FIELD REPORT

DROUGHT RELIEF ASSISTANCE TO THE WATER SUPPLY TASK FORCE OF THE NATIONAL CONSULTATIVE FORUM ON THE DROUGHT

(Republic of South Africa)

WASH Field Report No. 388
February 1993

WATER AND SANITATION for HEALTH PROJECT

Sponsored by the U.S. Agency for International Development
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(Republic of South Africa)

Prepared for the USAID Mission to the Republic of South Africa
and the Office of Foreign Disaster Assistance
under WASH Task No. 417

by

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and
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CONTENTS

ABOUT THE AUTHORS

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Maryanne Leblanc is a civil engineer with over 15 years' experience in rural development projects, mostly in Africa. She directed the sanitation and construction components of the USAID Water/Sanitation Project in Benin and managed rural construction efforts in Zaire, Swaziland, and Somalia. Ms. Leblanc has also conducted short term assignments in refugee resettlement and infrastructure rehabilitation in Rwanda and Mozambique. She speaks French, Spanish and Portuguese.

Alan Malina holds degrees in mechanical and environmental engineering. He has over 15 years' experience in Africa, specializing in rural water and sanitation projects including design, construction, training, supervision, management, and evaluation. He has worked in the development of national strategies for rural water supply operations and maintenance. Several of his WASH assignments have included community development aspects of rural water supply and sanitation activities.

David Robertson is a professional drill rig operator. He has extensive drilling experience in water resource development projects in Africa, Latin America, and the Middle East. Projects have included refugee camp well development and irrigation. He has also conducted training programs for local drill crews in a number of countries.

ACRONYMS

ADM	African Democratic Movement
AFRA	Association for Rural Advancement (an NGO)
ANC	African National Congress
ARDRI	Agricultural and Rural Development Research Institute
ATI	Altemative Technology Information (an NGO)
BRDF	Border Rural Development Forum
CSIR	Centre for Scientific and Industrial Research
DBSA	Development Bank of South Africa
DWAF	Department of Water Affairs and Forestry (RSA)
DPW	Department of Public Works (Ciskei)
FSG	Farmers Support Group (an NGO)
IDT	Independent Development Trust
IESC	International Executive Service Corps
JCC	Joint Coordinating Council
JSB	Joint Services Board
KADF	KwaZulu Department of Agriculture and Forestry
KTT	KwaZulu Training Trust (an NGO)
DAFRD	Department of Agriculture, Forestry and Rural Development (Ciskei)
MSF	Medecins sans Frontieres
NCFD	National Consultative Forum on Drought
NGO	Nongovernmental Organization
OFDA	Office of Foreign Disaster Assistance (USA)
RAC	Rural Advice Centre (an NGO)
REDR	Registered Engineers for Drought Relief
RSA	Republic of South Africa

SADF	South African Defense Force
SANCO	South African National Civic Organization
SNJSB	Southern Natal JSB
TBVC	Transkei, Bophuthatswana, Venda, and Ciskei
USAID	United States Agency for International Development
WASH	Water and Sanitation for Health Project
WSTF	Water Supply Task Force

Note: The prevailing exchange rate during the period of the consultancy was $1.00 = R 2.8.

SPECIAL NOTE

The WASH team made region-specific assessments of the drought situation. These Annexes are not included in this report but are available upon request from the WASH Operations Center. Please refer to the following Annex titles when requesting this information:

- KwaZulu - Msinga/Nqutu: Field Report, Summary of Borehole Visits, Schedule of Activities, Activities and Site Visits (Annex 1)
- KwaZulu - Ezingolweni/Emzumbe/Vulamehlo: Maps, Daily Trip Log, Field Report (Annex 2)
- Ciskei: Maps, Progress Report (period ending 10-30-92), Progress Report (period ending 11-6-92), Visits to Villages (Annex 3)
- Lebowa: Daily Reconnaissance Report, Report on Drought Reconnaissance, Report on the Reconnaissance Mission, Emergency Recommendations (Annex 4)
- Venda: Maps (Annex 5)
- End of Mission Report for the period 10-4-92 to 11-15-92 (Annex 6)

EXECUTIVE SUMMARY

Southern Africa has been experiencing one of the worst droughts in recorded history. As part of a series of regional responses, the USAID mission to the Republic of South Africa (USAID/RSA) asked the Office of Foreign Disaster Assistance (OFDA) to provide technical assistance to the Water Supply Task Force of the National Consultative Forum on Drought. The NCFD is a broadly representative body with a mandate to provide assistance to the most severely affected areas in the country. WASH provided three engineers and a driller to be part of a multinational response effort which included British, Australian, and French as well as local South African engineers and technicians. The purpose of the support to the Water Supply Task Force (WSTF) was to assess the potable water needs of the most severely drought-stricken areas of the country. It was assumed that this effort would be largely restricted to the self-governing states and the TBVC states within the Republic of South Africa.

The OFDA/WASH team's scope of work focused on working with the WSTF to outline a broad plan for identifying drought crisis points, assessing the degree of threat, prioritizing interventions, intervening to assure immediate water availability, and reviewing the long-term water security in the area. It was clear that the team would have to remain flexible and responsive to the varied conditions in different geographical regions. Since the team was made up of individuals placed at the disposal of the WSTF, individuals were sent to different geographical areas to work with local technicians and experts. Jonathan Hodgkin worked with the Natal Regional Water Supply Task Force in parts of KwaZulu and with the Border Rural Development Forum in Ciskei. Alan Malina worked with the Natal Regional Water Supply Task Force in parts of KwaZulu. Maryanne Leblanc worked out of the WSTF Regional Operations Room in Pietersburg in Lebowa. David Robertson, the driller, worked directly with drilling crews in southern Venda. These settings provided quite varied geographic, cultural, and linguistic conditions. Political and institutional settings were also diverse. Drought severity and physical hardship varied, partly due to levels of infrastructure development and rainfall.

The political and institutional environment in South Africa is complex due to past government policies regarding racial separation and the evolution of institutional structures to administer different areas. Recent legal changes have begun the process of dismantling this elaborate institutional framework. The country now seems set on a course which will eventually lead to an interim government and a new constitution. However, in the interim, political maneuvering and uncertainty continue to complicate life in South Africa. The rise of open political parties, the establishment of a wide range of NGOs and the violence that reaches the front pages of newspapers worldwide are indicative of the changes taking place. These conditions impact all aspects of life in South Africa including efforts to address the effects of the drought.

The NCFD, established from concern that the national response to the drought was inadequate, is made up of representatives of churches, NGOs, unions, political liberation movements, homeland governments, and the Government of the Republic of South Africa (RSA). This forum was intended to respond in a coordinated and depoliticized manner to the drought-related needs of rural South Africans. The Water Supply Task Force of the NCFD was

set up to address the immediate water needs of the rural population. Plans for operation of the WSTF were to establish field teams to solve problems and ensure the provision of emergency water to rural communities. Each OFDA/WASH team member acted within this framework. The following sections outline the activities of each member of the team.

Natal South Coast (Jonathan Hodgkin). Most people within the KwaZulu districts of Ezingolweni, Emvumbe, and Vulamehlo do not have access to any improved water system. The drought conditions clearly exacerbated this situation causing hardship but not tragedy. Drought conditions along the South Coast of Natal were improving with early rains during the consultant's reconnaissance. The Southern Natal Joint Services Board (SNJSB) has been responding to the drought by organizing an extensive water delivery program to nearly 100 locations. No action was taken by the consultant as the SNJSB was responding to the drought emergency in an organized and effective manner. The sole recommendation was to provide funding as necessary to continue water delivery if drought conditions continue.

Ciskei (Jonathan Hodgkin). The political situation in Ciskei is quite volatile as the ANC opposes the leader of the Ciskei government. Some areas, particularly the northern district of Hewu and the western districts of Victoria East, Middledrift, and Peddie, have been quite badly affected by drought conditions which have prevailed for nearly six years. The only improved water supply in many villages is powered by windmills, many of which are broken. The Ciskeian government has not had the financial resources to respond to the drought and has been accused of favoritism in its water supply efforts. Although not an adequate long-term solution to potable water needs, the most effective rapid response in many communities was to repair existing windmills. Such a program was initiated and repairs completed at six sites, with other repairs in progress.

Natal Midlands (Alan Malina). The people of the Natal Midlands Districts of Msinga and Nqutu depend largely on handpumps in scattered locations and unprotected springs. The current drought has caused many of the springs to dry up, and lack of attention has left many of the handpumps inoperable. The KwaZulu Department of Agriculture and Forestry (KADF) was attempting to alleviate local water shortages by operating a water tanker delivery program in Msinga. In Nqutu District, the KADF had contracted with a private firm to repair handpumps. As a result of reconnaissance in the two districts a program was proposed to increase tanker deliveries to particularly needy communities, expand the handpump repair program, and initiating spring protection projects. With support from the WSTF, funds were approved and the full program was initiated during the consultancy.

Lebowa (Maryanne Leblanc). Transvaal, including Lebowa and other homelands, was severely hit by the drought. Water supplies for Lebowans varied from government owned and operated diesel pumping systems to shallow wells and river sources. Drought effects varied considerably from pockets of extreme need to areas with no immediate potable water deficits. Lack of adequate maintenance for pumping equipment was a major factor contributing to scarcity of water. A number of private firms were retained by the government of Lebowa to drill and equip new wells. Accusations of mismanagement and lack of action led to the WSTF-sponsored reconnaissance and the recommendations of the consultant. Recommendations for

specific action in nine communities not adequately served included drilling and equipping of additional boreholes, completing pipeline extensions, and installing handpumps.

Venda (David Robertson). Drought conditions in Venda were extreme and received more attention than most other areas. The situation in the capital city of Thohoyandou and the surrounding area was particularly critical with the Vondo Dam scheme, serving about 350,000 people, reaching critically low water levels by mid-year. The driller was dispatched by the WSTF to assist in a drilling program to supplement water supplies serving the area.

Apart from the specific conclusions and recommendations related to activities in specific areas, the consultants formed a series of general conclusions concerning the drought response and the state of water resource development in rural South Africa and provided several longer-term recommendations. The most important conclusions follow:

- Large discrepancies exist in the levels of water supply service available in South Africa. Areas outside the "homelands" are normally well served with little or no drought hardship, while "homelands" areas are often without any improved water supplies. Although many rural areas were clearly drought stressed, in almost all areas, water was available although not in adequate quantity or quality.
- Where improved water supplies are available in the "homelands," there appeared to be little or no involvement of communities in the process of infrastructure development.
- The institutional framework, not only for the drought relief program but for all public administration, is complex and confusing. This made the task of drought response more difficult and time consuming than necessary.
- The WSTF provided good logistical support to field teams. However, the consultants were hampered somewhat by lack of clarity and guidance on the part of the WSTF on criteria for definition of drought crisis point, prioritization of response, and availability of resources.

Although the NCFD and the WSTF were constituted to provide a depoliticized framework for response to the drought, politics and political agendas inevitably surfaced. This also made the task of drought response more complex.

Apart from focused recommendations regarding specific communities, three major recommendations arose from this activity. These were:

- A closing workshop with the WSTF to highlight successes and learn from shortcomings should be held. The participation of an outside agency is recommended to establish a politically neutral and collegial atmosphere and to provide focus.
    - A broad program should be undertaken to upgrade rural water delivery in the self-governing and TBVC states. High quality water is extremely scarce in many areas. Improvement would impact favorably on health and provide the capacity to withstand the next drought period.

- A national workshop with international participation on community approaches to rural water supply delivery should be conducted. Many agencies in South Africa are interested in participatory approaches but have limited experience or exposure to the development lessons learned over the past decade in other countries.

Chapter 1

INTRODUCTION

1.1 Request for Assistance

Southern Africa has been experiencing one of the worst droughts of the century. Due to an unusual shortfall of rain during late 1991 and early 1992, the Republic of South Africa held a National Drought Emergency Conference on June 13-14, 1992. The conference established a National Consultative Forum on the Drought (NCFD) and five task forces, one of which was the Water Supply Task Force (WSTF). The WSTF appealed to international agencies to provide engineers and technicians with experience in drought relief work. The United States Office of Foreign Disaster Assistance (OFDA), in response to a request from the USAID mission in the Republic of South Africa, asked the Water and Sanitation for Health (WASH) Project to provide emergency technical assistance to support the WSTF. WASH's task was to support WSTF in meeting the potable water needs of the most severely drought-stricken areas of the country. It was assumed that this drought relief effort would be largely restricted to the TBVC states and self-governing territories within the RSA, which are commonly referred to as "homelands."

Sarah Fry was selected to act as the WASH activity manager for the assignment. Engineers Jonathan Hodgkin, Alan Malina, and Maryanne Leblanc and a driller, David Robertson, were provided to the WSTF to prepare a rapid, flexible, and innovative response to the critical water shortage. The first goal was to ensure survival, the second was to address longer-term water security.

1.2 Scope of Work

The team's scope of work, as outlined by the WSTF and relayed to WASH and the consultant team, included the following tasks:

- Identifying drought "crisis points" through reconnaissance and meetings with local community leaders, churches, NGOs, and other authorities;
- Assessing the conditions at each crisis point and prioritizing interventions;
- Intervening with emergency resources;
- Consolidating water security using local resources or surface and/or groundwater;
- Reviewing the longer-term water security of the area with the assistance of the advisory committee and the consultants; and
- Reviewing the consultants' plans in terms of these objectives.

The full scope of work can be found in Appendix A. It was clear from the outset that the team would have to remain flexible and responsive to the changing conditions in different geographical regions. As a result, the tasks were adapted after consultations with the regional and national activity coordinators.

1.3 Initial Team Activities and Deployment

Upon arrival, WASH team members became part of a complex WSTF response to the drought. The WSTF, supported by the RSA Department of Water Affairs and Forestry (DWAF) and the Rural Advice Centre (RAC), a non-governmental Organization (NGO), were already working to address the emergency in several areas of the country. An OFDA engineer, Lynn Utall, was already working in Venda. Several engineers from the British Registered Engineers for Disaster Relief (REDR) were also active in Venda and the several self-governing territories of the Province of Transvaal in Northern RSA. The DWAF was also drilling and repairing equipment in these areas.

Alan Malina arrived in the RSA on Wednesday, September 23, 1992. That day he met with Janice Webber of USAID as well as DWAF and RAC Water Supply Task Force members. On Monday, he then attended the WSTF's weekly meeting. His field work began on Tuesday, September 25, in Lebowa and then KwaZulu (Msinga and Nqutu Districts), his assigned area.

Jonathan Hodgkin arrived in the RSA on Sunday, September 27, 1992. He met with Janice Webber and attended the Monday WSTF meeting on September 27, before flying to Durban to join Alan Malina in assessing conditions in KwaZulu's south coast districts of Ezingolweni, Emzumbe, and Vulamehlo. Hodgkin later worked in Ciskei.

Maryanne Leblanc and David Robertson arrived in the RSA on Sunday, October 4, 1992. Leblanc began field work immediately in Gazankulu and Lebowa, where most of her work took place. David Robertson was immediately dispatched to Venda to join drilling crews in Thohoyandou, Venda, where he remained for the length of his assignment.

1.4 Report Overview

The following report provides a broad overview of the water supply and drought situation in the areas where the WASH team worked from late September to early November 1992. During this period, team members worked in widely dispersed drought-stressed geographical areas. In these areas, the agencies responsible for them and the WSTF responded to drought needs in different ways and with varying effectiveness.

Chapter 2, "Background," contains general information on drought conditions and the broader institutional and political environment. This provides the context for water supply activities and drought response within the RSA.

Chapter 3, "National Drought Response," provides a general overview of the national response to drought conditions by government agencies and the National Consultative Forum on Drought.

Chapter 4, "Activities of the USAID/OFDA Team," explains the specifics of WASH team activities. Since team members did not work together, but were assigned by the WSTF to perform differing assignments in specific geographical areas, this chapter is subdivided to reflect the work completed by the team. Detailed activity and progress reports can be found in Annexes 1-6, available upon request from WASH. WSTF activities performed by other technical assistance teams are not included in this chapter.

Chapter 5, "Conclusions," contains general conclusions about the drought, responses to it, and the overall security of water supplies in areas visited by the WASH team. Specific conclusions about the work assignments of team members are included in the previous section.

Chapter 6, "Lessons Learned," includes observations and comments on provision of water supplies and other WSTF activities that could be valuable for other drought relief efforts both within the RSA context and in other countries.

Chapter 7, "Recommendations for the Future," details the team's recommendations for future water supply activities in the areas visited by the WASH team.

Annexes which contain region-specific assessments of the effects of the drought are not included in this report but are available upon request from the WASH Operations Center. Please request the annexes by title: "KwaZulu - Msinga/Nqutu," "KwaZulu - Ezingolweni/Emzumbe/Vulamehlo," "Ciskei," "Lebowa," "Venda," "End of Mission Report."

Chapter 2

BACKGROUND

2.1 Administrative Structure

The Republic of South Africa is divided into four provinces: Transvaal, Orange Free State, Natal, and Cape Provinces. Provincial administrations govern regional matters except in self-governing territories, which have their own administrative structures.

The RSA has, over the past several decades, pursued a policy of racial separation known as "apartheid." This policy led to the establishment of black homelands, which were given self-governing status and the opportunity for independence. The homelands that chose independence are known as the "TBVC states." These include Transkei, Bophuthatswana, Venda, and Ciskei. Those that did not choose independence are termed "self-governing states." These include Gazankulu, KaNgwane, KwaNdebele, KwaZulu, Lebowa, and Qwaqwa. This structure has resulted in homeland areas that are not contiguous. For example, Transkei is made up of three separate areas to the north and west of the city of East London in the RSA. Similarly, Lebowa is made up of 10 unconnected tracts of land in northern Transvaal.

Each of these separate political entities—the central RSA government, the provincial administrations, the TBVC states and the self-governing states—has established agencies responsible for all aspects of government, including provision of water supplies. These agencies are not exactly parallel structures. For example, the Department of Water Affairs and Forestry (DWAF) is responsible for state-level water resources planning and implementation under the 1956 Water Act. The provincial administrations have created water boards such as the Umgeni Water Board, to provide water to provincial population centers. The TBVC states and self-governing territories have established water affairs sections in various ministries and departments. For example, in Ciskei responsibility for rural water has been placed within the Department of Public Works; in KwaZulu it is within the Ministry of Agriculture and Forestry. In addition, the creation of the Tricameral Parliament provides representation for whites (House of Assembly), Indians (House of Delegates) and coloureds (House of Representatives), although whites continued to hold an absolute majority.

The existence of multiple institutional structures with different jurisdictional limitations causes considerable confusion when attempting to address issues that cross the boundaries separating these administrative areas. For example, the RSA Department of Water Affairs and Forestry cannot normally act within self-governing territories or the TBVC states. TBVC state agencies have no jurisdiction in areas outside their boundaries. Fairly recently, Joint Coordinating Councils (JCC) and Regional Service Councils (RSC) or Joint Services Boards (JSB) in Natal were established to coordinate and implement activities that crossed jurisdictional boundaries.

The activities of the TBVC states are funded by local taxes, grants from RSA, and loans from the Development Bank of South Africa (DBSA). Within the self-governing territories, taxes on

individuals and businesses are collected by the RSA government, and the self-governing activities of these areas are funded by budgets originating at the RSA state level. The RSBs and JSBs are funded by a state-mandated, but locally administered tax on gross business receipts. The effectiveness of these agencies varies depending on their leadership and vision.

2.2 Political Environment

Until quite recently, the political structure of the RSA was dominated by the state government, which acted in a centralized, prescriptive manner. Homelands were established, people were classified and forcibly removed, and political opposition was suppressed under a series of laws, passed during the early and middle years of this century, that make up the apartheid system. This system is now of being dismantled. The repeal of pass laws, the group areas act, and laws banning individuals and organizations has wrought tremendous changes in the country over the past several years. As a result of these changes the RSA now has opposition parties, growing trade unions, and a wide variety of non-governmental organizations.

The current political environment is dominated by the halting movement toward a national peace accord, a widely anticipated interim government, and the eventual establishment of a new constitution. This process has led to considerable political posturing and positioning on the part of all participants in the peace process. One outgrowth of this political activity has been the violence, which has been prominently covered in the national and international press. The result of this political activity is that almost all actions are interpreted as having a motive or intent that reflect a political agenda. The WASH consultants in the field were often viewed with suspicion, even though team members' activities focused solely on evaluating and alleviating the drought.

2.3 Drought Conditions

Under normal conditions, rainfall is unevenly distributed in South Africa. Some areas in the western Cape Province receive less than 100 mm per year, whereas near the Drakensburg Mountains of western Natal annual averages exceeds 3,000 mm. Drought is to some degree a relative term, based on deviations from average rainfall. Over most of the southern and eastern part of South Africa, annual rainfall routinely deviates from "normal rains" by 20 to 30 percent.

South Africa is periodically affected by drought, particularly in the inland plateau regions of Transvaal, Natal, and the Orange Free State, which usually receive the summer rains associated with low-pressure systems over these areas. The widespread failure of the summer rains from December 1991 to March 1992 coincided with the broader drought affecting southern and eastern Africa. This has brought on drought conditions in some parts of the country that are worse than any in living memory. In November 1991, much of Natal and parts of Transvaal received between 50 percent and 100 percent of normal rainfall. In December, rains were near normal over interior Natal, eastern Orange Free State, and parts

of Transvaal. However, over northern and eastern Transvaal the situation grew more serious. Venda, for instance, received only 25 percent of its normal rainfall. Similar shortfalls plagued Mozambique, Zimbabwe, and Botswana. From the beginning of 1992, there has been almost total lack of rain over these areas. In addition, lack of cloud cover and unusually hot conditions (temperatures five degrees above normal) increased evaporation and magnified the drought stress.

In many areas of northern Transvaal and Venda, crop losses have been estimated at 35 percent, including complete failure of dry-land farm crops. Many of the surface dams that provide irrigation and drinking water are at fractions of their normal capacity. The Vondo dam serving Venda stood at less than 2 percent of capacity and the Albasini dam stood at 6 percent of its full capacity in late August. The shortage has been aggravated by the presence of some 150,000 Mozambiquan refugees along the borders of Kruger National Park. In Natal, where rainfall is generally good, summer rains ceased in mid-December and little rain fell during the normally wet months of February and March. Widespread failures of the sugar cane crop has devastated the incomes of many farm workers. The border region which includes Transkei, Ciskei, and areas in the Republic of South Africa have not had good rains for several years. Many cities and towns in the Republic are on drought restrictions. Widespread crop failures and grazing shortages were reported. In some areas, animals have been slaughtered to reduced livestock losses from drought.

Oddly, in other areas dam levels remain high despite the lack of rain. Most urban centers are not experiencing water shortages and do not have water rationing programs in effect. In some commercial farming areas, farmers continue to irrigate crops while much of the rural population is without adequate water supplies for their personal needs.

Chapter 3

THE NATIONAL DROUGHT RESPONSE

3.1 Government Responses

The government of the Republic of South Africa, the four provincial administrations, the governments of the TBVC states, and the government administrations of the six self-governing territories all initiated drought relief programs. Since most urban and secondary population centers are served by dams and municipal and regional water systems, these areas have had little need for drought relief. Instead, the critical need for potable water supplies has been in the TBVC states and the self-governing territories. Funds have been made available to mitigate the effects of crop failures and agricultural losses in the commercial farming sector. Aid has also been made available through the Council of Ministers for drought related needs for Indian communities. Some of this aid has been used for water delivery in some areas.

The Department of Water Resources and Forestry and the Department of Agriculture and Rural Development of the Republic of South Africa have been providing funding and technical assistance to both the self-governing states and the TBVC states. In addition, the South African Defence Force has participated in water delivery in some areas, particularly those with a recent history of violence. The Development Bank of South Africa (DBSA), an RSA lending institution designed to assist the economic development of the TBVC states and self-governing territories, has provided concessionary loans for drought relief programs in these areas.

As of the end of August, each of the six self-governing territories and the four TBVC states had established drought programs. These were set up and administered differently in each case. For example, Gazankulu established a Drought and Poverty Relief Committee with members drawn from the Gazankulu government, DBSA, and a number of NGOs, whereas in KwaZulu the entire responsibility for drought relief was given to the KwaZulu Department of Agriculture and Forestry. In general, these programs included job creation, crop and livestock loss programs, food aid, nutrition programs, and provision of emergency water supplies. The total funds required for emergency water supplies in these 10 areas was estimated to be between 40 and 50 million rand.

3.2 National Consultative Forum on the Drought

Concerned that the Government of South Africa and the governments of the TBVC states and self-governing territories were not responding rapidly enough to the drought emergency, the Independent Development Trust (IDT) and the Kagiso Trust jointly hosted a National Drought Relief Workshop on June 13-14, 1992. The objective was to bring together a wide range of interested parties to discuss the drought and its effects. The result of this conference was the establishment of a National Consultative Forum on Drought (NCFD). The (NCFD) is made up of representatives of churches, NGOs, unions, political liberation movements, homeland

governments, and the government of the RSA. The intent in forming this all-inclusive forum was to respond in a coordinated and depoliticized manner to the drought-related needs of rural South Africans. The forum created five task forces to address the drought. These task forces covered water, nutrition, agriculture, employment, and development. The overall structure of the (NCFD) is shown in Figure 3.1.

The Water Supply Task Force recognized that its primary objective was to address the immediate water needs of villagers first, to ensure survival and, second, to secure long-term water security. Additional objectives included increasing employment opportunities and promoting greater rural development. The Rural Advice Centre was asked to lead the task force and facilitate the logistics of field operations. The RSA Department of Water Affairs and Forestry (DWAF) was asked to act as a technical information center and provide technical assistance to the drought relief effort. The Center for Scientific and Industrial Research (CSIR) was asked to address community liaison issues. Financial support for task force administration was provided by the IDT or donated in the form of seconded personnel from government agencies.

A national operations room was established in Johannesburg, with a regional operations center in Pietersburg, near the most severely affected northern areas of Transvaal, Venda, and several of the self-governing territories. Shortly before the arrival of the OFDA/WASH team, a second skeleton regional office was established in Durban. The WSTF offices at the national and regional offices remained in contact with NCFD's national and regional offices.

The plans for operation of the WSTF were initially outlined in a May 26 report titled "Water Supply Task Force - a Drought and Recovery Proposal," submitted by the RAC to the IDT. Under this proposal, some 45 field teams would be established to solve problems and ensure the provision of emergency water to rural communities. The field teams were to consist of a foreign engineer; a local engineer/technician seconded from the private sector, government, or an NGO; and a community liaison specialist. Foreign engineers were sought who had experience in drought relief efforts elsewhere in Africa. The idea was that these engineers would add valuable experience to the field teams and help ensure that relief would be provided without political bias.

Eventually, some 20 foreign engineers and technicians from France, the United Kingdom, Australia, and the USA participated in WSTF operations in the field. This included four individuals provided through the WASH Project, two provided directly by the OFDA, and three provided under contract to the International Executive Service Corps (IESC).

Chapter 4

ACTIVITIES OF THE USAID/OFDA TEAM

The USAID/OFDA team consisted of three engineers, Jonathan Hodgkin, Alan Malina, and Maryanne Leblanc, and a driller, David Robertson. Team members arrived as soon as possible. Alan Malina arrived on September 24 and Jonathan Hodgkin arrived on September 27. Maryanne Leblanc and David Robertson arrived together on October 4. These individuals became part of an overall drought response directed and managed by WSTF of the NCFD. Each was sent to a different area where their abilities and skills would be most useful. Jonathan Hodgkin worked on the South Coast of Natal, largely in the Ezingolweni, Emzumbe, and Vulamehlo Districts of KwaZulu and then in Ciskei. Alan Malina worked in the Midlands Region of Natal in the Msinga and Nqutu Districts. Maryanne Leblanc worked in Transvaal, in Lebowa, for the most part. David Robertson worked in Venda.

From the outset, the scope of work was unclear. Initially the WSTF had envisioned that team members would join field teams consisting of WSTF staff, local engineers, and community liaison persons. Likely activities were to include siting boreholes, scheduling and coordinating water tanker deliveries, repairing water reticulation (piped water) systems, and repairing and maintaining handpumps. This plan was based on the assumption that an initial reconnaissance would have already been done in each area. However, the reconnaissance had not been done due to a number of reasons including the changing nature of the drought situation, the confusing institutional structure of the overall drought response, disagreements and uncertainties about how to define emergency requirements versus development needs, national and local politics, and the threat of violence in some locations. Without prior reconnaissance and without a formal drought response there was initial confusion about the tasks that needed to be completed, about how to prioritize recommendations for action, the resources available, and WSTF's technical and financial reporting requirements. Ultimately each OFDA/WASH team member acted independently to address the need for drought response as they saw fit and the situation required. The following sections outline the activities of each member of the team.

4.1 Natal/KwaZulu - Msinga and Nqutu Districts

Drought relief activities in the Msinga and Nqutu Districts of Natal/KwaZulu can be divided up into five phases:

- general review of the drought situation,
- rapid assessment of the drought situation in the target area,
- preparation of a plan and estimated budget for intervention,
- establishment of field teams and detailed analysis of the situation, and

- implementation of drought relief projects.

An overview and analysis of these phases follows. The daily details of these activities can found in Annex 1 (available from WASH).

4 1.1 General Overview

Prior to initiating work in Msinga and Nqutu, the consultant met with USAID and the National Consultative Forum on Drought in Pretoria, received a briefing on the current drought situation, and discussed expected activities. To assess the drought the consultant and Geoffrey Allison, a REDR engineer, took a tour of Southern Lebowa, Transvaal, Natal, and KwaZulu. They discussed establishing criteria to quickly define drought crisis areas. The indicators they used to judge the drought's severity included clothes drying (indicating sufficient water for washing clothes) and brick making. They also assessed the contents of ponds and springs, the condition of cattle, and evidence of apparent malnutrition.

In assessing the impact of the drought, they immediately noted the contrast between the provinces of the RSA and the homeland areas. Much of the area of the provinces was irrigated and green, while the homeland areas were desiccated and brown. At the end of September, southern Lebowa, as seen from the main roads, was clearly quite dry but did not seem to be experiencing a drought crisis yet. There was wash hanging out to dry, some springs were still trickling, and no malnutrition was apparent. Clearly if the drought continued, however, great difficulties would be experienced by the rural population.

The areas of KwaZulu visited at the end of September (the districts of Nongoma, Mahlabatini, and Eshowe) generally were in similar condition, except for certain areas of the Eshowe District where inhabitants were having to go great distances to find water. In these areas, the drought had caused the drying out of traditional springs.

The consultant was joined on 28 September in Durban by Jonathan Hodgkin, and Sandile Busane, a community liaison specialist. The consultant took advantage of meetings with KwaZulu Government officials in Ulundi to share the drought crisis criteria with the new team members in the Eshowi, Mahlabatini, and Nkandla Districts. The team then separated to assess two different areas of KwaZulu, the Midlands, and the South Coast. (For the South Coast assessment see Section 4.2).

4.1.2 Rapid Assessment of the Drought in the Midlands Area of Natal

After defining the brief of this mission with Geoffrey Allison (see Annex 1), Team Kilo proceeded to the Midlands area of Natal. The team, consisting at this point only of the consultant and Sandile Busane, contacted the KwaZulu Regional Department of Agriculture and Forestry (KDAF), the Midlands Joint Coordinating Center (JCC), the Thukela and Midlands Joint Services Boards (JSB), various NGOs, regional hospitals, and other key people

to identify areas particularly affected by the drought. Among the areas identified were the Msinga and Nqutu Districts of KwaZulu.

The team traveled throughout these two districts and met with key individuals living and working in the area. The Msinga District is a more traditional Zulu area with kraals scattered over hillsides, whilst in Nqutu the settlements were more compact. It was apparent that these two districts were beginning to experience serious difficulties due to the drought.

In the Msinga area, most of the springs had dried up, all rivers except for the Tugela were dry, and most of the handpumps and wind pumps were broken. The KDAF was delivering water by tanker on a six-day cycle, but was not able to satisfy the demand, particularly because tankers were spending much time delivering to small containers of 25 to 200 liters. The KDAF, which has primary responsibility for rural water supply, was not progressing fast enough in improving water supply to needy communities. Other organizations, such as NGOs, were assisting and being reasonably effective but only in a limited number of communities.

In the Nqutu area, where the drought appeared to be less critical, communities were also beginning to suffer from the lack of water. In the area's compact communities, water quality was deteriorating in springs where yields were diminishing. Handpumps were in extensive use and in good repair, as the Thukela JSB had contracted a repairman to maintain the pumps. A big effort was also being made to create and train water committees, with the assistance of the KwaZulu Training Trust (KTT). This initial rapid assessment was conducted during a one-week period.

4.1.3 Plan and Budget Preparation

Based on the findings described above and elaborated on in the Field Report (see Annex 1), the team proposed three types of intervention:

- handpump maintenance,
- Implementation of "quick response" water supply projects in organized communities, and
- providing short-term tankering for very needy communities.

The estimated total budget for these three activities was 500,000 rands. This budget did not define interventions in specific communities, but rather provided a general estimate for all anticipated requirements in these two districts.

The budget was approved in principle by the National Operations Centre of the WSTF and Team Kilo was augmented by one member, Peaceville May, Transkei engineer. The WSTF operations center made 20,000 rands immediately available for initial expenses. These funds were to be managed by the consultant. Additional funds were to be provided later.

4.1.4 Establishment of Field Teams and Detailed Analysis of the Situation

Before any specific interventions could be initiated, a detailed analysis of the situation in the field was necessary. This would enable specific interventions to be defined and prioritized. Team Kilo split into two groups with Peaceville May responsible for Nqutu and Sandile Busane and the consultant visiting Msinga. The main initial task was to identify all boreholes and assess the condition of all handpumps and windmills. Springs that could be protected were also identified, if possible. The two teams relied on personnel from the district offices of the KDAF to assist in locating and identifying all boreholes.

As a result of these activities, a detailed list of boreholes with the condition of each pump in both districts was compiled. Copies of these lists were left with the KDAF and the Regional Coordinator of the WSTF, Gary Quilling, at DWAF in Durban. The results showed that the Msinga District was not in very good shape with only 47 percent of pumps functional. In the Nqutu District 77 percent of the pumps were functional, and about 10 springs were identified that needed protection. Clearly Nqutu would initially benefit most from spring protection, and Msinga from pump repair and tankering.

4.1.5 Implementation of Drought Relief Projects

Peaceville May continued to work in Nqutu District. He was to begin by protecting springs in priority communities, in collaboration with existing water committees and the KDAF, which would provide foremen for projects. Repair of wind pump and critical handpumps would then be undertaken, depending on specific drought conditions and the requirements of specific communities.

Sandile Busane was assigned to assist the KDAF in installing bladder tanks. This effort required considerable community liaison as community members were used to help with site preparation work. A tanker was rented solely to supply the bladder tanks. Busane also was to coordinate the activities of a contractor that the consultant would locate to undertake pump repairs.

The consultant contacted the Regional Office of the KDAF to prepare a list of essential and complementary parts that needed to be obtained to be able to assist the pump repair contractor. He also located the pump repair contractor (Motorite) in Ladysmith. Motorite had been working in the Nqutu Districts and was available immediately to work in the Msinga District. The general approach for pump repair was to replace broken pumps, with ones repaired earlier by Motorite in Ladysmith. The consultant also contacted a hardware and construction material store (RightPrice) in Dundee to provide and deliver tools and materials for the spring protection program. The suppliers would be paid by wire transfer after faxing an invoice signed by a team member. There was some delay in the first payment, but a procedure was eventually established that should ensure no further problems in obtaining the necessary materials and equipment. The consultant completed his field assignment on November 6 and returned to Johannesburg for debriefing meetings with the WSTF.

At this time six springs are in the process of being protected in the Nqutu District. Nine bladder tanks have been installed in the Msinga District, with five or six more in various stages of installation. A second tanker will likely be rented to deliver water to the installed bladder tanks. Pump repair crews have repaired or replaced about five pumps in priority locations. Morton Jerg, an engineer contracted to the Umgeni Water Board, joined Team Kilo during the last week of the consultant's field assignment. He will take over the financial, coordinating, and reporting roles of the consultant in both districts, and will assist technically.

The consultant recommends that in the Nqutu and Msinga Districts, a number of activities should continue until least mid-December. In Nqutu District, the spring protection programme should be continued. The need for wind pump repair and urgent hand pump repair should be assessed after the spring protection programme is well established. If necessary, Motorite, or another available contractor, should be contracted to accomplish this work. In Msinga District, the pump repair contractor should continue repairing as many pumps as possible in the remaining time. KDAF repair of wind pumps should be followed up. The installation of bladder tanks should continue until the 14 have been placed, and RAC should be asked if four extra tanks are available. An extra tanker should be rented if necessary to fill the tanks twice weekly. At the end of the installation programme, a broad assessment should be made of the need for more tanks (which should be corrugated iron, fiberglass, or ferro-cement, not bladder tanks) if the rains have not fallen in sufficient quantities. It should be noted that the bladder tanks were not the most appropriate technology, due to their fragility and the physical limitations on where they can be installed.

4.2 Natal/KwaZulu - Ezingolweni, Emzumbe, and Vulamehlo Districts

The drought relief activities of the WSTF along the South Coast of Natal began with the consultant's reconnaissance mission during the week of October 5, 1992. Prior to this mission, the consultant joined Alan Malina for several days of meetings and assessment in other areas of Natal/KwaZulu. This preliminary phase was discussed in previous chapters.

The South Coast area is south of the Umkomaas River, north of the Transkei border, and inland about 100 kilometers. It includes the KwaZulu districts of Ezingolweni, Emzumbe, and Vulamehlo and the RSA Districts of Umzinto, Alfred, and Port Shepston. The area coincides with the jurisdictional boundaries of the Southern Natal Joint Services Board (SNJSB) The area is home to nearly one million people. In March, the SNJSB became concerned enough about drought conditions in the South Coast areas to solicit technical and financial assistance from outside agencies. The mission to this area was initiated to assess drought conditions and identify appropriate responses for the WSTF. Mission activities in this area were limited to an assessment of the drought situation, and recommendations for future actions.

This abbreviated scope was a result of the situation found by the field team of Jonathan Hodgkin and Paul Anders, who was seconded to the WSTF team from the RSA Ministry of Agriculture and Rural Development. Annex 2 contains the complete drought assessment report for the South Coast. During visits to the Southern Natal Region, Team January (as the field

team had been designated by the WSTF) visited and was assisted by the SNJSB, the district offices of the KDAF, various officials of the national government, the provincial administration, the local NGO community, and community members in the region.

4.2.1 Drought Assessment

Improved potable water supply has never been available to most residents of the KwaZulu. Widespread poverty and severe underdevelopment in these areas has left residents with little or no capacity or resources to deal with drought problems as they arise. Water is typically collected from unprotected springs, and waterborne diseases are widespread even in the best of times.

This year, drought conditions in the Southern Natal region have been severe. The area is largely dependent on sugar cane farming, commercial tree plantations, and in some areas, banana production. The income of commercial farmers, businesses, and many rural inhabitants of KwaZulu depends on the success of these enterprises. Estimates for sugar cane losses ranged from 40 to 75 percent in many areas. Large numbers of eucalyptus and banana trees have also died. During the worst of the drought, from June to September, many streams and springs in and around KwaZulu dried up. Conditions were particularly bad during these months as people were forced to travel further afield to collect water from the few springs that remained and from perennial rivers. This water was often polluted, prompting increased incidence of waterborne disease in the region. Conditions were particularly bad in the more densely populated eastern areas of KwaZulu, which lie in closer to the coastal towns and cities. A number of activities were initiated in response to the urgent need for safe potable water. Beginning in early July the Southern Natal Joint Services Board (JSB), along with the KDAF, the South African Defense Force (SADF), the RSA's Department of Agriculture and Development, and a number of private firms began a broad program for tankering water to the most severely hit communities. The JSB-managed program has now installed 92 4,500 liter tanks and is delivering more than 410 m^3 per day with 26 tankers. Water is also being delivered to three locations by rail, and several NGOs are also contributing by delivering water to isolated areas.

The KDAF has also contracted with a private company to repair handpumps. It was reported that 60 percent of the handpumps in these three districts of Southern Natal have been repaired. The KDAF also has an ongoing well-drilling program in the area and has been active in spring protection. These programs do not have high priority and do not appear to have had significant impact on drought affected areas. The JSB is also deeply involved in long-term water supply in the Southern Natal region. Extension of services and upgrading of works are planned in a number of areas. Except for the recently completed pipeline between the Umkomaas River and Umzinto, none of these projects has had any effect.

The immediate crisis caused by drought in the Southern Natal region have been alleviated somewhat by recent rains. Light rains fell in some areas during September and good soaking rains fell during the weekend of October 3-4 and again on October 8-9 over much of the area.

A few of the springs in the upper areas of KwaZulu are beginning to flow again, and the manager of the water treatment plant at Umtamvumu reported the first increase in river levels in nearly a year.

However, the arrival of early rains does not necessarily signal the end of the drought. River flow remains at the lowest levels ever recorded, many springs are not yet flowing, the water table remains low, and there is no guarantee that the rains will continue. The peri-urban and rural populations of KwaZulu remain at significant risk. In addition, both the KDAF and the SADF tanker efforts are due to end by the beginning of November due to lack of funds. Some handpumps that were repaired are again broken. Bureaucratic and funding delays will not likely allow planned water sector development in the region to have significant impact for several years. Even then, these projects will have limited effect in much of KwaZulu. The drought long-term impact on nutritional status, health, and income levels will continue to be felt for a year to eighteen months, even if normal rains return.

4.2.2 Recommendations

At this time, no immediate response from the Water Supply Task Force (WSTF) is required in the Southern Natal region. The SNJSB has organized a broad-based coalition that has demonstrated its capacity to respond to immediate water needs. However, the WSTF should be prepared to respond immediately to funding requests if, in the judgement of the JSB, water tankering must continue beyond the beginning of November.

Now is the time to begin to address nutritional, employment, agricultural, and long-term development needs of those people affected by the drought. These long-term needs clearly include the development of safe water sources in order, first of all, to improve the quality of life and health in the region, but also to provide reliable water sources to protect this population from the worst effects of a future drought. This effort should stress community-based programs and focus on assuring sustainability through community involvement in all aspects of technology choice, level of service, financing, operation and maintenance, and management.

4.3 Ciskei

4.3.1 Background

Ciskei gained its nominal independence from the Republic of South Africa in 1972 under the leadership of Dr. L.L. Sebe. Dr. Sebe was overthrown in a popular coup in 1990 and Brigadier O. J. Gqozo came to power. Initially, this government had the support of the vast majority of Ciskeians. The local administration system of regional chiefs and headmen was replaced by a system of elected "residents' associations," which were considered a more representative administrative structure. The current government has now abandoned the residents' associations and are again working at the local level through appointed headmen.

Many Ciskeians felt betrayed by this change and began to turn against the Gqozo government. The lifting of the ban on the ANC in early 1990 has led to a wave of change in Ciskei. Nelson Mandela and other leaders of the ANC are Xhosa, as are Ciskeians. A rise in the ANC membership and general support for ANC policies provided a clear alternative to the present Ciskei government. The Ciskei government countered the ANC by establishing its own political party, the African Democratic Movement (ADM). This rivalry has affected activities even at the local level. The government insists, for instance, that requests for assistance from communities be channeled through the headmen and tribal authorities.

Many communities will not tolerate this system and have run the local headmen away and destroyed their homes. Several recent events have heightened tensions. The first of these was a general strike in early 1991, which resulted in the dismissal of a number of civil servants. The second was the Bisho massacre in early September 1992. The situation is now quite volatile with violence and killings of Ciskei police and security officials as well as ANC members. Both sides of this political struggle accuse the other of inciting violence. It is within this difficult political environment that the WSTF and the consultant were asked to function.

At the national level, the NCFD, established to allow a broad response to the drought affecting South Africa, drew together participants from government and nongovernmental organizations in South Africa. The government of the Ciskei was invited to participate at the national level. In addition a regional forum, initially named the Border Regional Consultative Forum and now named the Border Rural Development Forum (BRDF), also participated. This second body was created by NGOs, political parties, and community leaders who were not convinced that the government of Ciskei would respond to their drought-related needs. This means that within Ciskei, there are two forums operating. The membership of the BRDF have, for the most part, recognized the need to include government departments and agencies within any drought relief program. Individuals within the Ciskei government appear willing to allow the BRDF to operate, but are unable or unwilling to participate formally. The NCFD has, at least in water supply matters, chosen to channel its efforts through the BRDF, in an attempt to strike a balance between what are widely perceived as politically motivated decisions regarding service to the rural sector. This perception is manifest in government's insistence that interventions by government in rural areas will come only at the request of the headman. If this policy is carried out, a considerable portion of the population will be denied access to government services.

In efforts to assess the drought situation in all areas of South Africa, the WSTF assigned David Williamson, of the British REDR, to visit Ciskei in August. He was hosted by the BRDF and spent three days evaluating drought conditions by visiting communities and discussing drought effects with individuals and organizations in the area. He concluded that the water supply situation "remained critical with available resources far less than 15 to 20 liters per head per day" in many villages, and that a more complete survey and emergency relief program should be launched. These findings were not in agreement with government judgments that no water supply emergency existed. The government believed that the water supply situation was no worse than normal for dry periods of the year, and that the Water Affairs section of the

Department of Public Works (DPW) had been addressing water shortfalls by upgrading water supply systems throughout Ciskei.

Clouding the issue, too, was Mr. Williamson's assertions that critical situations existed "not because of the drought but due to lack of capital investment and maintenance." This discussion about the relative importance of development needs versus emergency relief dominated much of the activity of the WSTF, not only in Ciskei, but throughout South Africa. Jonathan Hodgkin was asked to visit Ciskei on October 11 with a brief that indicated only that the situation there was "still somewhat confused," with requests for assistance coming from the BRDF as well as assurances that assistance was not required and that safety could not be guaranteed coming from the DPW.

4.3.2 Reconnaissance

The consultant spent the first several days in Ciskei in rapid visual reconnaissance in the northern district of Hewu and in the central districts of Victoria East (referred to locally as Alice) and Middledrift. These areas were clearly very dry and showed the effects of several years of less than average rainfall. Crop failures in these areas were estimated at 80 percent, grazing was considered poor, and water shortages affected 50 to 70 percent of users, according to the Ciskei Department of Agriculture Forestry and Rural Development (DAFRD). The consultant attended the BRDF meeting of October 17, and was introduced to individuals who expressed concern for rural water supplies and a willingness to act as intermediaries and provide introductions to communities, known locally as "locations." This offer was accepted as the political turmoil and the suspicion of rural residents meant that the consultant would not receive reliable information without an acceptable introduction. During the next several weeks the consultant, accompanied by a community liaison person and a local guide, visited 45 locations (roughly 10 percent of the currently recognized locations in Ciskei) in the districts of Hewu, Seymour, Victoria East, Middledrift, Kieskammahoek, and Peddie.

Ciskei can be divided into four physiographic zones. The first, the coastal region, lies within about 10 km of the Indian Ocean. It was well watered and suffered no noticeable drought stress. The second zone, a coastal plateau, rises in broad hills and valleys from roughly 10 km to 100 km from the coast. This region, including Seymour, Victoria East, Middledrift, Kieskammahoek, and parts of Peddie, were clearly drought stressed, with areas on the western side of Ciskei more affected. The third zone is narrow escarpment that rises to the north of Seymour and divides the lowland from the high veld of Hewu and Ntabethemba Districts. This zone is well watered due to moisture from orographic effects. The fourth zone, the northern districts of Hewu and Ntabethemba, were particularly affected by the drought. These effects were also felt in the surrounding areas of the Republic of South Africa. Tarkastad and Queenstown in the Cape Province were under different levels of water restrictions and commercial farmers in Queenstown were concerned for their economic survival.

Community water supply in Ciskei can be divided by level of service. The predominant water supply system (50 to 70 percent of locations) consisted of a wind pump delivering water to

a 45 m^3 concrete ground tank. Water may or may not be reticulated (piped) to taps in other parts of the community. A number of communities, particularly in central and eastern areas, have been provided improved supplies utilizing surface dams and broad regional pipe networks supplying water to several locations. There are five or six of these regional schemes. About 10 percent of locations have water supplies provided by diesel pump-sets. Most of these have been installed during the past several years as part of the effort to upgrade rural water systems. A few communities have access to old handpumps installed more than a decade ago. A significant number of locations, perhaps as many as 50, do not have any access to improved water supplies. Some of these locations are new or are not formally recognized as such by the government at this time.

In general, locations served by diesel pump-sets and regional schemes are well served. The government manages these systems and provides all operation and maintenance services for a nominal one rand per month per user. Most communities now served by wind pumps do not normally receive adequate amounts of water. In perhaps 10 to 20 percent of installations across Ciskei, wind pumps are out of service because of lack of maintenance or because they have been destroyed by high winds. Even working wind pumps provide inadequate water yields because prevailing winds are not steady enough to meet growing water demand. At locations with no improved water supply, with broken wind pumps, or with inadequate water supplies, families depend on what water remains in intermittent streams or in unprotected springs. These sources are often several kilometers from residents' homes. Further, water from these sources is usually unsuitable for human consumption; it is shared with cattle, sheep, and goats, and it must often be filtered through cloth just to remove algae and other solid contaminants. In some areas water is now unavailable and must be purchased from venders at costs ranging to a reported five rand per 200 liter drum.

The primary responsibility of the Ciskei DPW is to upgrade rural water supplies and operate and maintain regional schemes and diesel pump-sets. It also has an ongoing program to repair and maintain wind pumps, however, this program is not well funded. Although minor repairs to wind pumps can be undertaken by regional DPW crews, major repairs are contracted to private firms, mostly from outside Ciskei. This leads to a lengthy contract-tendering process which is not well suited to handling emergencies. The DPW undertook such a repair program in the Peddie area during 1991, and now has plans to repair wind pumps at nine sites in Hewu. Communities and community leaders are not adequately involved in any of these programs.

4.3.3 Conclusions and Recommendations

The reconnaissance indicated a tremendous need for improved water supplies in many villages where supplies clearly do not meet internationally accepted standards. This is particularly true of villages that depend on wind pump supplies. Even where wind pump supplies were once adequate, rising demand and poor maintenance have rendered these systems deficient. However, recent programs to supply villages using diesel pump-sets or through regional schemes appear to provide adequate amounts of good quality water.

Much of the need for potable water supplies predates the current drought and suggests the need for long-term water development. However, there are a significant number of areas that can clearly be classified as in need of emergency relief, not so much because no water is available, but because of the health effects of poor quality water and inadequate supply.

The most effective short-term activities identified by the consultant for action on the part of the WSTF and the BRDF was to initiate a program of emergency equipment repair. In this way, the limited time and resources available can be used to alleviate need for the most people in the shortest possible time. Other interventions including tanker delivery of water to some communities, equipping boreholes, or laying emergency pipelines were considered and recommended, based on a series of specific criteria. Time, political considerations, and concern on the part of the BRDF for community involvement and training limit the range of activities and responses to the water supply needs of drought affected communities.

As the WSTF begins to draw its activities to a close with the onset of the rainy season and assurances from weather forecasters that the drought appears to have broken, interventions that take time must be considered carefully. Tanker deliveries are being made to clinics and schools on a fairly regular basis by the regional offices of the DPW. Emergency deliveries are being made in some areas, particularly Hewu. DPW has also allocated an additional tanker for emergency deliveries. Before additional deliveries are undertaken, it should be clear at what point deliveries can cease. The WSTF should not and cannot stop delivering water to communities until improved water supplies are constructed or upgraded to meet internationally accepted standards.

Drilling and equipping boreholes is a complex issue in Ciskei. The Ciskei government has agreed in principle to operate and maintain equipment installed by the WSTF and BRDF if ownership of the equipment is handed over to the government. However, the WSTF is not now willing to consider this allocation of equipment and the BRDF wants communities to take direct responsibility for their water systems. This is a contentious issue about which the affected communities now have no say. The consultant agrees in principle to equipping boreholes, but only if consensus on ownership and operation and maintenance responsibilities can be reached at the community level.

Several communities near the RSA municipality of Fort Beaufort are in significant need of water, both due to drought and to increases in population. These communities could be assisted by a pipeline linking the municipal system to the locations in Ciskei. Both the Ciskei government and the Fort Beaufort municipality favor such a pipeline linkage. However, cost and methods of financing are issues that have been on the table for more than a year. If these issues can be resolved, the consultant recommends that an emergency pipeline be laid to connect Ntoleni, Mlalandle, and Ndaba to the Fort Beaufort municipal system.

4.3.4 Actions Taken

These broad recommendations were accepted by WSTF officials who gave a verbal commitment to spend up to 600.000 rand on relief efforts in Ciskei. During the two weeks that remained available to the consultant after the initial reconnaissance was completed, agreements were reached between the BRDF and the Ciskei DPW's Water Affairs Section regarding emergency relief work that could be undertaken. In addition, a number of equipment repairs were completed or initiated, and plans were put in place to continue the program upon the consultant's departure.

Initial meetings with BRDF members and with DPW led to a joint meeting on October 28. At this meeting the consultant proposed a program for repairing equipment, particularly wind pumps. The DPW agreed to provide the necessary technical information as long as the details of repairs made were transmitted for its records. DPW also provided the consultant and the BRDF with a listing of about 40 windmills that needed repair. The BRDF, using the funds made available through the WSTF, agreed to make equipment repairs. Furthermore, the BRDF proposed a repair program that included more formal efforts to alert communities of their activities, so that repair crews could work in safety. BRDF also proposed to inform communities about other relief and development programs.

The BRDF agreed not to repair wind pumps at the nine sites in Hewu where the DWA already had requests for tenders outstanding. The BRDF agreed to use the list of damaged equipment as a starting point for the WSTF repair program, but not to limit repairs to the sites listed. Independent contractors, Ciskeian if possible, would be used to make the repairs.

The WSTF/BRDF team consisting of Jonathan Hodgkin, Fred Yale (an IESC volunteer), Monti Kwazi (seconded from the Agricultural Research and Rural Development Institute at the University of Fort Hare), and Howard Stofile (seconded from the Border Council of Churches) began to identify sites and organize repairs as of the last week in October. By the time the consultant left Ciskei, arrangements had been made with three contractors (one Ciskeian) to repair nine windmills and a handpump, and to clean a water storage tank so that water delivery could commence. Emergency repairs affecting about 3,000 people had already been made at Cicilana, Lower Tsitsikama, Tsitsikama, Xaleni, and Mceula. Estimates were received for completion of repairs at four sites in Keiskammahoek. These seemed excessive and need further review.

Chris Greyling was named to replace Hodgkin as the operational coordinator of the Ciskei program. He attended a briefing meeting with BRDF members and project staff in Alice and was introduced to DPW staff in Bisho. Although there was little overlap between Hodgkin and Greyling, Hodgkin provided detailed briefing documents to help ease Greyling's transition. Greyling will continue the drought relief program at least through the end of the year and perhaps into the first months of the new year, if necessary.

4.4 Lebowa

4.4.1 Background

The consultant's scope of work was to provide an assessment of the effects of the drought in the districts of Bolobedu, Mokerong I and 2, Seshego, Thabamoopo and Mankweng, and Bochum in Lebowa, a "self-governing territory" of South Africa. No member of the Water Supply Task Force had been to these areas.

Under Lebowa's drought relief program, the government has hired ten consulting engineering firms and divided up Lebowa between them. Apparently, each of the consulting firms has received about one million rand to assess their areas and take action on the drought. There have been accusations, some made by the Water Supply Task Force, that the Lebowa government and the consulting engineers had accomplished little. These accusations have led to suspicion and bad feelings between the National Consultative Forum on Drought and the Lebowa government. Consequently there has been little if any cooperation between the Lebowa government and the Water Supply Task Force. However, there has been coordination with the South African Department of Water Affairs and Forestry (DWAF), which has supplied personnel, money, and equipment to the operations room in Pietersburg and to task force teams working in southern Lebowa in the district of Nebo and Sekhukhuneland. In order to avoid duplication of effort and to get additional information, the consultant did meet with the consulting engineers working in the areas in question both before and after her field visits. She was able to provide them with updates in some areas, and finally developed a work plan for the WSTF that covered the worst of the areas that the consulting engineers had been unable to help.

4.4.2 Reconnaissance

During the reconnaissance phase, the field team normally spoke to local women to get an idea of the water situation at each locality. Time constraints made it impossible to visit each of the villages in the area, so the team concentrated on the villages where problems had been reported. In many areas there were private boreholes and pumps, almost always handpumps. In some areas these were the only sources of water; in other areas residents said they could buy water from people with private pumps if the public water sources were out of order. Only in Mankweng and Thabamoopo did people report paying for water from public pumps or systems. There they paid for diesel fuel to run motor pumps; elsewhere water was free. People who bought water from private sources paid prices ranging from 50 cents (South African) for 20 liters to five rand per month for all the water they wanted.

Problems with the small systems included inadequate water supply to the system for the number of users, poor design, poor maintenance, dry boreholes, sand points, etc. Water quality was a problem, especially in the southeastern part of the district, where minerals often rendered the water undrinkable due to bad taste or contamination. Maintenance was a problem in many areas, with people reporting frequent breakdowns and long delays before

repairs were made. In Bochum District, for example, there are five maintenance teams but only two vehicles for them, vastly decreasing their effectiveness. The man in charge of maintenance in the Mokerong 1 and 2 districts told the consultant that he had managed to borrow enough vehicles for all his maintenance teams.

In no district did the consultant see evidence of emigration because of the drought. In all the districts primary roads were gravel and easily passable except when wet, when they get very slippery. Secondary roads were passable with a two-wheel drive vehicle when dry, but were often sandy. Tertiary roads leading to the more remote farms or villages were often not passable without four-wheel drive, which the consultant did not have. The drought did not appear to have an effect on sanitation except where people were getting their water from streams, rivers, or unprotected springs because their regular water source had dried up. Sanitation in these areas was limited largely to pit latrines or the fields. In some areas there may have been less water for personal hygiene as well.

The water shortages produced a variety of health problems. Hospitals visited by the consultant, two in Bochum district, reported increases in dysentery, pellagra, tuberculosis, and malnutrition, including kwashiorkor. Statistics were not available but the supervisor of one of the hospitals estimated a twofold increase in malnutrition in the last few months. Deaths from malnutrition at the hospitals were rare, however, the superintendent told the consultant that a child had died the day before.

With Geoffrey Allison, the REDR engineer who has been coordinating the technical consultants, and Lizzie Maluleke, the community liaison officer, the consultant made a rapid assessment of the Bolobedu district of Lebowa. Although this area was very dry, the team found no villages or locations more than one kilometer from a source of water, either a handpump or a piped system. The team also saw a number of new boreholes waiting to be equipped and active maintenance by Lebowa government teams. With the community liaison officer, the consultant also made a more comprehensive survey of Bochum district. The two met with local government officials and technicians at the Water Affairs Branch office in the district seat, as well as with traditional leaders or "Kgosis" in the area. In all, the team visited some 67 villages or locations.

In Bochum, as in many areas, most of the problems were the result of underdevelopment. In some areas, especially older villages that had been in place for some time, there was no water supply infrastructure. People depended entirely on springs, streams, rivers, their own boreholes and pumps, or buying water from those with private pumps. In other areas, especially the newer locations, public water supplies were often inadequate for the population served. These were either piped systems, usually fed by boreholes equipped with diesel pumps, or handpumps.

Of the districts surveyed by the consultant, Mokerong 1 was among the hardest hit by drought related problems. Many of the villages in this area lie along the Lephalaia River and get their water from systems supplied by sand points, which did not produce water once the river dried up. However recent rains have recharged the river bed and the crisis is over for the time being in most of the villages. The consulting engineers for the area have also drilled boreholes to

keep the systems operating through the next drought. The town of Setateng, a large town where people are still being settled, has water problems that defy easy solution. Boreholes drilled there have been unsuccessful and surface water there is unreliable.

Mokerong 2 is a large area with populous townships in the south, near Potgietersrus, and more rural areas to the north. In some of the larger towns, piped water systems are inadequate, possibly because of the large number of pirate connections made to individual homes. In the more rural areas of Mokerong 2, many towns had water problems that were development related, and only exacerbated by the drought. In general, this district's water problems seemed to vary widely from village to village in the same area, with one reporting major problems and the next reporting none. The southwestern part of the district is probably the worst, as groundwater potential is low and surface water is unreliable; importing water would require a large investment for these relatively small rural villages.

The consultant surveyed the western part of Seshego district. The eastern part had been surveyed by another consultant. Again she encountered a wide range of conditions, from private farms with low populations in the north to very large townships in the south. In this area, especially in the larger townships served by piped water systems, capacity and infrastructure were inadequate. System maintenance was also a major problem.

Many of the large towns in the district of Mankweng receive piped water from the Ebenezer dam. Many of the distribution systems are inadequate, supplying insufficient water for the population or suffering frequent breakdowns. Maintenance also appeared to be a major problem, with a number of towns reporting that their systems were out of order.

Thabamoopo district also has a number of large townships, many or which are supplied with piped water. The district, like Mankweng, has inadequate water supplies and maintenance problems. According to the consulting engineer, at least some of the problems observed by the consultant are because of poor system design, such as water being pumped directly into the main pipelines rather than into a tank for distribution. At least one town had a piped system under construction but local people reported that progress was slow. Detailed trip reports in this and other districts in Lebowa are contained in Annex 4, available upon request from WASH.

4.4.3 Conclusions

This section details the general and specific conclusions based on reconnaissance efforts in Lebowa (more general conclusions are in Chapter 5):

- Given the low groundwater potential, relative lack of surface water, and high population densities in some areas, many problems, whether critical or not, are resistant to quick fixes and will only become worse in the future as the population increases.

- The Lebowa government's staff, equipment, and budgetary constraints hamper its ability to deal effectively with even routine maintenance, much less crises such as the drought.
- A system of preventive maintenance and more reliable communications between maintenance personnel and communities is essential. Accurate information about the water supply in each village or location is also critical.
- The practice of people making private, unauthorized connections to piped water systems is detrimental to the functioning of these systems for the greater community.
- Private wells and boreholes are important as primary sources of water or as backups in communities with public water supplies.
- The quality of the water being provided varies and in some cases is clearly inadequate. Also, transport and storage of water is sometimes conducive to contamination.
- Latrine coverage is not adequate in many areas.
- Wind pumps are not reliable enough in this area to be used as the primary source of water for a community without backup.
- The many different types of handpumps and their varying age is also a hindrance to effective maintenance and reliable operation. Possibly the same is true of the motors and pumps used to feed piped water systems. Certainly the design of some systems is not ideal.
- Although rains are coming to many of the areas assessed, this will not end the problem caused by the drought. There are still urgent actions which should be taken in the immediate future to alleviate water problems in some villages and locations. Apathy should not be allowed to set in!

4.4.4 General Recommendations

Responses to drought problems in the area should help foster long-term development, not just alleviate the present emergency. Whatever government or private entity is responsible for water supplies in these areas should be provided the staff, equipment, training, and budget needed to effectively operate and maintain water supply infrastructure. A system of preventive maintenance should be established, with regular inspection and maintenance of all facilities. The maintenance managers should also develop effective communication with the communities. Further, a database should be developed and kept up to date. The database should be used to store information on population, level of water supply service, and maintenance requirements. This data would provide a planning tool for water resource development and maintenance management.

Private wells and boreholes should be allowed to remain in place, and in most areas new ones should not be forbidden. Forbidding new wells would not only deprive residents of important

water supplies but would also be unfair in view of the private irrigation allowed in other parts of South Africa.

Water quality testing and analysis should be undertaken on a regular basis, and areas with substandard water should be assured a supply of potable water. A program of health education covering water use, storage and transport, and latrine construction should be initiated.

Where wind pumps are the only source of water, these pumps should be replaced or at least supplemented with a backup, such as handpumps. Moreover, handpumps should be standardized and upgraded as much as possible, and inadequate systems should be investigated and upgraded as necessary.

Drought relief actions should continue until all emergency needs are met. If necessary, these actions should be expanded into other areas that require emergency water relief.

4.4.5 Emergency Recommendations

Many of the worst emergency problems are being taken care of by the consulting engineers and subcontractors hired by the Lebowa government. However, there is limited money available. Some critical areas still need intervention. After field visits and consultations with the consulting engineers, the consultant believe that the Water Supply Task Force should fund or undertake further action to resolve some of the more urgent water supply problems in the districts in question. These actions include drilling and equipping boreholes with handpumps, equipping existing boreholes with handpumps, protecting or treating surface water sources, upgrading systems to bring water closer to some villages, and augmenting other systems. The Ebenezer pipeline should also be branched to Laaste Hoop. In Thabamoopo, the headman at Ga-Mathiba should be offered assistance in testing and equipping boreholes, as he has received money from elsewhere to have them drilled. In Bolobedu, funds should be sought to extend the Magoebaskloof Dam pipeline from Ga-Kgapane to the western part of the district, especially Meidingen.

The WSTF has promised 400,000 rand to fund activities in these areas. The first to receive assistance, totalling about 400,000 rand, would be Slack Hill, The Park, Varedig, Polen, Ga-Monare, Madjidjile, Dibasepale, and Grootspruit. Laaste Hoop is also very dry, according to the consulting engineers. However, since boreholes drilled there have been very weak, the only viable alternative is to connect the area to the Ebenezer pipeline, which would cost approximately 1,500,000 rand. Details of these recommendations can be found in Annex 4, available upon request from WASH.

4.4.6 Actions Taken

The Water Supply Task Force has been working in the Nebo and Sekhukhuneland districts of Lebowa. Teams are drilling boreholes, installing and maintaining pumps, and bringing supplies by tanker to villages without water. The task force has not yet initiated work in areas visited by the consultant. Currently, IDT has promised to fund activities costing up to 400,000 rand. The Lebowa government, through its consulting engineers, has been working to alleviate the most critical drought problems. The available funds are insufficient to solve all of the urgent problems, and most of the consulting engineers have designed second phases to assist critical villages they have been unable to work in, should funds become available. The details of this relief program, not yet underway, are provided in the preceding section and in Annex 4.

However, the government of Lebowa's relief programs are now underway. Several of the consulting engineers report delays in their work as they wait for approval for subcontracts from the Lebowa government Tender Board. The consulting engineers for Bolobedu district found 16 critical villages and 22 villages with less severe problems. They expect to be able to assist all of these with additional water, equipping low yielding boreholes with handpumps, and equipping the others, about 25 percent, with motor-pumps and tanks.

The consulting engineers for Bochum District found 43 critical villages or locations--areas where people were receiving less than 15 liters of water per capita per day. Of these, they expect to be able to augment systems in six villages. In 14 more villages, they plan to equip existing or new boreholes with motorpumps and pipe, connecting to tanks. The consulting engineering firm hired for the districts of Mokerong 1 and Mokerong 2 has established a comprehensive database on the more than 200 villages in that district. Fifty-five boreholes were reported to have been drilled since July. Improvements have also been made to a system supplying six villages in Mokerong 1. Six boreholes have been equipped and piped water systems have been established. However, the large location of Setateng remains a problem, as it is also supplied from sand points in the river which went dry. Boreholes drilled there have also been dry.

In Mokerong 2, five villages will be equipped with motor-pumps and tanks or with handpumps, as borehole yields allow. Boreholes with good yields have been found at five locations that can be equipped with motor pumps and tanks. At least two of these will be used to augment multi-village systems. At Marulaneng, a large town, the consulting engineers hope to use several boreholes drilled for the hospital, which has since received water from the rains. In three villages, boreholes will be equipped with handpumps. At six others, unfortunately, boreholes were unsuccessful and surface water is unreliable. In two of the townships near Potgietersrus, the consulting engineers were able to augment the systems.

Of 151 villages in Seshego District, the consulting engineering firm found that 70 villages or locations could be classified as critical. They prioritized these villages and will drill, test, and equip boreholes in 23 of the villages with greatest need. These installations consist mostly of a borehole with diesel pump and motor and a tank. Where borehole yields are low, one or more handpumps are installed.

Thabamoopo, Mankweng, and Mokerong 3 districts include about 200 villages or locations, many of them quite large. The consulting engineers there have tested about 20 existing boreholes to determine their yields, repaired three handpumps, and drilled about 30 boreholes. About 10 of these boreholes are dry so far and two keep collapsing. Six boreholes have been equipped with handpumps so far; two pumps have been replaced, one has been repaired, and the installation of two more is in progress. About 13 other borehole sites had been investigated as of 30 October 1992. The engineers are working in about 37 villages and estimate that the population aided by these actions will be about 23,000.

4.5 Venda

The TBVC state of Venda in the northern Transvaal was among the hardest hit by the drought. The area suffered total failure of dryland farm crops. Even irrigated agriculture was affected as the Levubu River became totally dry. By August drinking water supplies in several districts were considered to be critically short, and water was being delivered by tanker to more than 95 communities. 300,000 to 400,000 people were estimated to be in dire need of water.

4.5.1 General Drought Situation and Responses

Private consultants have been retained by the Venda government to address the water requirements for human consumption. These consultants have been involved in drilling and testing boreholes, repairing pumping equipment, and recommending emergency water relief actions. During the early phases of WSTF involvement in the relief efforts in June and July, the DWAF (a member of WSTF) of the RSA was constrained from working across political borders, particularly in TBVC states. These constraints were eventually overcome, and by late July three field teams of the WSTF were operating in Venda. The major recommendation of the teams operating in these areas was that equipment repair and replacement would make a major contribution to water security in many areas.

Serious conditions developed in southern Venda because of a sharp drop in supplies from the Vondo dam, which serves the region south of the dam and the city of Thohoyandou. The dam's water level was reported at less than two percent of capacity in late September. About 350,000 people are served by this water supply scheme. Private consultants working in the region recommended that an emergency pipeline and pumping scheme be established between the Tshakuma dam and the Vondo dam to alleviate shortages in Thohoyandou and the surrounding regions. This program was approved and funded by the Development Bank of South Africa (DBSA) and endorsed by DWAF. However, equipment malfunction and materials problems caused delays. As an alternative, WSTF recommended drilling boreholes to augment water supplies to the Thohoyandou area.

4.5.2 Actions Taken

As part of WASH/OFDA support, a driller, David Robertson, was provided to the Water Supply Task Force of the National Consultative Forum on Drought. This consultant was met at the airport on October 4 and moved to Venda to support drilling operations there immediately. The consultant became part of the overall drilling program for Venda, which came to include five rigs, three from the RSA Department of Agriculture and Rural Development, one from RSA's DWAF, and a rig on permanent loan to the Venda Department of Public Works from World Vision.

The consultant was assigned to drill wells in the Vondo area to supplement water supplies to Thohoyandou, as recommended by WSTF. Initially the consultant worked with the Venda/World Vision drilling rig. The consultant was operating the rig with Venda Department of Public Works Staff, helping to increase drilling rates and improving the crew's skills. Initially the drilling rig's productivity was low due to logistical and equipment problems and Department of Public Work's rules limiting staff to an eight hour work day. As the consultant brought his skills and experience to the drilling effort, drilling increased from one borehole per week to a target of one borehole per day. Geophysical crews helped with borehole location using aerial photographs, resistivity, and magnetic surveys. Success rates (based on 25 m^3/hr yields) are between 30 and 35 percent in the geological formations of the region. A recent survey showed that between 91,000 and 92,000 persons were benefitting from the Venda drilling operations.

As of early November, David Robertson was helping manage the operation of several drilling rigs in the Vondo area. Requests by the WSTF for an extension of his assignment were accepted, and he will remain to support drilling in the region until late January 1993.

A critical problem noted by the drilling consultant is that boreholes are usually not used. He strongly recommends casing the holes to the bottom to prevent the well from collapsing and to facilitate future deepening of the borehole.

Chapter 5

CONCLUSIONS

This chapter contains general conclusions drawn by the consultant team during its assignment with the Water Supply Task Force of the National Consultative Forum on Drought. These conclusions are divided between those applying to the condition of drought within South Africa and the functioning of the WSTF. Specific conclusions, recommendations, and actions taken for each of the areas in which the OFDA/WASH consultants worked are included in the previous chapter or in the detailed annexes appended to this report.

5.1 Rural Water Supplies and the Drought

Different political and geographical areas have very different water resource development programs, government response capability, community structure, political environment, and water resources availability. Ciskei and Lebowa have formal water supply development programs. Both provide water in rural areas under a combination of regional schemes, utilizing surface water sources and engine-driven pumps. Ciskei's operation and maintenance program for these schemes appears adequate, whereas Lebowa's maintenance program seems unable to address the needs of the systems installed. However, many Ciskei communities continue to depend on inadequate wind-pump systems. The government of KwaZulu has placed responsibility for rural water supplies with the Department of Agriculture and Forestry, and has not given much priority to providing improved supplies. This may be due in part to the very dispersed settlement pattern in KwaZulu and the widespread availability of spring water sources.

In all areas visited, water was available, although often lacking in quantity and quality. Also supplies sometimes were available only from a distance or at a price. Although this situation causes considerable hardship and health problems, few people have chosen to abandon their homes in search of water. In fact, in many areas, water is still being used to wash clothes and engage in water-consuming businesses, such as block-making or house construction. Clearly, the areas visited were drought stressed, but crises of water availability have for the most part been avoided. In all areas, the need for water supply drought response is due largely to a lack of resource development, poor management, and lack of consistent water supply policies over the last several generations. Many areas within the Republic of South Africa are well served and have not experienced any significant drought effects. Irrigation continues on many commercial farms, and there were few drought restrictions in urban areas. This condition has led to charges of corruption, mismanagement, and neglect on the part of the government of the Republic of South Africa, the TBVC states, and self-governing territories.

The drought clearly causes hardship for rural populations, and immediate water shortages are just part of the problem. Other drought-related problems include loss of livestock, crop failure,

and loss of employment. Hunger, particularly among children, pregnant and lactating women, the elderly, and the disabled, are also of particular concern. Although in many areas agriculture is not the primary source of income, crop and livestock losses have been significant, and programs to restore agricultural productivity are important components of recovery. Also, the loss of jobs in commercial farming is particularly important given that the general economic downturn has also reduced the need for labor in the mining and industrial sectors.

The IDT and other local donors are focusing much of their attention on addressing the drought's long-term impact in rural areas. The National Consultative Forum has other task forces to address nutrition, employment, and agriculture. These efforts are also necessary components in an overall drought response.

The institutional framework, not only for the drought relief program, but for all public administration is complex and confusing. The government of the Republic of South Africa and each of the TBVC states and self-governing territories have initiated drought relief programs. Apparently, the Indian and coloured communities also had drought relief programs funded through the House of Delegates and House of Representatives of the Tricameral Parliament respectively. In addition, the Independent Development Trust established a broad drought response program focused on job creation. Other organizations such as the Natal Joint Services Boards also became involved, as did a broad range of NGOs. Each of these organizations, from the RSA Government to the NGOs, is constrained by jurisdictional limitations, organizational mandates, institutional strengths and weaknesses, and political agendas. This made the task of responding to the drought particularly confusing, slowing the response process.

In rural areas there is community involvement or participation in water supply issues. The NGO community, which advocates increased community participation, is seen by some as politically motivated, a disguised attempt to remove management of rural water systems from government control. Regardless of such concerns, there is clearly a need for increased participation at a local level in almost all areas visited. At present there is little if any local decision-making regarding level of service or siting of taps, hiring of construction labor, or local management of operation and maintenance. Cost recovery for operations and maintenance expenses is either nonexistent or barely sufficient to cover the cost of collection. People appear willing to pay for at least some of the benefits of convenient access to improved water supplies. However, it may be difficult to change current policies on costs and water fees. There seems to be a general perception that providing these services is a government responsibility. There is also a perception that governments have the money to provide these services if only government adjusted its priorities to reflect the wishes of the population. The tremendous investment in water security for urban areas is used as evidence that the funds are available.

5.2 Drought Relief Response of the Water Supply Task Force

The Water Supply Task Force of the National Consultative Forum on Drought was established to draw together all the administrative and political players with an interest in the drought issue. The goal was to foster cooperation within this umbrella group and depoliticize the drought relief process. In many ways the efforts of the WSTF are laudable Arrangements were made to allow departments and agencies to work in areas outside their normal jurisdiction. The international consultants provided through USAID, ODA, MSF, and others brought additional skills and perspective to the drought relief effort. Through the WSTF, additional funding for the broad relief effort and individual projects was solicited and provided by a number of international donors including the EEC, USAID, CIDA, and others.

In short, WSTF staff contributed lots of individual effort and accomplished a great deal in alleviating the suffering brought about by the drought. However, several weaknesses conspired to reduce the effectiveness of the WSTF. These included the lack of adequate briefing for consultants, lack of guidance on the national and regional drought response, uncertainty about resources available and the criteria for their use, communication problems, and political rivalries. Some of these weaknesses are the inevitable result of trying to accomplish a large and complex task in a fluid political environment. Others were within WSTF's control and should have been addressed as part of any broad relief effort. Several of these issues are discussed in the following paragraphs.

None of the OFDA/WASH team received a formal briefing. Two team members attended the weekly staff meeting of the WSTF prior to assignment, and two were sent directly into the field upon arriving in the RSA. Although a document on the background of the National Consultative Forum on Drought was provided, it contained no listing of its members. This occasionally caused embarrassment when interviewing officials who were members of the WSTF or the NCFD.

The OFDA/WASH team also reviewed little information on the administrative organizations in assigned areas. The team was not provided with descriptions of the tasks that needed to be completed, the resources available, the financial and technical reporting requirements, nor the rules and regulations regarding expenditure of funds. In fairness, the need for flexibility, and the fact that the OFDA/WASH team was experienced, obviated the need for detailed information on all counts. However, since the team entered an ongoing program and received vehicles and funds for which the consultants and the WSTF were responsible, a more detailed briefing should have been provided.

Almost immediately upon arrival in South Africa, several issues arose concerning the drought and the OFDA/WASH role in the WSTF response. Guidance on these issues by the WSTF could have facilitated the overall drought relief effort. These issues revolved around several questions including:

- What criteria are being used to define a drought crisis point, and how are these points distinguished from areas in need of long-term development?

- What process is being used to prioritize responses across the whole of the drought-affected area, including areas not visited by the OFDA/WASH team?
- What resources are available, how will materials and equipment be disbursed, and who will gain eventual ownership of this equipment once the drought is declared over?

These questions arose again and again. Although team members were told they had been invited largely to help address such issues, the team never had an opportunity to do so.

It was never clear to the OFDA/WASH team or other international experts what resources were available, how to access them, what criteria existed for their use, nor through what channels these resources would be made available. To the credit of the WSTF, transportation and funds in small amounts were always available when needed. However, field teams never felt properly informed about what technical assistance was available nor what funds could be allocated for broader scale responses.

Reporting requirements and schedules were also never made clear. This fact is illustrated in the different reporting styles used by each consultant (see Annexes 1-6, available upon request from WASH). Although communication is easy in South Africa, relative to other areas in Africa, and field reports were sent to the WSTF operations room in Johannesburg, none of the consultants received any response to these reports. In some cases, it seemed the reports were not being read. Although the WSTF met weekly, no one in the field received minutes of these meetings or word of decisions taken that could affect their field activities.

Although the WSTF and the NCFD were established to depoliticize the drought response, politics and political agendas inevitably surfaced. Although there are those that disagree, the OFDA/WASH team did not believe that the confrontations between some WSTF consultants and WSTF leaders were productive. Accusations of mismanagement, dishonesty, corruption, political intent, racism, or long-term neglect do not foster cooperation. At best, mutual suspicion taints future collaboration. At worst, the activities of the WSTF could be blocked altogether. As of early November, this had not happened. But in the sensitive political atmosphere of the Ciskei, for example, it would not take much to upset the balance and cripple the relief program.

Chapter 6

LESSONS LEARNED

The conclusions expressed in Chapter 5 relate specifically to the activities undertaken by the consultants in support of the drought relief efforts of the Water Supply Task Force of the National Consultative Forum on Drought. These efforts yielded several lessons for providing drought in rural areas. These lessons learned are outlined in the following paragraphs.

Water relief activities fall into several broad categories. The first includes activities in response to the complete breakdown of infrastructure. The second type of activities are those that address the problems of the drought-induced movement of large populations. The third type of activities involves coping with the drying of traditional water sources. The fourth type of activities is alleviating the effect of reduced rainfall on agriculture.

The activities required in South Africa were largely of the third type--supplementing traditional water sources. This effort was particularly pressing, given the lack of improved water supplies and decaying infrastructure in the TBVC states and self-governing territories. This situation created difficulty in defining what responses should be undertaken as part of drought relief activities, and which should be undertaken as part of broader recovery and development efforts.

Effective drought relief efforts require sound physical and logistical infrastructure. If such infrastructure does not exist, the relief effort must compensate by developing its own infrastructure to facilitate action. Fortunately, South Africa has a good network of major roads, efficient telephone and fax services, a responsive business community and banking sector, and a broad array of skilled technicians in both the public and private sectors. However, the mere existence of this infrastructure is not sufficient, it must be accessible and utilized by the relief effort. This requires that national priorities and responsibility for action be clearly stated and implemented.

The existence of complex institutions with overlapping responsibilities hinders effective relief efforts. However, cooperation between agencies is important, to share vital information, technical assistance, and equipment. All participants must also be induced to remain focused on the water resource needs of affected communities. Therefore water relief efforts may need political negotiations at the outset to ensure smooth operation of relief work.

In an uncertain drought environment it is important to allow the relief program to develop rapidly. This requires that field teams be given autonomy to act as they deem necessary. However, these teams must have a general set of guidelines for action, a firm concept of budgets available, and a broad set of criteria for allocating resources. This is particularly true if teams are working in different geographical areas, which may not have experienced the same level of hardship.

The most effective use of outside technical advisors is to enlist their help in defining and setting up relief programs. If possible, the actual field work of water delivery, drilling, equipment repairs, and logistical support should be performed by host country organizations. These organizations have a better sense of what local skills and equipment are available, how to access them, and what costs should be involved.

Six weeks to two months is barely enough time to define and set up an effective relief program. Even this is only possible if the geographical areas for relief activities are defined; transportation, communications, and offices are available; and proper program follow-up is forthcoming. These needs should be met both for consultants in rural drought relief and those planning early warning systems and responses to drought emergencies.

It needs to be relatively clear when the need for drought relief ends. This is particularly true for activities such as emergency water delivery. Unless recipient communities know when such activities will end, anger and resentment can result. In some areas, this could lead to violent outbursts against governments or donor agencies. Information and assistance should also be provided in the recovery period after drought emergencies, to address equipment ownership and the longer term operation and repair questions associated with the installation of capital equipment.

Chapter 7

RECOMMENDATIONS FOR THE FUTURE

Specific recommendations that were suggested and acted on during the consultancy are detailed in preceding chapters and in the annexes to this report. This chapter contains several general recommendations on the emergency program, its completion, and further work in the rural water supply sector.

The emergency work of the Water Supply Task Force is currently scheduled for completion in early January 1993. One might expect that at that time the WSTF could be dissolved. However, in January important drought relief work may still need to be done. In addition, the process of passing responsibility and ownership of improvements made and equipment installed cannot be completed by January. A transition period of several months is necessary to ensure that all the financial and logistical details of the program are addressed properly.

- A workshop to critique the work of the Water Supply Task Force should be conducted at the conclusion of the task force's activities. Clearly, the WSTF performed well in some areas but could have used improvement in others. Such a workshop would allow the WSTF to highlight successes and learn from its shortcomings. It would allow participants the time to answer questions that were often brushed aside during day-to-day operations. Such questions should include: How does one define a drought and appropriate responses? Are there better ways to raise consciousness about the need for action and, afterwards, to solicit resources? Was the staff sufficient and appropriately chosen for effective operations? What logistical and financial controls are necessary? What is the best way to use outside consultants? Were the institutional arrangements among the various participants adequate and workable?

  This workshop should be facilitated by an outside agency, which should ensure that participants remain focused on the actual actions and activities of the WSTF of the NCFD.

- A broad program to upgrade rural water delivery systems should be given high priority. This is necessary to reduce disparities in water service within South Africa, to deter migration, and to prepare rural areas to withstand the next drought. This broad program will eventually require consistent policies on water resource development across TBVC states and self-governing states. Anticipated changes in the political and administrative structures of South Africa should address this need by ensuring a consistent administrative structure. Currently, responsibility for rural water supplies lies with different agencies in different areas. For example, in KwaZulu rural water supply is a subsection of the Department of Agriculture and Forestry; in Ciskei it is a subsection of the Department of Public Works. Handpumps, diesel pump-sets, and wind pumps are now the primary water pumping technologies in different areas. The promotion of these technologies, especially

handpumps and windmills, should be scrutinized to determine if they can meet rural water needs, and if they are acceptable to users.

- A national workshop on community approaches to rural water supply delivery, which could attract experienced international participants, would be beneficial to South Africans and others alike. South African agencies and NGOs interested in participatory approaches would learn from the experiences of others. At the same time international development workers in the water sector would be exposed to the particular constraints and opportunities for rural water sector activities in South Africa.

Current rural water supply activities, where they exist, do not include community participation or hygiene education components. Most are implemented by engineering firms and technical consultants. Many non-governmental organizations recognize the need to include communities in the decision-making process. However, few NGOs have experience in implementing community-based water supply projects. No government agencies in the RSA, the TBVC states, or the self governing territories have ever incorporated participatory approaches in water sector programs. No one appears to have any concept of the staffing, logistical, scheduling, and budgeting consequences. The unique political and institutional framework of South Africa will also have implications for the development and implementation of community-based programs. At this point, the isolation of South Africa from the remainder of the continent and, indeed, most of the world, means that development workers in South Africa do not have access to the broad range of experience garnered by WASH and other agencies over the past several decades.

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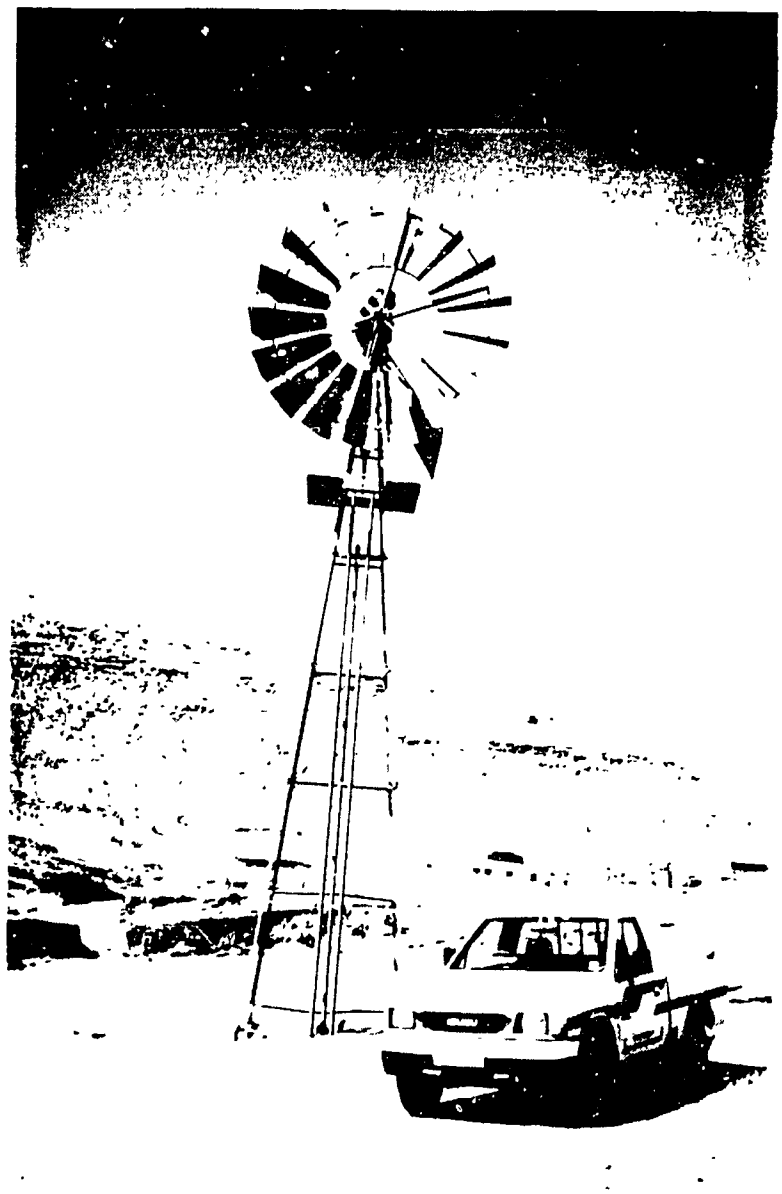
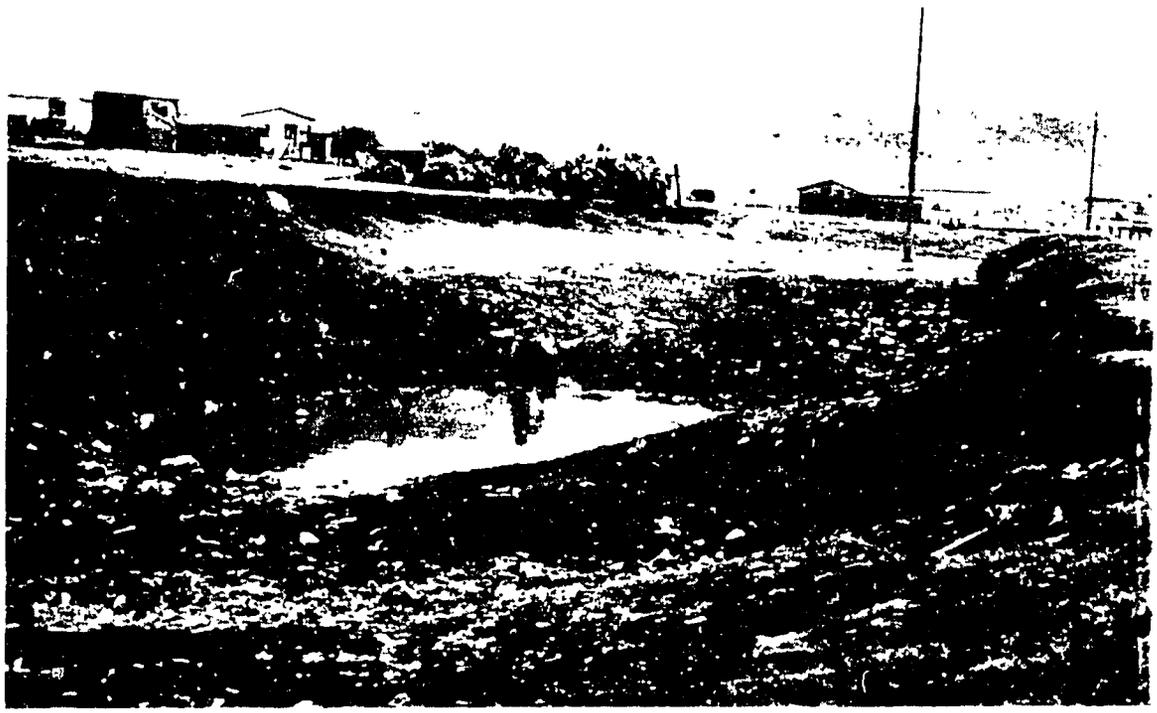


Typical village water supply system in Ciskei. This one happens to be in Manqondwana (est. pop. 250) in Hewu District.

The water supply from the three wells of Upper Hackney, Hewu District, Ciskei (est. pop. 1250) is not reliable due to poor hydrogeological conditions and receding water tables. Buckets are lined up waiting for water to be available from taps.

Many village water supplies have failed due to damaged equipment that has never been repaired. This windmill in Mbizana, Middledrift District, Ciskei (est. pop. 1,100) was one of two serving the community. This one was blown down about 18 months ago. It is scheduled for repair as part of the WSTF program.

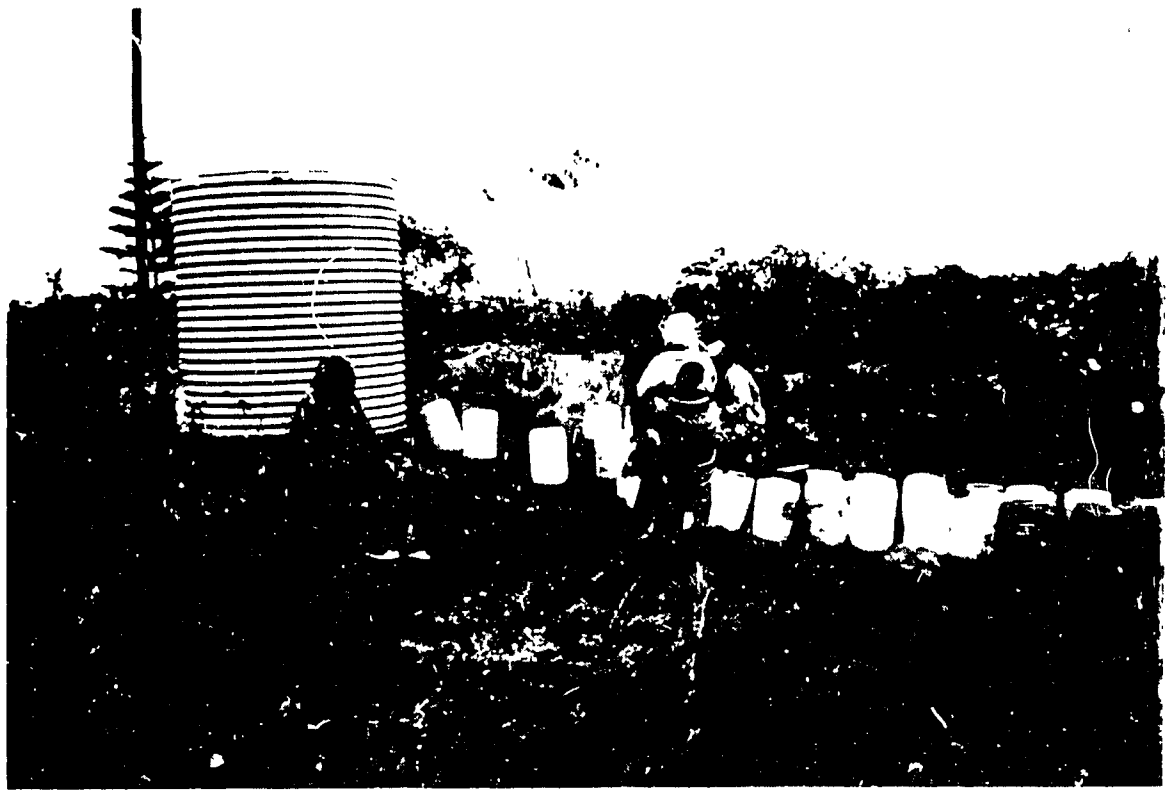


This is currently one of the water sources used by the community of Mavuso. The initial work on an approved water reticulation system was brought to a halt in the aftermath of the Bisho Massacre.

A Ciskeian family in the unrecognized settlement of Tambo in Hewu District.

Containers waiting in line for the wind to start blowing so the windmill will begin to pump in Tambo, Ciskei.

A tanker independently hired by the Southern Natal Joint Services Board to deliver water into Vulamehlo District, Ciskei.



Waiting for water delivery in Ezingolweni District, KwaZulu.

Appendix A

SCOPE OF WORK
SOUTH AFRICA EMERGENCY DROUGHT ASSISTANCE

BACKGROUND

The drought in southern Africa has created conditions of extreme water shortage in South Africa. concerned that the government of south Africa was responding inadequately to the emergency, a group of international organizations convened a conference in June of this year to address the crisis. Participants included donors, NGOs, government representatives, universities and other groups. The conference established a Consultative Forum for drought relief and five task force groups for handling different technical areas related to relief work. USAID chose to participate in the Water Planning and Provision Task Force.

The objective of the Water Task Force is to be able to respond rapidly, flexibly, and innovatively to areas of critical water shortage, first to ensure survival, secondly to address longer term water security. To do this it will send a number of teams of foreign and local experts in various aspects of water supply engineering to affected areas to help communities cope with their water crisis. The entire water effort will consist of fielding 45 teams.

USAID/South Africa is supporting the activities of the task force by funding five of the initial eleven teams, and by providing three engineer consultants to participate on task force teams. These teams are likely to work in the Natal Region of South Africa. WASH, through the OFDA, has been asked to identify and sent three engineers with some/all of the following skills: siting boreholes using electrical resistivity and seismic refraction, logistical skills to schedule and coordinate water bowser deliveries, repairing low pressure medium scale water reticulation systems, field training in hand pump repair and maintenance.

SCOPE OF WORK

Once the experts arrive in South Africa, they will join field teams to work in drought-afflicted areas where their skills are needed most. Teams will include local engineers and community liaison persons. The Consultative Forum will provide transportation for the teams. The work which is expected of the teams is as follows:

1. Identify the crisis points in the areas they are assigned to through physical reconnaissance, local community leaders, churches, NGOs and authorities;
2. Assess the degree of threat to each crisis point and prioritize intervention;
3. Crisis intervention through the identification and deployment of emergency resources;
4. Consolidation of water security using local resources or surface and/or groundwater, which may require the services of consultants;

5. Review the longer term water security of the area with the assistance of the advisory committee and the consultants;

6. Review the plans of consultants in terms of the above stated objectives.

The consultants sent by WASH will be expected to participate in the above activities as required by the field teams. In addition, they will be required to prepare a report of their activities for the mission, WASH and OFDA.

Instead of a team planning meeting Washington, the consultants will receive an orientation by the mission and the OFDA representative in Pretoria who is monitoring the activity.

SCHEDULE AND LEVEL OF EFFORT

The total time estimated for this report is 48 days per consultant. This is broken down as follows:

Week of Sept. 14	Prep time in US	1 day
O/a Sept. 19	Travel in RSA	2
O/a Sept. 21	Orientation in country	1
Sept. 22 - Nov. 6	Field work	40
Nov. 7 - 9	Report writing	2
O/a Nov. 10	Travel to US	2

Appendix B

PEOPLE CONTACTED

National Level

USAID

Janice Webber	Assistant Director
David Jackson	Drought Coordinator

Water Supply Task Force of the National Consultative Forum on Drought (Other Affiliation in paraphrases)

John Evans	National Consultative Forum on Drought (Independent Development Trust - IDT)
Simon Forster	Co-Chair (Department of Water Affairs-RSA)
Peter Comrie	Co-Chair (replacing Simon Forster) (Department of Water Affairs-RSA)
Elaine Lizamore	Administrator (Department of Water Affairs-RSA)
Len Abrams	Co-Chair (Rural Advice Center)
Malcolm White	Technical Coordinator (Rural Advice Center)
Derrick Hazelton	Assistent Technical Coordinator (Consultant to Rural Advice Center)
Rob Short	Information Services (Consultant to IDT)
Baby Ramahotswa	Community Liaison CSIR
Geoffrey Allison	WSTF Engineer (REDR, UK)
Gordon Hendry	WSTF Engineer (REDR, UK)
Arno Otterman	Task Force member (Drought Action Coordinating Centre - MARD)
Michel Kassa	Task Force Member (Medecins sans Frontieres)
Mr. J. Rankin	Task Force Member (International Executive Service Corps)
Keith Mokoape	Task Force Member (IDT representative)

Barry Jackson	Task Force Member (Development Bank of South Africa)
Tsikalange Shadrack	Task Force Member (Rural Development Forum - Transvaal)

KwaZulu/Natal - Regional

Government of the Republic of South Africa

Garry Quilling	Natal Regional Coordinator (Department of Water Affairs-RSA)
James Perkins	Department of Water Affairs
Sandile Busane	Community Liaison - RAC
Peaceville May	Engineer - Seconded from private firm
Paul Anders	Engineer - MARD
Bill Grant	IESC Consultant to WSTF
Morton Jerg	Contractor with Umgeni Water Board

Government of KwaZulu

Louis Kruger	Secretary, Department of Agriculture and Forestry
Liz Clark	Department of Community Development, Office of the Chief Minister

KwaZulu/Natal - South Coast

Government of the Republic of South Africa

Anton Feil	Dept of Health and Population Development
Marian Wessels	Dept of Health and Population Development
Boet DeBruin	Department of Agriculture and Rural Development, Seconded to KDAF

Government of KwaZulu

Elston LeRoux	Regional Director, UmZansi Region
Rob Buller	Head Engineer, Umzansi Region
Mr. Thombela	District Officer, Vulamehlo
Mr. Njoko	District Officer, Emzumbe

Natal Provincial Administration

Dr. Terry Gilpin	Murchison Hospital

Southern Natal Joint Services Board (JSB)

Prof. Khabi Ngoma	Chairman

Rob Shoesmith	Project Officer
Charles Thorpe	Superintendent of Umtamvuma Water Treatment Works

NGOs & Private Sector Firms

James Rivett-Carnac	Appropriate Technology Information, IDT Regional Representative
Tony Fletcher	IDT Regional Representative
Duncan Stewart	LIMA Rural Development Foundation
Prudence Cooke	World Vision of Southern Africa
Gareth Leanord	World Vision of Southern Africa
James Duncan	Rural Advice Center

Natal/KwaZulu - Midlands

Regional Agencies

Mr.Potgeiter	Thukela Joint Services Board (JSB)
Darryl Le Roux	Midlands Joint Coordinating Committee (JCC)
Mr. Browne	Natal Midlands JSB
Richard Mngoma	Technician,Ulizantskop Dam

Government of KwaZulu

Johan Naude	Director, Midlands Region Department of Agricultural Affairs
Percy Brookes	Engineer, Midlands Region Department of Agricultural Affairs
Mr. Mtshali	Director, Msinga District DAF
Mr. Ndlamini	Director, Nqutu District DAF
Matron Mtshali	Ezakheni Health Ward
Dr. Theo Van Der Merwe	Regional Hospital, Msinga
Dr. Richard Garratt	Regional Hospital, Nqutu

NGOs & Private Sector Firms

Tony Fletcher	IDT Regional Representative
Roger Davis	The Bridge Foundation
Vic Schutte	World Vision (Tugela Ferry)
Noel Oettle	Farmer Support Group (FSG)
Grant White	FSG
Harold Liversage	Association for Rural Advancement (AFRA)
Creina Alcock	CAPFARM Trust (CAP)
Raure Alcock	CAPFARM Trust (CAP)
Bertwell Majola	Retired Magistrate, Keate's Drift, Msinga
Mark Colborne	Lynn Davies & Partners

Themba Zulu	Lynn Davies & Partners

Ciskei/Border Region

Border Rural Development Forum

Sheperd Mayatula	Chairman, BRDF (Economics Dept., Fort Hare University)
Monti Kwazi	Community Development Specialist (Seconded from ARDRI)
Howard Stofile	Community Development Specialist (Border Council of Churches)
Fred Yale	Consultant seconded from WSTF (IESC Consultant to the WSTF)
John Ncinane	Forum Member (South Africa National Civic Organization)
Derek Xujwa	Forum Member (Progressive Farmers Union of S. A.)

Government of Ciskei, Ministry of Public Works

Christo Eloff	Head of Water Affairs Section
Derek Mitchell	Chief of Bulk Water Supply
Mr. Mthyobile	DPW, Sada Works Department

Government of Ciskei, Ministry of Agriculture, Forestry & Rural Development

Luyanda Ngoma	Dir., Department of Rural Development
James Armstrong	Technical Department

Government of Ciskei, Ministry of Health

Dr. Riego de Dios	Medical Director, Victoria Hosp., Alice
Churchill Ngoma	Senior Health Officer, Hewu
Simphiwe Gwana	Health worker, Hewu
N.K. Yankey	Chief Planning Officer, MAFRD

Fort Beaufort Municipality

John Landman	Town Clerk

NGOs & Private Sector Firms

Almero De Lange	Director, Agricultural and Rural Development Research Institute(ARDRI)
Hugh Jagoe	Consultant, Independent Development Trust

Glen Thomas	Kagiso Trust
Ian Pearson	Consultant to Healdtown Communities, - CSIR
Dr. Andy Beke	Life Care, Medical Supt Hewu Hospital

LEBOWA

Lebowa Government

Russie Nieuwoudt	Director, Department of Water Affairs, Ministry of Agriculture and Forestry
Frans Matlow	Technical Manager, Bochum District, Department of Water Affairs
Herman van der Nest	Maintenance Manager, Mokerong 1 & 2 Districts
Samuel Tlouamma	Pump Repairman, Bochum District

Regional WSTF - Permanent Affiliation Noted

Styn van Blerk	Department of Water Affairs, Govt. of South Africa
Timothy Motshoene	Community Liaison - CSIR
Phineas Mohajane	Community Liaison - CSIR
Henk van Niekerk	Engineer, DWAF
Richard Cross	Engineer
Reinhardt Fowler	Engineer, DWAF
Andrew Soye	Engineer
Lizzie Maluleke	Community Liaison Officer - RAC
Nomvula Masango	Community Liaison Officer - RAC

NGO's & Private Sector Firms

Johann Rissik	Operation Hunger
Bonnie Blaine	Operation Hunger
David Makgabo	IDT Representative
Nicc van Rensburg	Engineer, Theron, Burke & Isaac (Consulting Engineers for Bochum)
Eric van Brouershaven	Engineer, Eksteen, van der Walt & Nissen (Consulting Engineers for Seshego)
Louis Blom	Engineer, Sennet & Wessels (Consulting Engineers for Thabamoopo & Mokerong 3)
Chris Theron	Engineer, Sennet & Wessels
Daan Truter	Engineer, Water Systems Management (Mokerong 1 & 2)
Pierre Wilken	Geologist, Water Systems Management
Antony van Schalkwyk	Engineer, Water Systems Management
Piet Freysen	Engineer, Freysen, & Cilliers

Venda

Ian Johnson	WSTF - REDR Engineer

Bophutatswana

William Gibson	IESC Consultant to WSTF

Gazankulu

Ralf Gruner	MSF Representative, Giyani