ pledged, in its appeal, Z$37.6 million toward transporting the GLP and Free Food Program grain. It is not clear whether these funds are immediately available from the GOZ.

For the full GLP and Free Food Program to be implemented through the October-January deliveries, sufficient financing must be made available in the accelerated time frame proposed to purchase the grain from the GMB and to pay for transport to the beneficiaries. The relief food programs are estimated to cost Z$761 million to buy the grain and Z$83 million to transport it, for a total cost of Z$844 million. The GOZ has pledged approximately half of both these requirements, Z$40 million for transport and Z$400 million for grain, although funds had not been received by the GMB or the TU by the end of September. The shortfall of Z$404 million (Z$361 million for food and Z$43 million for transport) is mostly unresourced, based on discussions outside the Ministry of Finance.

The GOZ has several obvious options for addressing this shortfall in its drought-relief financing. These include:

a. Meeting its own pledges and pressing the donors to meet the shortfall, either

from new cash donations or release of already-generated counterpart funds, or from a combination of both. The donors and GOZ representatives consulted did not expect grain/transport financing from donors in the magnitudes estimated.

b. Doubling GOZ contributions from budget reprogramming, or borrowing new funds -- and increasing the budget deficit -- to meet the sizable shortfall. USAID indicated that International Monetary Fund (IMF) and GOZ representatives had stated that the GOZ could meet its current drought-relief pledges within current budget/revenue projections. In light of recent IMF suspension of further disbursements under the shadow support program, one can only speculate that the GOZ would not want to do this for obvious budget, policy, interest-rate, and inflationary reasons. If domestic political pressure is great enough to break the fiscal restraint of not meeting the shortfall from the GOZ budget, the negative, multiplied impact on the Economic Support Assistance Program (ESAP) could be significant.

c. Ordering the GMB to release the additional grain without providing payment for it. This would be a major step backward on grain marketing reforms, and would see GMB operating at a loss as it did when it was a parastatal. The negative consequences throughout the agricultural sector and the economy would be significant.

d. Reducing the GLP program to the level the GOZ can afford. This would probably mean effectively supplying five kilograms instead of 10 kilograms per person per month, rather than reducing the time covered from eight to four months. With an accelerated delivery program, reducing the time covered would result in abundance for the first four months and famine for the next four months, as beneficiaries would be anticipating an October-January delivery that would not be made. Clearly this option would be unacceptable both from humanitarian and political perspectives. A slowdown in GLP delivery could signal GOZ intentions to reduce the GLP in real practice from 10 to five kilograms until the next harvest.

If, in fact, the GLP program is suspended for lack of financing, effectively reducing deliveries to the five-kilogram level -- the same level as the Free Food Program -- the following results and impacts could be expected.

Even at the reduced five-kilogram level, it is highly doubtful that a wide-spread famine would occur before the next harvest. The GMB would have higher reserves at the five-kilogram level; large commercial stocks would be on hand in the market place; and traditional coping mechanisms, including urban remittances and/or food-moving to rural families, would make famine unlikely. Isolated deaths would occur where the GLP was the sole source of food. If the reduced-level relief financing and food strategy prevailed, monitoring of private food stocks and the planting-germinating rains -- mid-October to late December -- would become critical. In the event that the late-1995 rains fail, plans for

contingency grain importation, that is, commercial and concessional food aid, should be in place.

At the five-kilogram level, the GOZ would stay at the current drought-related budget-deficit level. This would be positive for the Structural Adjustment Program and better for long-term economic growth than additional, heavy relief borrowing at this time.

2. Free Food Program

The Free Food Program was designed to cater to the needs of elderly and infirm persons. A total of 733,000 individuals have been registered for this program, administered by the Ministry of Social Welfare and implemented by the Ministry of Local Government. The program provides for a ration of five kilograms of maize per beneficiary per month from July 1995 to June 1996. Distributions have taken place alongside the GLP and have been subject to the same grain and transport constraints in financing.

Many individuals interviewed in the districts expressed the need for the ration level and commodity mix to be reviewed. These people felt that the quantity was insufficient and that providing only maize, without beans and oil, was an inadequate diet.

3. Child Supplemental Feeding Program

The CSFP is an ongoing program that was developed during the 1991-1992 drought under the Ministry of Social Welfare. The program is still administered under this ministry, in coordination with village-level MOH personnel and village workers. Most of the food commodities for the program have been resourced by the MOH and donor pledges. Transport of commodities is done through the MOH with its own vehicles. With only two trucks allocated to each province and deliveries to many feeding sites per district, CSFP deliveries are sporadic and slow. This seems to be a chronic limitation of the CSFP design and implementation plan and not caused by the drought; however, the impacts of inconsistent deliveries and irregular supplementary food availability are exacerbated by the drought as primary food availability becomes limited.

4. Crop Packs and Livestock Recovery Program

The Ministry of Agriculture has devised a program for the provision of seeds and fertilizers to assist over 1.3 million drought-stricken farmers in returning to agricultural activities once the rains resume. The crop packs have been tailored specifically to cater to the individual needs of the various regions and may include such items as maize, sorghum, groundnuts, and sunflower seed, as well as fertilizer. Regions four and five, which receive low and sporadic rainfall, will receive small grains to plant such as the drought-tolerant strains of sorghum developed by ICRISAT in Bulawayo.

The crop pack program, helping over 1.3 million beneficiaries, has been fully subscribed

by donors and began distribution in October. The program received more resources than requested and the balance has been applied to the livestock recovery project. The livestock program consists of a calf/heifer scheme which will loan young, breeding animals to approximately 100,000 qualifying farmers to allow them to regenerate their herds. A water scheme that improves, builds, and repairs animal water sources will also be implemented under the livestock recovery program.

F. Response Capacity and Coordination

Government

Given that unmistakable signs of drought were visible as early as January 1995, the overall GOZ response has been slow. The late response has complicated the organization and coordination of relief efforts. On June 20, 1995 a SADC regional appeal for assistance was launched in Geneva. The GOZ thought that the SADC-led regional appeal would adequately substitute for a GOZ disaster declaration and would decrease the pressure on the GOZ to make such an appeal. SADC was applauded by the donor community for trying to consolidate a regional focus on the drought, but lost credibility due to the appearance of discrepancies in funding amounts throughout the document. Finally, on July 28, 1995 the GOZ declared a national disaster, stating that there were several drought-related problems in the communal, resettlement, and small-scale farming areas of Zimbabwe. The appeal was released at a government-donor meeting held on August 17 and called for about Z$1.5 billion (approximately US$186 million). Since the release of the appeal, the government has allocated approximately Z$450 million (US$56 million) for the drought. Commitments from donors of more than Z$200 million (US$23 million) still leave a shortfall of Z$850 million (US$98 million).

In response to the drought, the GOZ also created an inter-ministerial committee chaired by the Minister of Public Service, Labor, and Social Welfare. The task of the committee is to coordinate the drought response. Six ministries are active members of the committee: Finance; Agriculture; Public Service, Labor, and Social Welfare; Health and Child Welfare; Transport and Energy; and Local Government, Rural, and Urban Development. Subcommittees have also been set up to coordinate the actual drought response.

In meetings with representatives of the participating ministries and with local government officials at the district level, the assessment team noted that the Department of Social Welfare within the Ministry of Public Service, Labor, and Social Welfare had not coordinated a timely and effective response to the drought. This observation was reflected by: (1) the lack of central government -- in this case inter-ministerial committee -- discussions with the local governments concerning the types of support needed to get drought relief to the affected areas; and (2) the lack of a simple and easy way to access funding for the procurement and transport of grain. However, the largest and most pressing program within the drought program portfolio is being implemented by the

Ministry of Local Government, Urban, and Rural Development, which caused coordination problems at both local and national levels.

Donors

UNDP took the lead in donor information coordination by holding periodic donor meetings even before the drought was declared a disaster by the GOZ. UNDP has established biweekly donor meetings, and also chairs the UN inter-agency working group. UNICEF is playing a major part in the supplementary feeding program and in coordinating rural water-sector response. WFP involvement is limited as compared to its performance in the 1991-1992 drought, when food, rather than transport and finance, was the critical constraint. WHO is conducting training programs in disaster mitigation.

UNDP regards coordination of the GOZ drought response as the key input. This was repeated in every meeting the assessment team attended with the donor community. To assist the GOZ, UNDP is sending a Drought Mitigation Advisor to the GOZ and has one person already working as part of the subcommittee of the inter-ministerial committee on drought mitigation.

The assessment team met with many of the donors, including Japanese, German, Swedish, and British representatives. Other donors responding to the drought include Australia and Spain. Overall, donors felt that the GOZ was slow to respond in declaring a drought disaster and many of them were concerned about the coordination of drought-relief activities. Another major donor concern was the lack of clarity in GOZ drought-relief financing.

PVOs/NGOs/IOs

There are several PVOs/NGOs/IOs working in the drought-affected regions of Zimbabwe, including CARE, SCF, AFRICARE, Catholic Relief Services (CRS), and WVRD. All of these organizations are currently implementing long-term development activities in the areas of health, including supplementary feeding, and water resource development. With the onset of the drought, many of these organizations are willing to take on additional activities, including assisting in the implementation of the Free Food Program, CSFP, therapeutic feeding activities, and water projects.

G. Recommendations

1. USAID/FEWS and USAID/Harare should continue food, water, and health monitoring in drought-affected areas to ensure that traditional coping mechanisms, GOZ- and donor-sponsored relief programs, and ultimately the rains are sufficient to avert famine. The rains will also need to be closely monitored. If they are inadequate, a reassessment of food, water, and health requirements will be essential before December in order to prepare

a response for April and May, when harvested food supplies could become exhausted. The water supply situation in urban and rural areas could deteriorate and the provision of resources to facilitate water transport efforts in selected districts should be considered.

2. USAID/OFDA should be prepared to provide assistance through PVOs/NGOs and UNICEF to address the health and water needs of the affected populations.

3. USAID/Harare should prepare contingency plans for rain failure. An overall examination of the GLP should be undertaken. The U.S. Mission should determine the GOZ's drought-relief financing strategy, in light of the 50% financing gap in the GLP program. All options for resolving this gap have serious implications for famine potential, budget deficit, marketing liberalization progress, ESAP consequences, overcoming or prolonging the current crisis of expectations, the attitudes of the populace, donor confidence, and political stability. These implications should be jointly addressed among the GOZ and other donors and incorporated in planning. The contingency plan could also include an analysis of the CSFP to determine what can be done to provide a constant supply of rations to feeding centers. This program is critical to addressing the nutritional needs of a particularly vulnerable part of the population. Needed efforts include assisting the GOZ in identifying problem areas and resolving the transport and food distribution constraints within the CSFP in order to ensure that beneficiaries are receiving prompt and sufficient assistance.

4. USAID/Harare and USAID/OFDA should urge that PVOs/NGOs/IOs identified to work in affected areas collaboratively design and use a standardized, program-based, drought-related monitoring and surveillance tool for nutrition and disease. Statistics should be reported through appropriate government channels in an accurate, timely fashion to better address food and water impacts on the nutrition and health status of affected individuals.

5. In recognition of the recurring, predictable, and inevitable nature of drought in southern Africa, it is essential that a drought mitigation unit become a permanent part of the GOZ. This should be an element in USAID/AFR and USAID/BHR joint planning to design a southern Africa drought mitigation strategy. A functioning mitigation unit is needed in both drought and on-drought years as part of a long-term developmental strategy. USAID and other donors should encourage the institutionalization of a drought unit by requiring a substantial and firm commitment to it by the GOZ. Given such a commitment, donors should also seriously consider the economic benefits of supporting and investing in a GOZ drought mitigation unit. Support to the unit can include technical assistance and training, through USAID/OFDA's regional disaster management training program, if possible.

APPENDIX: PRINCIPAL CONTACTS

A. Botswana

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Mr. J.B. Mthembo	Council Chair for District of Tsholotsho, Matebeleland North
Mr. J.D.M. Nyoni	Tsholotsho District Council, Matebeleland North
Dr. Anonzi	District Medical Officer for Tsholotsho, Matebeleland North
Mr. Felix Chikovo	District Administrator, Beit Bridge, Matebeleland South
Dr. Labord	District Medical Officer, Beit Bridge Hospital, Matebeleland South

Dr. Ndungwani	Staff Physician, Beit Bridge Hospital, Matebeleland South
Ms. Angelous Dube	District Administrator, Gwanda, Matebeleland South
Mr. T. Takavarasha	Deputy Secretary, Ministry of Agriculture (MOA)
Mr. Gordon Sithole	Chief Economist, MOA
Mr. Rukovo	Acting Director, GMB, MOA
Mr. Nyandoro	Health Information System Specialist, Division of Epidemiology, MOH
Mr. Chiriseri	Deputy Chief, Nutrition Unit, MOH
Ms. Judith Mutamba	Deputy Director, Nutrition Unit, MOH
S.S. Musingarabwi	Director, Environmental Health Services, MOH
Ms. Judith Mutamba	Deputy Director, Nutrition Unit, Ministry of Health and Child Welfare
Kieth Landing	Director, Department of Water Development, Ministry of Land and Water Resources
Sam Sunguro	Senior Hydrogeologist, Department of Water Development, Ministry of Land and Water Resources
A.C. Mpamhanga	Director, Planning and Coordination, Ministry of Local Government, Rural and Urban Development, Secretary of the NAC
J. Mutamiri	Deputy Director, Planning and Coordination, Ministry of Local Government, Rural and Urban Development
Mr. Muzambindo	Chief Engineer, Water Development Unit, DDF, Ministry of Local Government, Rural and Urban Development
Mr. Tony Gara	Deputy Minister, Ministry of Local Government
Dr. Nathan Shamuyarira	Minister, Ministry of Social Welfare
Mr. R. Tsomondo	Deputy Secretary Traffic and Legislation, Ministry of Transport and Energy
Mr. J. Nhliziyo	District Administrator, Rural District Council, Nkai
Mr. Ndiweni	Nkai Hospital Administration, Nkai
Mr. Nkomo	Chief, Nkai District Council, Nkai
Mr. Nyoni	Assistant Social Welfare Officer, Nkai
Reggie Mugwara	SADC
Roger Buckland	SADC
Graham Farmer	SADC
Sipho Ndlovu	Deputy Country Director, SCF/UK
F. Cooper	Project Manager, SCF/UK, Binga
F. Marufa	Field Officer, Water and Sanitation, SCF/UK, Binga
H. Ndhlovu	Project Manager, Dams SCF/UK, Binga
Ms. Petra Lantz	Deputy Representative, UNDP
Denis Nkala	Program Officer, UNDP
Mr. Thomas P.Z. Mpofu	Sustainable Development Advisor, UNDP (Water Section)
Bijaya Rajbhandari	Head, Water Environment and Sanitation Section, UNICEF
Dr. Peggy Henderson	Health Program Officer, UNICEF
Ms. Laura Maclehose	Assistant Program Health Officer, Health and Nutrition, UNICEF
Mr. Calisto Chibera	Program Specialist: Agribusiness and Agricultural Development, USAID/Harare
Ms. Carole Scherrer-Palma	Acting Mission Director, USAID/Harare
Ms. Mary Pat Selvaggio	USAID/PHN Officer, USAID/Harare
Johnnie Carson	Ambassador, U.S. Embassy
Tim Kirwin Taylor	Consultant, WFP
Mr. Simon Denbere	Program Assistance, WFP
Dr. L. Arevshatian	Director, WHO
Max Chigwida	National Director, WVRD
Mr. Walter Middleton	Logistics Officer for Emergency Response, WVRD

Dr. Alemu Mammo	Director, Health and Drought Recovery Program, WVRD
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