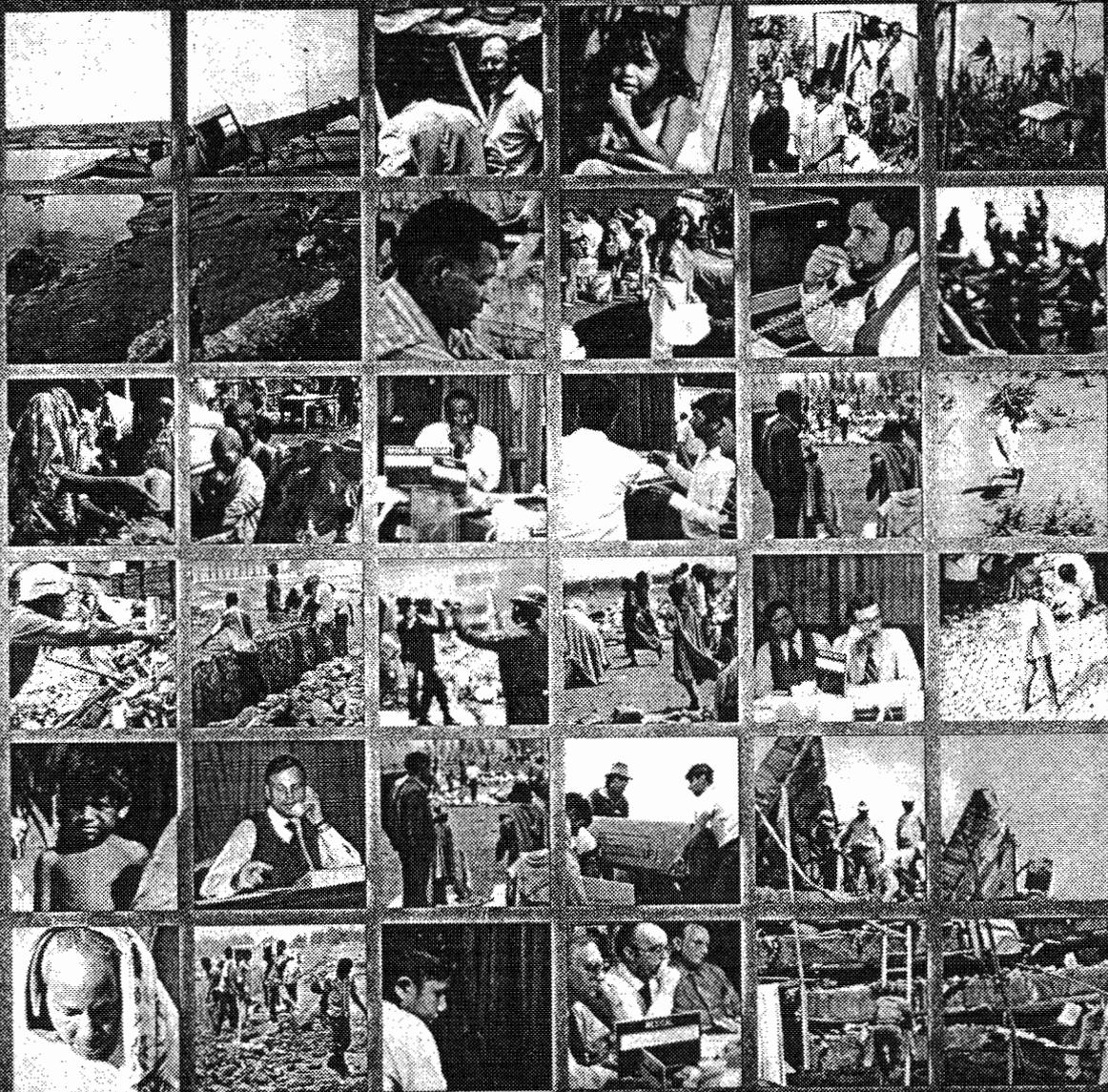


Annual Report FY 1985



Office of US
Foreign Disaster
Assistance

Agency for
International
Development

Washington, DC
20523

The FY 1985 Annual Report of the Office of U.S. Foreign Disaster Assistance was researched, written, and produced by Holly Brooks, Cynthia Davis, Jave Henderson, Waverly Jackson, Dennis King, Jane Kochman, Wesley Mossburg, Joseph O'Connor, Barbara Stein, and Mary M. Rubino (Project Manager) of Evaluation Technologies Incorporated, Arlington, Virginia 22201, under contract number OTR-0000-C-00-3345-00.

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A Year of Crisis and Response

Fiscal year 1985 was one of the worst years in OFDA's 20-year history in terms of the number of people killed and affected by disasters. Drought and famine ravaged two-thirds of the African continent, causing the deaths of hundreds of thousands of people and threatening the lives of millions more. The world's worst industrial accident occurred in the town of Bhopal, India, when a toxic gas leaked from a

devastating disaster, Congress may make special supplemental appropriations to address specific emergency relief needs. In FY 1985, Congress appropriated \$137.5 million to alleviate human suffering due to the drought affecting the African continent. As a result of this appropriation, the USG spent more money on emergency assistance to disaster victims in foreign countries than ever before.

Number of People Killed by Declared Disasters (FY 1980-85)¹

	FY80	FY81	FY82	FY83	FY84	FY85
Accidents	113	38	60	46	0	1,889
Droughts	NA	NA	NA	NA	NA	403,000
Earthquakes	469	7,660	20	1,758	1,621	8,962
Epidemics	485	853	655	NA	NA	2,284
Floods	51	1,490	2,477	1,820	256	9
Severe Storms	338	113	209	542	1,499	10,929
Volcanic Eruptions	0	0	130	NA	NA	0
TOTAL	1,456	10,154	3,551	4,166	3,376	427,073

¹Includes data on all non-U.S. disasters to which the USG provided assistance

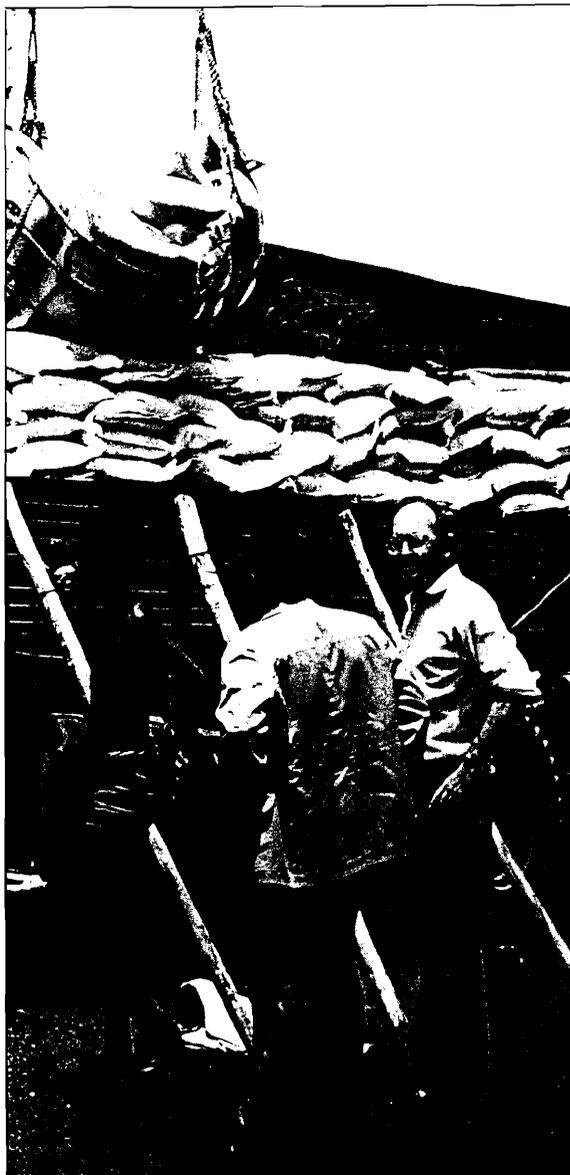
Source: *Disaster History: Significant Data on Major Disasters Worldwide 1900-1985*, OFDA, Washington, D.C. 1985.

pesticide manufacturing plant and killed an estimated twenty-five hundred people. In Mexico, two high-magnitude earthquakes caused billions of dollars worth of property damage and claimed the lives of thousands. Coordinating the U.S. Government's (USG) relief response to these and other foreign disasters is the mandate of the Office of U.S. Foreign Disaster Assistance, a component of the Agency for International Development (A.I.D.). The U.S. Government's foreign disaster assistance program was established in 1964 under the authorization of the Foreign Assistance Act of 1961. Funds to provide such assistance are appropriated annually by Congress to the International Disaster Assistance (IDA) account to be used for disaster relief and rehabilitation, early warning, and preparedness. In response to exceptionally

When a natural or manmade calamity strikes a foreign country, the U.S. Ambassador on the scene may move to provide USG assistance by declaring a state of disaster. The Ambassador is authorized to spend up to \$25,000 immediately; additional relief expenditures are approved and coordinated by the Office of U.S. Foreign Disaster Assistance. The Director of OFDA reports directly to the A.I.D. Administrator, who is the President's designated special coordinator for international disaster assistance. OFDA's three geographic divisions — Africa and Europe, Asia and the Pacific, and Latin America and the Caribbean — provide country-specific expertise to respond to relief and preparedness needs in each region.

Africa

Long before the international news media alerted the world to the mass starvation in Ethiopia and other countries, the USG was supplying food and other emergency relief to the most severely affected drought-stricken countries in the continent (see OFDA Annual Report FY 1984). However, as the magnitude of the emergency grew, the United States Government formed an interagency task force to coordinate U.S. assistance. Julius Becton, Director of OFDA (1984-85), was appointed to head the task force at its inception in early October 1984.



AID Administrator M. Peter McPherson accompanying food deliveries to Ethiopia and Sudan.

The Task Force on the African Famine (TFAF) brought together staff from OFDA's Africa and Europe division, A.I.D.'s Africa Bureau and Office of Food for Peace, as well as representatives from the Departments of State, Defense, Agriculture, Health and Human Services, and Transportation, the National Oceanic and Atmospheric Administration (NOAA), the Office of Management and Budget (OMB), and the National Security Council. Representatives from these key resource groups played a pivotal role in coordinating one of the largest emergency relief programs in our history. Task Force members traveled to several of the most affected countries to meet with host government officials, coordinate with international donors, and evaluate USG-sponsored relief projects. Nutritional, logistical, and hydrological assessments were also conducted by TFAF members. To insure that all USG relief projects were cost effective and food and assistance were reaching the most needy, TFAF members worked closely with representatives of the private voluntary organizations that implemented these projects. American PVOs distributed over \$182 million in food and other supplies for the USG, in addition to more than \$69 million in assistance from their own resources.

The drought in Africa was a crisis of enormous complexity and it presented an overwhelming number of problems and constraints to the disaster relief effort. Twenty countries in Africa were afflicted by drought. Of these at least ten were seriously affected by food shortages and poor health situations. Low per capita incomes and standards of living and high population growth rates were shared characteristics of the drought-affected countries. However, drought was not the only cause of the food shortages that afflicted these countries; human activities also contributed to the disastrous situation. Environmental degradation, deforestation, and overexploitation of natural resources in some countries accelerated desertification, threatened domestic food production, and contributed to a developing reliance on foreign food imports. In some cases, ill-conceived host government programs and policies also contributed to the problem. Food shortages in the four most critically affected countries — Ethiopia, Sudan, Chad, and Mozambique — were exacer-

bated by civil strife, which inhibited food production, displaced thousands, and hampered food deliveries to affected regions. Deteriorating or extremely limited national infrastructures — ports, airports, railroads, and road networks — also served as obstacles to delivering food and relief supplies to affected populations. Political, national, and ethnic group hostilities in some countries stymied effective relief coordination. Despite these frustrations, the lives of millions of people were saved by the intervention of the various host governments and the international community.

The crisis in Africa galvanized the international community to respond with a massive relief effort. The United Nations created the Office for Emergency Operations in Africa (OEOA) to coordinate international donor assistance to the affected countries of Africa. Perhaps the most positive result of the crisis was the tremendous outpouring of support from people all over the world. Private voluntary organizations reported substantial increases in charitable contributions which they directed to relief programs in the affected countries. In addition to an increase in contributions to the regular international private voluntary organizations, several spontaneous fund-raising efforts were organized to aid victims of drought in Africa. Two of the most successful were the Live Aid/Band Aid rock concert broadcast worldwide and a recording produced by USA for Africa.

Here in the United States, the U.S. Congress moved swiftly to appropriate additional funds to be used to meet the needs of drought victims. The Supplemental Appropriations Act for Emergency Famine Relief and Recovery in Africa provided \$137.5 million for emergency relief and recovery projects. The Task Force on the African Famine obligated the money to purchase vehicles, medical supplies, seeds, blankets, and water drilling equipment; to furnish logistical support in the form of airlifts, leased trucks, a river ferry, and cross country railroad; to conduct logistical, nutritional, health, and water assessments; and to provide grants to PVOs working in ten African countries. Over \$14 million of the supplemental was allocated to several African regional projects in famine early warning, crop monitoring, road repair, and water rehabilitation. An additional \$400 million in emergency food and transport was programmed by A.I.D.'s Office of Food for Peace. The American people can be proud of the fact that almost half of all of the food donated to Africa by the international community was provided by the United States Government.

Providing relief assistance to countries affected by disasters is just one of OFDA's functions under its mandate from the Foreign Assistance Act of 1961. OFDA is also involved in disaster preparedness activities in several disaster-prone countries. Disaster preparedness covers a wide array of projects in disaster early warning, mitigation, technical assistance, monitoring, planning, and training. Since 1979 OFDA has supported an agroclimatic early warning assessment project in sub-Saharan African countries developed by NOAA's Climate Impact Assessment Division. Using meteorological and agricultural information derived from satellite imagery, crop yield statistics, and precipitation measurements, NOAA issues monthly climate impact assessment reports that are used to forecast drought and food shortages. In response to a request from the Government of Ghana, OFDA sent two U.S. Forest Service technicians to work with local firefighting committees in finding new ways to combat bush fires. In FY 1985, OFDA sent participants to a pesticide management workshop in Nairobi, Kenya, a disaster preparedness seminar in Tunisia, and a conference on environmental problems in Africa held at The Hague, in the Netherlands.

Asia and the Pacific

The Asia and Pacific region is subjected to practically every type of natural disaster — cyclones, earthquakes, floods, typhoons, and volcanic eruptions. However, not all disasters are caused by natural forces. An increasing number of catastrophes are the result of manmade accidents, such as airplane crashes, fires, explosions, and industrial hazards. On the night of December 2, 1984, a cloud of poisonous gas escaped from a Union Carbide pesticide manufacturing plant and within minutes killed as many as 2,500 people, according to unofficial estimates. The gas, methyl isocyanate, caused permanent respiratory, neurological, or ocular injury to thousands of people and killed approximately 2,000 head of livestock. OFDA quickly dispatched a team of experts from the Centers for Disease Control (CDC) to assess the disaster and offer technical assistance to India's Ministry of Health. OFDA is currently exploring new methods of dealing with industrial and chemical accidents to better prepare for future incidents.

On May 4, 1985, Bangladesh was struck by the worst cyclone in the Bay of Bengal region since the 1970 storm that killed an estimated 300,000 people. In this year's tragedy, an estimated 10,000 lives were lost and 100,000 victims were left homeless. However, this number could have been much higher. Since 1976, the United States Government, through OFDA, has been working hand in hand with the Government of Bangladesh to install a severe storm early warning system in the Bay region. This system uses high resolution satellite imagery, strike threat probability models, and advanced telecommunications networks to warn host government meteorological services of approaching storms in time for disaster preparedness and mitigation measures to be implemented. As a result of this system, thousands of residents of the low-lying coastal areas of Bangladesh were alerted to the storm's approach and were able to escape to higher ground.

Bhopal and Bangladesh were just two of the eight declared disasters in Asia in FY 1985. In addition to these disasters, OFDA was also involved in providing relief assistance to the displaced population in Afghanistan. While an international relief effort had been mounted to provide relief to the millions of Afghans who had taken refuge in Pakistan following the Soviet invasion of their country in 1979, little had been done on behalf of the displaced civilian population left inside Afghanistan. In August 1984, Congress asked OFDA to develop a program to provide medical assistance to displaced Afghans using \$2 million transferred to the IDA account from FY 1984 supplemental appropriations. Working with an inter-agency task force chaired by the Department of State, OFDA developed a program to provide grants to existing cross-border voluntary agency medical teams (ICRC — \$1,200,000; AMERICARES — \$622,000; IRC — \$112,000; Afghanaid — \$66,000). Later in FY 1985, the Congress and the National Security Council directed that an additional \$6 million be used for humanitarian assistance to displaced Afghans. OFDA responded by developing a program, implemented by voluntary agencies, to enable Afghan village leaders to purchase food for their people. These successful OFDA-developed programs now serve as the basis for the larger Afghanistan relief programs being implemented by A.I.D.'s Asia and Near East Bureau.

OFDA strongly believes that investments to improve host country disaster preparedness capabili-

ties pay off in many ways when a disaster occurs. Not only is the stricken country better able to manage the emergency, but it is less likely to require massive U.S. assistance. For example, OFDA provided technical assistance and meteorological monitoring equipment to the Philippine Atmospheric, Geophysical, and Astronomical Sciences Administration (PAGASA) to help track and prepare for approaching typhoons. In Indonesia, OFDA funded a volcano monitoring and research project in cooperation with the U.S. Geological Survey and the Volcanological Survey of Indonesia. OFDA also sponsored a program to strengthen disaster management and preparedness in Indonesia and provided a start-up grant to the Regional Disaster Preparedness Program of the Asian Institute of Technology in Bangkok, Thailand. As part of its strong commitment to training host country nationals in aspects of disaster preparedness, OFDA sponsored participants from Asian and Pacific countries to attend various conferences, seminars, and workshops held around the world.

Latin America and the Caribbean

On the morning of September 19, OFDA received a transmission from the U.S. Geological Survey reporting a high-magnitude earthquake 40 km off the western coast of Mexico. All telephone communication with Mexico City was disrupted, but gradually news of the devastation in the capital city began filtering out to the world. The next day the U.S. Ambassador declared a state of disaster in Mexico. In Washington, OFDA established a 24-hour command center to coordinate the USG's relief response and also reply to the overwhelming number of telephone calls from the public and private sectors offering assistance to Mexico.

Over the course of ten days, OFDA staff and volunteers from other A.I.D. Bureaus handled thousands of calls offering assistance. These offers were matched with specific requests for supplies and technical assistance channeled through the U.S. Embassy and the OFDA assessment team in Mexico City. In an effort to prevent the influx of tons of unneeded or inappropriate supplies and thousands of unskilled volunteers, OFDA dispatched an eight-member disaster response team

to assess the disaster areas and make recommendations concerning needed supplies and assistance that the United States could provide.

Not since Hurricane David hit the Caribbean in 1979 had OFDA mobilized to provide such a massive relief response to a sudden impact disaster. OFDA staff worked around the clock, in 12-hour shifts, to rush required assistance to the disaster site. Individual staff members were assigned spe-



The Mexico earthquake mobilizes OFDA's Operations Center

cific functions during the disaster. For example, OFDA's Logistics officer was responsible for dispatching relief supplies and personnel by DOD aircraft and private carriers to Mexico. OFDA's PVO liaison worked closely with private voluntary organizations active in Mexico. OFDA produced daily situation reports to keep other A.I.D. and State Department personnel, key members of Congress, private voluntary agencies, and state and local government officials informed of the latest updated situation. For the first time in its twenty-year history, OFDA sent search and rescue teams to a disaster site. The Mexico earthquake experience provided some valuable lessons learned for OFDA on how to handle a large scale disaster. These lessons were applied just one month later, when OFDA had to mount a similar relief effort in response to the eruption of volcano Nevado del Ruiz in Colombia.

Earlier in the year, Chile had also suffered from a massive earthquake that caused billions of dollars worth of property damage and left over 500,000 people homeless. OFDA dispatched a four-member team to assess the situation and recommend an appropriate USG response. The team determined that USG assistance should focus on the urgent requirements of shelter, water, and the replacement of essential medical supplies. OFDA provided plastic sheeting, water tanks, a temporary hospital unit, and cash grants to four Chilean PVOs for constructing temporary shelter. OFDA also responded to another earthquake in Argentina, a bush fire in Ecuador, a landslide in Peru, flooding in Panama, an airplane crash in Bolivia, a gas explosion in Mexico, and displaced persons in Honduras. In addition, OFDA allotted to the U.S. Mission in Honduras a \$7.5 special supplemental appropriation to provide assistance to Indian groups in Honduras displaced as a result of civil strife in the region. The relief program targeted Indian groups concentrated in some 30 villages in the Mosquitia area near the Honduras-Nicaragua border and included projects in supplementary feeding, nutrition and health assessment, language education, road and bridge repair, and rural development.

OFDA has been in the forefront of promoting disaster preparedness in the Latin American and Caribbean region. In cooperation with UNDR0, PAHO, and the government of Canada, OFDA contributed to the establishment of the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP). Based in Antigua, this project

assists Caribbean governments in planning and implementing disaster preparedness programs and assessing the risks of hazards endemic to the region, such as hurricanes, earthquakes, volcanic eruptions, and marine pollution accidents. In cooperation with PAHO, OFDA funded an emergency health preparedness program in Central and South America. OFDA has also sponsored several firefighting training courses in the Latin American and Caribbean region. Over 80 participants from Latin American and Caribbean countries were sponsored by OFDA to attend various conferences, seminars, and workshops in FY 1985.

The disaster case reports that follow are descriptions of the 37 declared foreign disasters that occurred in FY 1985. Data on people killed, injured, affected, and homeless are taken from official re-

ports, which sometimes underestimate the actual number of victims. For example, mortality statistics reported from long-term disasters, such as droughts and famines, usually do not accurately account for the deaths that result from starvation or disease. The case reports also include a record of the emergency assistance provided by the host country, international community, PVOs, and the U.S. Government during the relief phase of the disaster. The listings of assistance provided by U.S. voluntary agencies and the international community are compiled from reports submitted voluntarily to OFDA. It is not always possible to verify the accuracy of these reports, nor the dollar value of in-kind contributions. As a result, the total dollar values indicated in these sections should be taken as representative figures.



Displaced persons in Honduras

Acronyms Used in This Report

U.S. Private Voluntary Organizations (PVOs) and Private Groups

ADRA	Adventist Development and Relief Agency
ANRC	American National Red Cross
CARE	Cooperation for American Relief Everywhere
CRS	Catholic Relief Services
CWS	Church World Service
HKI	Helen Keller International
LWR	Lutheran World Relief (U.S.)
PVO	Private Voluntary Organization
SCF/US	Save the Children Federation/US
SIM	Society of International Missionaries (formerly Sudan Interior Mission)
WVRO	World Vision Relief Organization
YMCA	Young Men's Christian Association

International PVOs and Other Private Groups

SCF/UK	Save the Children Fund/UK
MSF	Medecins sans frontieres (Doctors Without Borders)
NGO	non-governmental organization

International Organizations

EEC	European Economic Community
FAO	U.N. Food and Agriculture Organization
ICRC	International Committee of the Red Cross
LRCS	League of Red Cross and Red Crescent Societies
LWF	Lutheran World Federation (international)
PAHO	Pan American Health Organization
UNDP	U.N. Development Program
UNDRO	U.N. Office of the Disaster Relief Coordinator
UNHCR	U.N. High Commissioner for Refugees
UNICEF	U.N. Children's Fund
UN/OEOA	United Nations Office of Emergency Operations in Africa
WCC	World Council of Churches
WFP	World Food Program
WHO	World Health Organization

U.S. Organizations

AID	Agency for International Development
CDC	Centers for Disease Control, U.S. Department of Health and Human Services
DOD	U.S. Department of Defense
FFP	Food for Peace Office, A.I.D.
FFW	Food for Work, aid program
OFDA	Office of U.S. Foreign Disaster Assistance, A.I.D.
TFAF	Task Force for the African Famine
USG	United States Government
USGS	U.S. Geological Survey, U.S. Department of the Interior
WASH	Water and Sanitation for Health

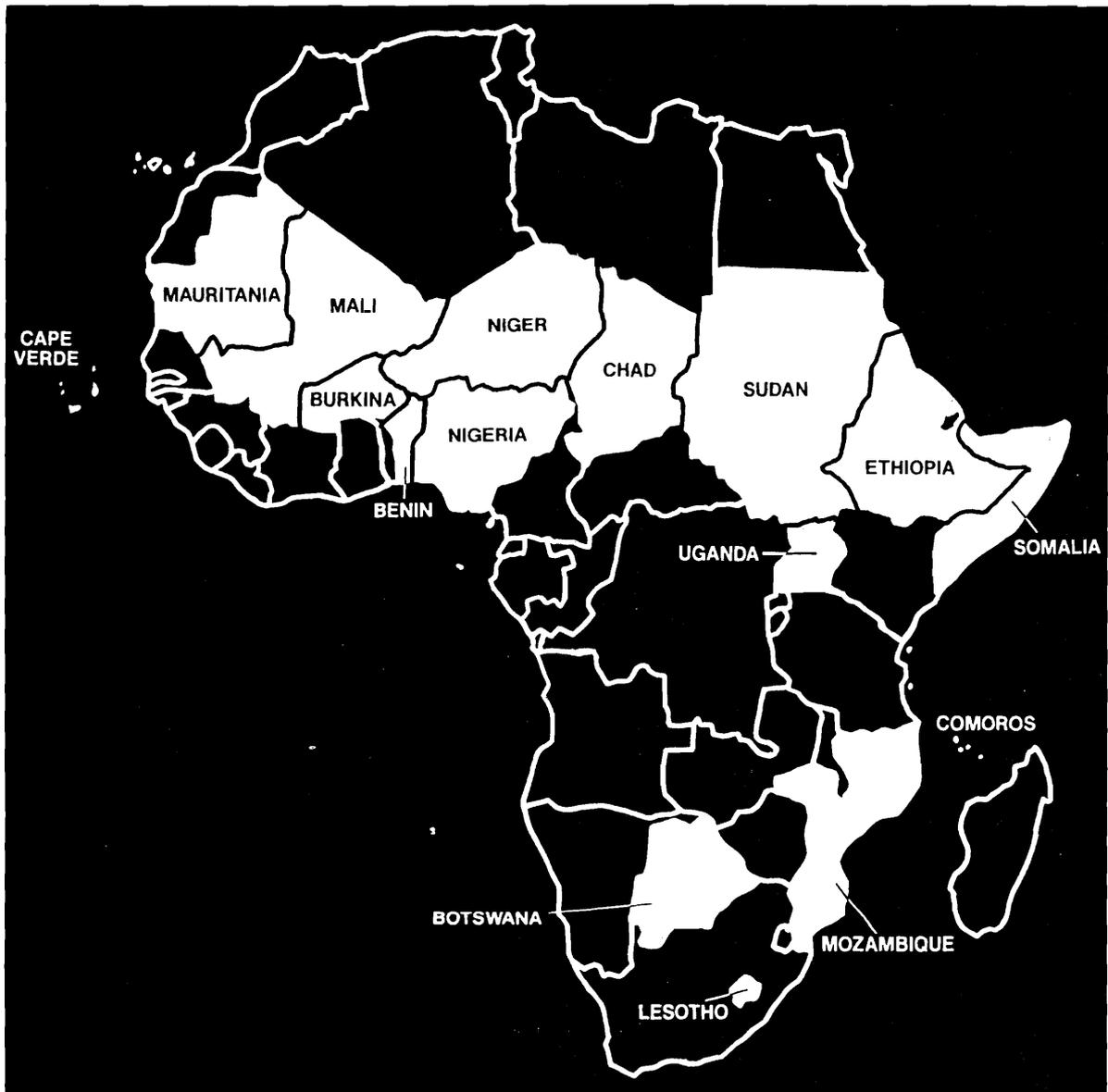
Food Acronyms

CSM	corn-soya milk
DSM	dry skim milk
ICSM	instant corn-soya milk
NFDM	non-fat dry milk
SFCM	soy-fortified corn meal
SFRO	soy-fortified rolled oats
SFSG	soy-fortified sorghum grits
vegoil	vegetable oil
WSB	wheat-soya blend

Other

ORS	oral rehydration salts (a sugar-salt combination used to treat diarrheal diseases)
TDY	temporary duty (assignment)

Africa



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Mali Epidemic	41	Sudan Drought/Famine	74
Mali Drought	43	Uganda Civil Strife	88

**Expelled
Persons**

Benin

Date

May 3-15, 1985

Location

Nigeria-Benin border

No. Dead

Three to seven reported

No. Affected

350,000

The Disaster

Following the Nigerian Government's announcement that all aliens without proper immigration documents would be expelled by May 10, thousands of immigrants began moving to the Nigeria-Benin border. Most of the aliens were Ghanaian nationals, although Beninois, Togolese, and Nigeriens were also among the expellees.

The Nigerian-Benin border was opened on May 3. By May 4, hundreds of people were assembled at the Krake and Igolo border points waiting to leave Nigeria. On May 9, the Government of Nigeria (FMG) allowed convoys of trucks carrying returnees headed for Togo and Ghana to cross the border. Approximately 4,000 to 5,000 returnees crossed that day. However, returnees without transport were not allowed to cross.

Congestion at the Krake and Igolo border crossings intensified by May 10, the deadline for undocumented workers to leave Nigeria. Thousands of immigrants waited at the border, either to be cleared through or to obtain transportation to their home villages. Most were without food, shelter, or funds. Many were held at the border for days while Nigerian border officials processed each expellee individually. As a result, when the border was officially closed at 6:00 p.m. on May 10, thousands of evacuees remained on the Nigerian side of the Benin-Nigeria border waiting to be processed. Several hundred people who made it across before the border was closed refused to leave the area until their friends and relatives were allowed to join them. At one point, those on the Benin side attempted to break through the barriers. Beninois officials were fearful that greater violence would erupt.

Benin officials estimated that 19,000 people crossed into Benin between May 3 and 10 via Krake, and more than 33,000 via Igolo. However, they estimated that as many as 50,000 people remained on the Nigerian side waiting to be processed when the FMG closed the border at 6:00 p.m. Those returnees were told to return to Lagos where transport would be arranged for them by boat or other means. The evacuees refused to return to Lagos and, at about 9:00 p.m., a number of large trucks crashed through the frontier barricades overwhelming the Nigerian border officials. An estimated 250 vehicles carrying between 12,000 and 15,000 people pushed their way through the border before Nigerian reinforcements arrived on May 11.

Action Taken by the Government of Benin (GOB)

As the crowds of expellees began to gather at the Krake and Igolo border points, the Benin Red Cross set up first-aid posts to treat emergency medical needs. The Government of Benin initiated operations to distribute food to those waiting at the borders and aid pregnant and sick returnees. The GOB acknowledged, however, that due to its limited resources and the combined effects of drought and domestic economic crises, it was unable to satisfactorily meet the needs of the thousands of expellees who lacked shelter, food, water, and medical care.

On May 6, the GOB Foreign Minister appealed for international assistance for the returnees. The GOB proposed to use the assistance provided to transport the returnees from the border as quickly as possible (to avoid deterioration of sanitary conditions) and to provide food and medical care to those awaiting transport.

Assistance Provided by the United States Government

In response to the GOB appeal and in recognition of the dire conditions at the border cross points, on May 14 the U.S. Ambassador to Benin determined that a man-made disaster existed. He authorized a contribution of \$10,000 to the Benin Red Cross to purchase medicines, prepared foods, vehicle fuel, and other emergency supplies.

TOTAL \$10,000

Assistance Provided by U.S. Voluntary Agencies

CRS — donated \$10,000 in cash to purchase food for the expellees.

TOTAL \$10,000

Assistance Provided by the International Community

International Organizations

UNDRO — provided two emergency grants totaling \$20,000.

UNICEF — made a cash grant of \$3,500 to purchase medicines and provided an unspecified quantity of milk products to the Benin Red Cross for distribution to children at the Krake and Igolo border points, value not reported.

WFP — provided rice from an ongoing project.

Governments

Canada — contributed \$7,353 through UNDRO to rent trucks and purchase gasoline.

China, People’s Rep. — contributed \$3,106 to the Benin Red Cross.

France — contributed \$2,070 in cash to the Benin Red Cross and provided an unspecified quantity of tents, medicines, and protein tablets, value not reported.

Germany, Fed. Rep. — provided \$16,130 for local purchase of relief supplies.

United Kingdom — provided \$11,399 through UNDRO to rent trucks and purchase gasoline.

Voluntary Agencies

Germany, Fed. Rep., Red Cross — made a cash grant of \$9,000 to the Benin Red Cross.

Soviet Union Red Cross — contributed 2 MT of medicines and medical instruments, value not reported.

TOTAL \$72,558

Drought

Botswana

Date	1982-1985
Location	Countrywide, especially in the east
No. Dead	Not reported
No. Affected	Approximately 880,000 (80% of the population)
Damage	Loss of crops and livestock, and increased malnutrition

The Disaster

For four consecutive years, Botswana has suffered from the effects of drought. In the eastern region where most crop production and cattle raising occurs, rainfall was from 35% to 60% below normal in 1985. Nationwide, the drought was responsible for reducing domestic food production by as much as 80%. Harvested crops amounted to 20,000 MT, about 7% of a normal year’s yield. The livestock industry, namely cattle used as draft animals for planting and ploughing, also suffered. The national herd was reduced by 600,000 head over the four-year period due to critically inadequate grazing land. Many small-scale owners of livestock lost their entire herds.

Malnutrition persisted as the drought continued and was especially pronounced among women and children in small villages. In 1985, 31% of the population was identified as nutritionally at-risk and child malnutrition was estimated at 22%. The areas of Molepolole, Lobatse, Ghanzi, and

Kgalagadi recorded the highest incidences of malnutrition.

Action Taken by the Government of Botswana (GOB)

On March 10, 1985, President Quett Masire declared the fourth year of drought for most of Botswana, although in certain areas crop production had begun to improve. These more promising areas were designated as recovery zones.

Beginning in 1982 and continuing through 1984, the GOB instituted several drought relief programs that provided supplementary food to more than 60% of the population. Special nutritional supplements were given to infants, school children, nursing mothers, and pregnant women. In the recovery zones, only people medically identified as in need of rations qualified for free food. The GOB continued to administer a public works and cash-for-work program designed to provide income for rural people as compensation for losses

resulting from the drought. This program benefited over 25,000 drought victims. In a "hand stamping" program, 7,000 women were employed using mortars and pestles to pound WFP and GOB-purchased sorghum into flour. In 1985, the GOB increased the compensation for "hand stamping."

Agricultural relief efforts such as free seeds, water supply systems, and subsidies to encourage increased cultivation were continued in 1985 in all drought areas. In the recovery zones only those measures which contributed directly to the recovery of farming were implemented.

Assistance Provided by the United States Government

In response to the continuing drought, Ambassador Theodore C. Maino on August 12, 1985, issued a disaster declaration and authorized \$25,000 to be used in support of priority projects within the GOB's drought relief program.

USAID's strategy to alleviate the disaster included the distribution of P.L. 480 Title II food commodities. As part of a government-to-government agreement, 3,000 MT of corn and 1,000 MT of vegeoil were donated by the USG. The commodities cost \$1,409,800 and freight cost \$1,653,700. In addition, 775 MT of Section 416 NFDN were provided for distribution by WFP. The cost of the food was \$503,800 and freight cost \$220,900.

TOTAL \$3,813,200

Assistance Provided by U.S. Voluntary Agencies

CRS — gave \$36,000 cash for the purchase of food.

TOTAL \$36,000

Assistance Provided by the International Community

International Organizations

FAO — contributed \$130,000 for botulism vaccines and donated food commodities and freight valued at \$490,000.

LWF — gave \$650,000 cash for grain storage and implemented an emergency water supply program with a grant from Sweden.

UNDP — provided \$60,000 for four food distribution officers from United Nations Volunteers.

UNDRO — gave \$13,600 for stockfeed covers.

UNICEF — donated transport and logistics support valued at \$440,000 and medicine valued at \$821,000, and provided \$172,000 for workshops and seminars.

WFP — supplied food commodities valued at \$1,000,000 and eight vehicles valued at \$80,000.

Governments

Australia — donated open-air food storage and cooking equipment worth \$153,000.

China — supplied seeds valued at \$100,000.

Denmark — provided food supplies valued at \$90,000.

Italy — donated 19 MT of pharmaceutical and veterinary equipment valued at \$174,418.

Sweden — gave \$930,000 for an emergency water supply program and a grant to Lutheran World Federation of \$211,111 for an emergency water supply program.

United Kingdom — donated food protection equipment valued at \$41,000 and provided 15 Land Rovers valued at \$405,000.

Voluntary Agencies

Caritas Austria — gave \$30,544 in cash.

Caritas Canada — donated \$8,000 in cash.

Caritas Germany, Fed. Rep. — gave \$13,840 in cash.

TOTAL \$6,013,513

Drought and Food Shortage

Burkina Faso

Date

1983-1985; declared November 27, 1984

Location

Countrywide, but areas east, north, and northwest of Ouagadougou were the most affected

No. Dead

Not available

No. Affected

Approximately 2.5 million persons were at risk from famine conditions. The displaced population was estimated at 222,000.

Damage

Due to drought conditions, gross cereal production in the 1984/85 season was 185,000 MT short of the national consumption requirement. Nationwide, 500,000 head of livestock were severely weakened.

The Disaster

Drought and food shortage conditions continued to plague Burkina in 1984 and 1985 following a year of inadequate rainfall considered to be the worst since 1920. Most affected was the central plateau, which contains close to 50% of the population and has suffered three consecutive poor harvests. Millet and sorghum, the staple foods of the rural population, were particularly damaged. In some areas of the Sahel and Yatenga provinces there was no harvest despite repeated sowings.

In December of 1984 an FAO multi-donor mission to Burkina found that six of eleven provinces studied were experiencing serious cereal shortfalls. Total cereal stores were significantly below a self-sufficiency cereal need, defined as 75% of the minimum nutritional level necessary for normal body health (180 kg cereal per capita). Of the six provinces, Yatenga and Sahel were the most affected areas, with the 1984 harvest providing only 22% and 30% respectively of the inhabitants' cereal needs.

As critical as the food shortage in Burkina was the water supply situation. The country's 1983 and 1984 rainfall shortages continued into 1985 resulting in critical water supply shortages for consumption, sanitation, and agriculture. The lack of adequate water for cleaning and drinking encouraged the transmission of infectious diseases. Moreover, because of the poor rainfall, many people normally resident in the areas north and east of Ouagadougou began to migrate toward urban areas in search of better food and living conditions. This resulted in excessive demands on diminishing water resources in urban centers.

Following the 1983 drought, herds which normally grazed on Sahelian pastures in the rainy season remained in the south until the end of 1984. This raised serious water and pasture problems in the southern zone which were aggravated by the arrival of herds from neighboring countries, especially Mali. Over 500,000 head of livestock were severely affected by the drought and continued to suffer from the effects of the food and water shortages until June of 1985. Herds began to recover with the onset of rains; however, movement to the north was slow due to the animals' weakened condition.

Action Taken by the Government of Burkina Faso (GOB)

In 1983, the GOB established a donor working group to address the operations of the National Cereals Office (OFNACER), food assistance, and donor coordination. In 1984 the GOB created the Presidential Office for NGO Oversight to provide direct coordination of PVO activities. Several PVOs worked with this office in planning and formalizing PVO disaster assistance.

On October 11, 1984, the President of the National Commission for the Fight Against the Drought convened a meeting with representatives of international organizations, PVOs, and diplomatic missions. She announced that famine conditions threatened parts of Burkina and presented the GOB plan of action to respond to the urgent problems of food, housing, and infrastructure repair. Each organization was asked to indicate the assistance they could provide.

Generally poor health conditions caused by the drought worsened the impact of endemic diseases such as measles, yellow fever, and meningitis. In response, the GOB initiated a program of expanded vaccination called Operation Vaccination Commando. Two million children were immunized during the nationwide program conducted in November and December of 1984.

An emergency food distribution program was initiated by the GOB in seven of the twelve provinces in an effort to move food out to target areas before the rainy season. The program was launched with loaned trucks from UNICEF and WFP, and from within the GOB. Reception centers were established outside Ouagadougou to provide shelter to migrants from the more severely affected rural areas. In February and March of 1985, the GOB began rationing already scarce supplies of water.

Assistance Provided by the United States Government

As early as 1983, USAID/Burkina joined the GOB in expressing concern that food shortages would develop before the 1984 harvest. Following the GOB's official request for assistance, Ambassador Leonardo Neher declared on November 27, 1984, that disaster conditions existed in Burkina. Recognizing that the situation had surpassed the GOB's ability to respond, he authorized the use of the Ambassador's emergency fund of \$25,000 for grants to Africare (\$7,000) and UNICEF (\$18,000).

The funds were used for emergency food transport in the Yatenga province.

As a result of the lack of overall donor coordination on the disaster situation in 1984, USAID/Burkina convened an informal group of contractors, sponsors, and other interested parties to discuss disaster relief efforts and coordination. These meetings were later formalized as a weekly discussion group under the sponsorship of WFP and the Drought Commission. Concurrent to these weekly meetings, USAID/Burkina and the FAO collaborated on improving the GOB's assessment of growing conditions and crop production. This effort resulted in the FAO sponsored multi-donor food situation assessment in late 1984.

USAID/Burkina designed an Emergency Relief Program that addressed the following issues: food assistance, nutritional surveillance, and relief and rehabilitation projects in dam construction, wells, and roads. OFDA provided \$165,000 to pay for staff and other support for this program. The first priority of the USG relief strategy was to provide Burkina with food assistance through both the sale and free distribution of P.L. 480 Title II food grains. 19,000 MT of Title II red sorghum was provided to Burkina as part of a government-to-government feeding program. Of this total, 4,000 MT was to be distributed free of charge through cereal banks sponsored by PVOs. The remaining 15,000 MT was to be distributed through the OFNACER commercial network to increase the market supply of food. The proceeds of food sales were used to pay local transport costs of emergency commodities and to help finance various food distribution programs. The grain was provided in three shipments via Lome, Togo, with the freight cost at \$3,697,900 and the commodities valued at \$2,509,100. In addition, 4,000 MT of Title II SFCM was provided for distribution by the African-American Labor Center (commodity cost \$900,300, freight cost \$980,000).

The USG food assistance program also included the donation of 20,211 MT of P.L. 480 Title II food through CRS. These commodities (8,792 MT of cornmeal, 1,649 MT of vegoil, and 9,770 MT of SFCM) were distributed through the CRS emergency feeding program which operates in seven drought-affected provinces. The food benefited over 505,000 recipients through programs in maternal/child health, food-for-work, school feeding, and general relief. The commodities were valued at \$5,598,700 and transport costs were \$4,111,200.

USAID provided an additional 3,160 of Title II food (1,400 MT of rice, 1,400 MT SFCM, and 360 MT vegoil) to the LRCS emergency feeding program in the area of Ouagadougou. The value of these commodities was \$1,099,900 and freight cost was \$1,111,600. The USG also donated 505 MT of Section 416 NFDM for distribution by WFP (commodity cost \$328,300, freight cost \$143,900).

To quickly increase the net supply of food available to drought victims, USAID arranged a barter transfer of 5,000 MT of maize from Ghana to Burkina. Of that total, 3,000 MT was allocated to the Baptist Mission program, 1,000 MT to LRCS, and 1,000 MT to GOB programs. Under this contract, 9,202 MT of Title II rice was exchanged for 15,000 MT of white maize (10,000 MT was transshipped to Mali and 5,000 to Burkina).

The USG provided other assistance in addition to food aid to combat the disaster. In support of LRCS's 35 wet-feeding programs, OFDA funded the purchase of 10 grain mills from Lome, Togo, at a cost of \$27,000. The mills were used to process whole grain/kernels at the rate of 270 kg per hour into a food that can be used in wet-feedings. Seven mills were placed in Yatenga province and three in Soum.

With an emergency grant of \$74,598 from OFDA, Africare initiated a small scale food-for-work project in Bam and Yatenga provinces.

A major facet of the USG Emergency Relief Program addressed the precarious water situation in the country. The GOB, faced with critical water shortages, requested that OFDA send a two-person WASH team to assess water and sanitation problems arising from concentrations of at-risk populations in and around Ouagadougou and to evaluate a GOB proposal for a dam near Ziga village. The WASH team, consisting of a hydrologist and a sanitary engineer, visited Burkina Faso for three weeks in March of 1985. A WASH water en-

gineer was also sent for one week to assess dam and spillway requirements. The cost of these assignments (\$56,612) was funded from an Africa regional obligation and is not included in the Burkina Faso total.

Based on the recommendations made by the water engineer, two additional WASH consultants were sent to Burkina Faso to conduct a dam and reservoir evaluation and feasibility study. A water engineer made several short visits beginning in July of 1985, and a dam construction engineer worked in Burkina Faso for nine months beginning in October of 1985. OFDA allocated \$125,000 for these assignments.

During drought conditions Ouagadougou's water supply system invariably reaches dangerously low levels. To help prevent such occurrences, OFDA granted \$1,500,000 to the GOB for the reconstruction and rehabilitation of Ouagadougou Dam No. 2 and its principal spillway. This dam is the key element in OFDA's water emergency program since it will store water that can then be pumped into the central reservoir in times of drought, thereby reducing the overall surface area exposed to evaporation. Three water pumps and pipes (\$46,213) plus spare parts (\$2,523) were purchased by OFDA and transported to Burkina Faso via air (\$35,121).

In addition, OFDA allocated \$200,000 for on-site technical advice on USG emergency water assistance. Also provided were 12 water tanks airlifted from the Leghorn, Italy stockpile (airlift cost \$3,915) to support the LRCS emergency feeding centers in the Yatenga and other drought-affected areas. OFDA provided \$300,000 to drill and/or repair 40-50 water wells at locations experiencing the most serious water shortages.

The rainy season in Burkina Faso occurs from June through October. During this period in 1985, flooding and rain damaged roads and prevented the movement of emergency food to the rural areas. In particular, the Kaya-Dori road that links the Sahel region with the paved East-West highway was badly damaged, making further supplies of food aid to the region uncertain. In response to this problem, USAID donated \$400,000 for a two-month World Bank/GOB rural road project to provide emergency repairs to severely damaged sections of the road and improve passability during heavy rains.

Another element of USG relief to Burkina Faso provided medical assistance in drought-stricken

areas. In response to a request from the GOB Ministry of Health, OFDA sent medical supplies to combat a major cholera outbreak in the northern part of the country. USG donations included cholera medicines supplied by UNICEF worth \$15,684 and heptamyl valued at \$11,960 purchased by the U.S. Mission in Bonn. Other medicines valued at \$38,514 were purchased from private firms and IV sets worth \$3,167 were supplied by DOD. (All figures include transport).

In addition, USAID's Bureau for Food for Peace and Voluntary Assistance financed a team of medical epidemiologists from the Centers for Disease Control to conduct a nutritional survey of Burkina Faso. AID contributed \$7,315 for this project, UNICEF financed and arranged the logistics for the field work, and the GOB furnished additional supplies and personnel. Two drought-affected provinces, Soum and GnaGna, were surveyed to obtain baseline data on current nutritional status of children aged six months to six years. In 20 randomly selected villages, height, weight, and arm circumference were measured, clinical examinations for edema and avitaminosis A and C were performed, and a standardized questionnaire to evaluate measles vaccination status, recent illness, and food consumption was administered to the mothers of children in the sample. The data was used to identify interventions for USAID-funded feeding programs.

The U.S. Mission reported that a lack of expertise in the health field was hampering their ability to monitor and develop emergency health programs. They requested OFDA's assistance. In response to this request and a recommendation made by the CDC team, OFDA sent an emergency program health advisor for 120 days to undertake cholera and nutrition surveillance.

Summary of OFDA Assistance

Ambassador's authority used for grants to UNICEF (\$18,000) and Africare (\$7,000) for emergency food transport	\$25,000
Staff and support for Emergency Relief Program (supplemental funds)	\$165,000
Grant to Africare for a food-for-work program	\$74,598

WASH water engineer and dam construction engineer (supplemental funds)	\$125,000
Grant to GOB for dam/spillway repairs (supplemental funds)	\$1,500,000
Purchase of water pumps and pipes	\$46,213
Air freight of water pumps and pipes	\$35,121
Contract for initial supply of spare parts for pumps and motors	\$2,523
Airlift of 12 water tanks from Leghorn, Italy stockpile	\$3,915
Drilling/repair of 40-50 water wells (supplemental funds)	\$300,000
Technical assistance for well, dam, and other small water projects (supplemental funds)	\$200,000
Grant to LRCS for the purchase of 10 grain mills	\$27,000
Grant for emergency road repairs (supplemental funds)	\$400,000
Medical supplies and transport (supplemental funds)	\$69,325
Temporary assignment of emergency health program advisor (supplemental funds)	\$30,780

Summary of FFP Assistance

P.L. 480 Title II commodities and ocean freight	\$20,480,900
CDC nutritional assessment team	\$7,315
Total OFDA funds	\$214,370
Total OFDA-administered Supplemental funds	\$2,790,105
Total FFP funds	\$20,480,900
TOTAL	\$23,485,375

Assistance Provided by U.S. Voluntary Agencies

African-American Labor Center — handled 4,000 MT of Title II SFCM provided by the USG.

Africare — under the CRS Emergency Program, managed USG-donated P.L. 480 Title II stocks in a food-for-work program, provided two food coordinators, installed rural water supply systems, and with a grant from OFDA for \$7,000, provided transport for emergency food.

Baptist Mission — distributed Title II food and provided nine expatriate personnel and ten end-use checkers to monitor food distribution.

CRS — distributed P.L. 480 Title II food through its emergency and regular feeding programs in seven provinces, and implemented food-for-work programs in conjunction with Africare.

SCF/U.S. — supervised the distribution of USG donated Title II food.

Assistance Provided by the International Community

International Organizations

FAO — donated motor pumps valued at \$120,700, insecticides valued at \$30,000, and purchased other agricultural inputs valued at \$27,000.

Fonds European du Developpement (FED) — donated medical supplies valued at \$86,000, seeds valued at \$123,000, transport valued at \$46,000, and gave \$341,000 for road repairs.

LRCS — distributed USG-donated Title II stocks and other donor food through its emergency feeding program in Ouahigouya, and provided a ten-person management team for this operation plus a local staff of nutrition assistants and office personnel.

OPEC — donated 13 trucks valued at \$390,000.

UNDP — gave \$25,000 for repairs and maintenance of 20 wells, and donated farming equipment valued at \$300,000.

UNICEF — with a grant from OFDA for \$18,000 provided transport for emergency food; distributed Title II food donated by the USG through its food-for-work program in Yatenga province; coordinated emergency health activities; donated medical supplies valued at \$416,000, three water tanker trucks valued at \$120,000, transport valued at \$8,400, and a warehouse valued at \$13,000; gave \$36,000 for assistance to displaced persons; funded the Operation Vaccination Commando; and contributed clothes, 6,000 blankets, 100 tents, 200 tarpaulins, and 1,000 polyethylene ropes, value not reported.

WFP — gave \$120,000 for internal food transport, \$250,000 for the purchase and maintenance of six trucks, and donated eleven silos for food storage and four radio receivers, value not reported.

Governments

Canada — gave seeds valued at \$114,000.

Germany, Fed. Rep. — contributed \$32,000 for relief to displaced persons.

Italy — donated six trucks valued at \$180,000.

Korea, Dem. People's Rep. — donated \$10,000 for the transport of cereals.

Luxembourg — gave \$100,000 for the rehabilitation of railway cars to carry food supplies from Abidjan, Ivory Coast.

Netherlands — contributed \$16,000 for a dried meat operation.

Spain — contributed \$80,000 for training programs in rural communities.

Voluntary Agencies and Other Private Groups

AFVP (French PVO) — administered various programs concerning community water supplies, irrigation, animal watering, erosion control, and soil replacement, and provided 40 technicians.

Christian African Missionary Alliance — under the Baptist distribution program, handled Title II food donated by the USG.

ECHO/Joint Mission Hospital Equipment Board/U.K. — donated medical supplies and transport valued at \$58,300.

Express Sahel — conducted an emergency food distribution program in rural areas under the direction of the GOB Drought Commission.

Maryknoll Fathers — gave \$85,000 in cash.

SFC/UK — carried out a nutrition survey and feeding program in the gold mining area of Sebba near Dori, and installed large diameter dugwells in the same area.

Six S — under the CRS Emergency Program, managed Title II stocks donated by the USG.

TOTAL \$3,127,400

Storm

Cape Verde

Date
September 16-17, 1984

Location
Entire archipelago, with the islands of Santa Antao and Sao Tiago the most seriously affected

No. Dead
29

No. Affected
Approximately 5,500 persons homeless

Damage
Extensive damage to dwellings (438 destroyed; 656 damaged) and other buildings, as well as to crops and infrastructure (water distribution systems, bridges, roads, and dams.)

The Disaster

Torrential rains and strong winds accompanying Tropical Storm Fran inflicted major damage on several islands of the Cape Verde archipelago on September 16-17. Some areas of this normally drought-prone country received more than 500 mm of rain during the brief period of precipitation. Most affected were the islands of Santo Antao and Sao Tiago.

Approximately 1,100 families were left homeless by the storm as flooding, mudslides, and high winds caused extensive damage to housing. The victims were among the poorest of the population and those who had built in the most vulnerable locations. Other structures such as schools and clinics also sustained considerable damage.

Damage to crops was widespread and roads and bridges were washed out in some areas. Breaks in the water distribution systems on several islands created a potential health hazard.

Action Taken by the Government of Cape Verde (GOCV) and Other Local Groups

The State Secretariat of Cooperation and Planning invited the donor community to attend a briefing on October 8 to receive the official report on the extent of the storm's damage. The GOCV launched an appeal for international assistance on October 10 and created a special commission chaired by the Minister of Health to supervise relief operations and coordinate donor response. The commission also administered a special disaster account established by the GOCV. Assuring adequate shelter for the displaced people before winter began and re-establishing water supplies were the top priorities identified by the GOCV.

The Cape Verde Red Cross, already involved in carrying out a feeding program for malnourished children on Santo Antao as a result of the country's prolonged drought, also responded to the flood disaster by donating \$34,654 in cash.

Another local organization, the Central Committee of National Solidarity Movement, provided \$27,174 in cash to the relief effort.

Assistance Provided by the United States Government

Based on the GOCV damage report and consultation with local officials, U.S. Ambassador John Yates made a disaster determination on October 20 and authorized the use of \$25,000 for immediate relief assistance. In response to the Ambassador's request for additional funds for the local purchase of materials to repair houses, clinics, and schools, OFDA provided a grant to the GOCV in the amount of \$250,000.

TOTAL **\$275,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

International Organizations

EEC — pledged \$300,000 in cash.

FAO — provided unspecified assistance for flood rehabilitation as well as for ongoing food projects for drought relief.

UNDP/UNDRO — formed a local United Nations country emergency team with representatives from UNICEF, WFP, FAO, and WHO to help assess the disaster situation and identify areas for action.

UNDP — provided \$50,000 in cash and in kind, including eating and cooking utensils, water buckets, and blankets through UNICEF

UNDRO — provided \$20,000 in cash for the purchase of relief supplies.

WFP — provided food (maize, beans, milk, and oil), valued at \$12,876, from in-country stocks.

Governments

Brazil — provided unspecified assistance.

Finland — donated \$79,000 in cash to the Finnish Red Cross.

France — gave \$25,000 in cash and 2,000 MT of cereals, value not reported.

Sweden — provided \$250,000 in cash.

Voluntary Agencies and Other Private Groups

China, People's Rep., Red Cross — gave \$4,891 in cash.

Medico International — donated \$33,389 in cash for the purchase of medical supplies.

NOVIB — provided \$112,676 in cash.

Oxfam/UK — provided \$20,000 in cash.

Soviet Union Red Cross — donated 32 packages of medicines and 17 cartons of blankets, value not reported.

TOTAL **\$907,832**

Drought**Chad****Date**

1984-1985

Location

Countrywide

No. Dead

Up to 3,000 persons

No. Affected

1,500,000 in need of food aid; 500,000 displaced

Damage

Several years of drought and protracted civil disturbances resulted in reduced food crop production, loss of animals, deterioration of infrastructure and services, and degradation of water and land resources.

The Disaster

With its social and economic structure already weakened by nearly two decades of civil strife and abnormally low rainfall, Chad was one of the countries most seriously affected by the drought and associated famine plaguing much of sub-Saharan Africa in 1984-85. Four consecutive crop failures in the central Sahelian zone, home to 50% of the country's 4.9 million people, and reduced yields in the southern Sudanian zone, resulted in a food shortage of crisis proportions.

As grain stocks were depleted and cattle losses mounted, tens of thousands of destitute farmers, semi-nomadic pastoralists, and nomadic herders left their villages and traditional rangelands for the larger towns or better farming and grazing lands in other areas. The general southerly shift in animal populations, evident over several years as drought conditions intensified, accelerated in 1984 as herdsmen moved generally from the northern, central, and eastern regions to the south and west.

The migration toward larger towns resulted in the emergence of displaced persons camps in urban centers up-country as well as in N'Djamena. This huge influx of people severely overtaxed the food and medical resources of the capital city and towns such as Adre (Biltine), Moussoro (Kanem), and Ati (Batha) where some of the larger camps were located. Five feeding centers established on the outskirts of N'Djamena, referred to as the "N'Djamena wall," were serving 80,000 people by mid-November.

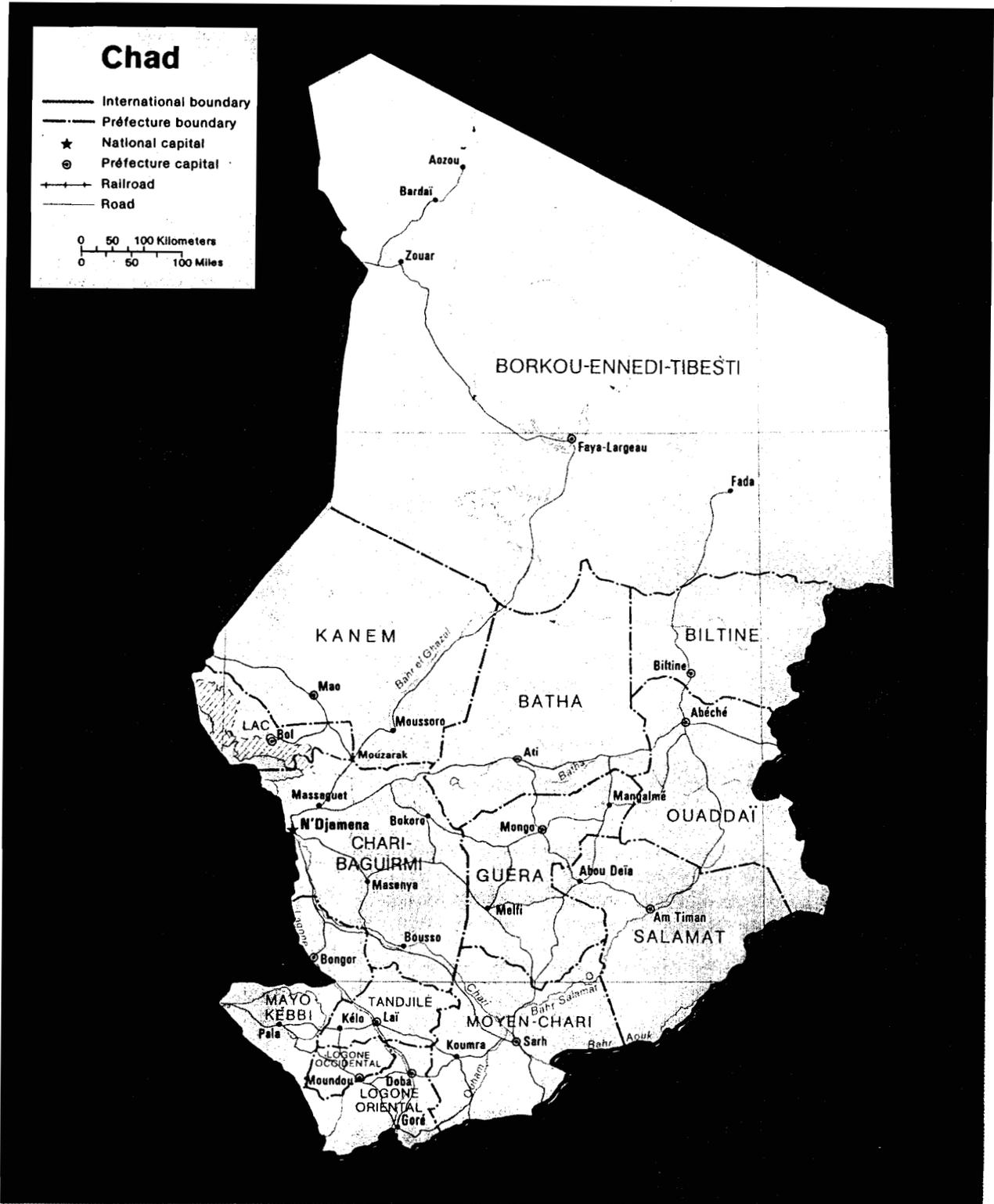
Though an international relief effort begun in the fall of 1984 halted the further deterioration of the nutritional status of people in Chad's Sahelian zone, concentrations of displaced persons and pockets of serious malnutrition appeared in the southern prefectures in the early months of 1985. Regionalized insecurity arising from the continuing conflict between Libyan-backed insurgents and government forces contributed to the shortage of food in the south and hindered emergency operations.

Complicating the relief effort overall was Chad's landlocked location: all food aid had to pass through ports in neighboring Cameroon and Nigeria and be carried overland by train and truck to N'Djamena. When problems developed in forwarding Chad-bound cargo through Nigeria, the port of Douala in Cameroon became the most important receiving point for food shipments for Chad. The absence of a bridge over the Logone River separating Cameroon and Chad was a further logistical constraint as were the initial shortages of transport vehicles and grain storage space. Above normal rainfall, beginning in June in the south and in July in the Sahelian zone, raised hopes for a good harvest in 1985 but slowed food aid deliveries. The Bahr-Azoum River in the Salamat Prefecture overflowed and flooded parts of Am-Timan town and neighboring villages on July 12, and the bridge crossing the Mayo-Kebbi River at the Cameroon/southern Chad border town of Lere was destroyed by flooding on July 18. This temporarily halted the transport of food from N'Gaoundere (Cameroon) to southern Chad. Alternative routes were sought as main roads became impassable in several other areas.

After the rains began, pastoralists began to return to the northern prefectures in droves. This revived concern that food deficits would occur before pastures could be re-established. The crisis had passed, however, and catastrophe had been averted in Chad. As a result of a bumper cereals crop in 1985 — estimated at 690,000 MT — Chad was expected to have a small surplus and not require food assistance in 1986. Food reserves would be sufficient to cover any areas of need that might develop.

Action Taken by the Government of Chad (GOC)

The Food Aid Action Committee, comprising donor and voluntary organizations and chaired by the Minister of Natural Disaster Relief, had been in existence two years when Chad's food shortage became critical in late 1984. During that two-year period, the committee had steadily refined the emergency food aid program so that when faced with greatly increased demands, it was prepared to modify the distribution system to ensure tighter control of food commodities and a more careful targeting of beneficiaries. The new system relieved local authorities of the responsibility for food distribution and placed that duty with regional teams consisting of PVO/donor representatives, GOC disaster relief officials, and heads of local GOC



Chad

services. Through weekly meetings, the committee closely coordinated relief efforts, ensuring that food assistance went to areas with the greatest need.

On November 17, 1984, Chad's Foreign Minister, Gouara Lassou, convoked all chiefs of mission in Chad and representatives of international organizations to alert them to the serious food shortage and the growing displaced persons problem. A few days later, the GOC issued a formal request to the USG for the release of 7,500 MT of P.L. 480 Title II commodities for monetization. The National Cereals Office (ONC) was the marketing agency.

Realizing how necessary an improved transportation and storage infrastructure would be to the successful mounting of a food assistance program, the GOC encouraged all national and international efforts in that direction. Storage space was significantly expanded through a combination of GOC and donor initiatives. The capacity of the Chagoua warehouse complex in N'Djamena, under the control of the Ministry for Natural Disaster Relief (MLCCN), was increased by 6,000 MT. Four logistical bases, comprising warehouse space and vehicle maintenance facilities, were constructed at strategic locations (Mongo, Mao, Moundou, and Abeche) with donor funding and technical assistance.

Local organizations also made important contributions to the vehicle pool. The Cooperative of Chadian Transporters (CCT) provided trucks for both internal food delivery and the Cameroon-Chad run. Over 100 CCT trucks were used full-time to transport food between N'Gaoundere (the point where rail service from Douala terminated) and N'Djamena and other destination points in Chad. Also, due to the lower than expected cotton harvest in 1984-85, some 70 of Cotontchad's trucks were available for internal distribution in the southern prefectures. Because of rebel activity in the south, trucks making food deliveries in some areas were assembled in convoys and accompanied by military escort.

Other inland transport problems were dealt with by the GOC in cooperation with international donors. Anticipating the time when ferries could no longer be used to transport food across the Logone River because of the low water level, the GOC agreed to a donor-financed program to build a temporary bridge to meet initial requirements and a semi-permanent structure to serve longer-term

needs. The GOC Public Works Department erected an earthen causeway leading from the Cameroon bank of the Logone to the end of the bridge. When flooding created new logistical and relief problems in July, the National Roads Office also sent a crew to oversee the construction of a causeway over the Mayo-Kebbi River and the GOC airlifted 8,800 bags to Am-Timan for dike construction as well as tents and blankets from GOC stocks.

From the beginning of the drought emergency, the GOC policy toward displaced persons was to resettle them as quickly as possible in areas with some remaining agricultural potential. This was mainly along wadis (dry river beds) in areas such as the southern Kanem-northern Chari-Baguirmi region and near Abeche in the Biltine Prefecture. Here the water table was only a few meters below ground surface and shallow wells could be dug for garden irrigation. The GOC National Office for Rural Development (ONDR) provided technical supervision of agricultural activities at these sites. Though an estimated 78,000 persons had been resettled by February 1985 (UNDRO figures), the relocation process could not keep pace with camp population growth. Other strategies had to be employed to force dispersal before the onset of the rainy season when epidemics would be more likely to occur. At Ati, Chad's largest camp with a mid-May population of 26,000, the GOC encouraged dispersal by making food and seed available in the areas from which the people had come. The GOC also embarked upon campaigns to orient livestock herders toward agricultural production and to encourage repatriation of some of the thousands of Chadians in Sudan.

Several other GOC agencies and local groups played a vital role in the relief and rehabilitation effort. Following the recommendations of a U.S. nutrition consultant, the Ministry of Health (MOH) created a nutritional unit. The National Service for Nutrition and Food Technology (NSNFT) was responsible for gathering and analyzing data and reporting to the MOH and the Food Action Committee on the nutritional status of persons affected by drought and famine.

The MOH also convened two health coordinating committees, comprising donors and PVOs, MOH officials, and health professionals. The Committee for Emergency Health Interventions met weekly to discuss operations directed toward at-risk populations. (In October, for example, it created the Cholera Task Force to develop a response plan in case the outbreaks in western Sudan should spread to eastern Chad.) The Committee for the Coordination of Health Programming met monthly to consider health care priorities and longer-term interventions. The director of Chad's Expanded Immunization Program (EPI) cooperated with a USG-funded team in setting up a training program for Chadian supervisors, and the MOH also assisted the efforts of a U.S. sanitary engineer in assessing water and sanitation needs in displaced persons camps and resettlement sites.

The Ministry of Social Affairs and the Promotion of Women collected clothing, cooking utensils and financial contributions from women in N'Djamena for distribution to displaced persons. The funds were used to purchase 2.3 MT of corn.

In Salamat Prefecture, the local population provided five tons of food, clothing, cooking utensils and household items, and cash donations to the displaced. A development committee in the Chari-Baguirmi Prefecture planned to use locally collected donations to set up a supplementary feeding center for 500 displaced persons.

Assistance Provided by the United States Government

U.S. Ambassador Jay P. Moffat determined on November 5, 1984, that the Republic of Chad was suffering from a disaster of a magnitude to require outside assistance. He committed his \$25,000 disaster assistance authority to the work of an American PVO, Africare, in settling displaced persons in wadis near Abeche. The money was used for the purchase of seeds, tools, fuel, and household items. Other agencies provided food, health care, and technical assistance.

USG disaster assistance to Chad, as to other drought-stricken countries in Africa, was coordinated by the specially created Task Force for African Famine (see Introduction). The response was directed in large part toward the provision of food and the logistical support needed to deliver it to the drought victims. In a significant increase over previous years' programs, A.I.D.'s Office of Food for Peace released a total of 75,490 MT of P.L. 480

Title II and Section 416 commodities for Chad during FY 1985. This included 61,820 MT in emergency shipments and 13,670 MT of regular food aid.

Local currencies generated from the sale of the 7,500 MT of food donated to the GOC were used for relief and agricultural development projects, including the construction of a logistical base at Mao and the transfer of a WFP ferry from N'Djamena to Lere.

The U.S. Mission in Chad worked closely with GOC officials and other donor and PVO representatives to monitor both the food and health situation in stricken areas and the status of drought relief operations. Tracking food arrivals through Cameroon and Nigeria was a significant part of that effort. USAID personnel in Chad and Cameroon coordinated with the WFP representative and freight forwarders in the port of Douala to expedite the movement of food shipments through Cameroon. This was accomplished in part by obtaining a pledge from the Cameroon Railway Company that a train of 16 wagons would be provided daily between Douala and N'Gaoundere while emergency shipments were needed. To further assure that bottlenecks did not develop in the Douala/N'Gaoundere/Chad overland rail and truck route, the Mission identified vehicular and other logistics requirements and kept AID/W apprised.

Most non-food assistance was provided by OFDA, with funding from regular accounts or the African supplemental appropriation. A major focus besides logistics was in the area of health care. The first of several health missions to Chad was carried out by a three-person CDC health reconnaissance team between January 28 and February 19, 1985. Based on the team's findings that a minimum of 17,000 MT of food aid per month would be necessary to avert widespread starvation, the U.S. Mission urged Washington to expedite grants to PVOs and international organizations in Chad so as to expand the internal logistical capacity. The Mission also recommended additional supplementary feeding programs and nutritional assessments. OFDA's director, who was also head of the TFAF, was able to further define priorities for USG assistance after a seven-day visit to Chad in April.

In response to the Mission's request for logistical support funding, both FFP and OFDA approved several grants over a period of months. In March, FFP executed grants totaling \$756,000 to CARE, \$1,300,000 to LRCS, and \$2,724,000 to WFP. OFDA obligated \$1.4 million to WFP in May for the purchase of 18 Mercedes trucks, trailers, and spare parts and another \$200,000 for truck operations and maintenance. (Please note: The two OFDA-funded grants to the WFP were obligated under Africa Regional and are not included in the Chad total.) A grant to CARE in the amount of \$996,314 was approved by OFDA in June. The funds were to be used for food monitors and transport needs. In addition, OFDA financed an airlift of ten all-weather 4-wheel drive trucks from the factory in Lyon, France, to N'Djamena for CARE's use in delivering food to less accessible areas. The airlift by Trans America was completed on August 4.

To deal specifically with the health needs of displaced persons, as identified by the CDC team, the Mission proposed three short-term technical assistance projects to be staffed by U.S. health professionals. The first of these was performed by an epidemiologist from the U.S. Public Health Service, Dr. Gershon Bergeisen. During a two-month stay in Chad (April 8-June 8), he acted as the Mission's representative on the GOC's Health and Food Aid Action Committee, becoming thoroughly familiar with the country's health needs. The second focused on developing guidelines for the collection and analysis of nutritional data. Dr. Patrick Remington, a CDC nutritionist, who visited Chad from May 20 to June 15, helped create a nutritional unit within the GOC Ministry of Health. The third project set up an immunization program to prevent an outbreak of measles and other communicable diseases in the camps and resettlement areas. A CDC immunization team (Mark Lapointe, W. Robert Weierbach, and Rodella Berry) began surveys in May to determine the level of immunization coverage in the Kanem and Lac prefectures. The team also interviewed potential candidates for a Chadian immunization team and completed a training manual. Mr. Weierbach's contract was extended an additional 30 days to enable him to carry out a plan established with Chad's EPI director to train five Chadian supervisors for the Kanem-Lac regions.

In July, the Mission requested the services of a Public Health Manager to work with the Chadian EPI director in developing an overall plan of immunization operations. Dr. Philip Graitier, who

arrived in Chad on September 14, was also responsible for developing manuals for regional level supervisors and sectoral planners and for assisting with the supervision of the Kanem-Lac immunization program. He worked closely with a physician from the International Human Assistance Programs (IHAP), Dr. Jesus Lopez, who was in charge of designing the Kanem-Lac program. IHAP also carried out a supplementary feeding program at three locations in Chari-Baguirmi, Moyen-Chari, and Mayo-Kebbi prefectures.

In other health-related activities, a Public Health Service sanitary engineer, Larry Strain, visited Chad from July 8 to October 22 assessing water supply and sanitation problems in displaced persons camps and resettlement areas. He recommended that action be taken to improve both the water supply and waste disposal facilities. An OFDA-funded project was simultaneously being carried out to rehabilitate 135 "Peace Corps wells" in Chari-Baguirmi, Lac, and Kanem. The principal task of the contracting technicians (Development Management Systems) was to repair or replace the broken hand pumps. At the TFAF's suggestion, the USAID Mission coordinated with the National Pharmacy to identify pharmaceutical needs, and 22 tons of medical supplies from UNICEF/Copenhagen were airlifted to Chad in October. A smaller shipment of supplies, arriving also in October, was procured from the U.S. DOD in Germany.

Other needs became apparent as the rainy season approached in June. Because rice seed stocks for the 1985 planting were depleted, OFDA agreed to airlift to N'Djamena some 220 MT of rice seed purchased by Cooperation Suisse in Senegal. FAO trucks met the arriving flights (Air Afrique) between June 22 and 26 and transported the seed to distribution points within Chad. Local carriers delivered it to farmers at the village level. As a result of this international effort, an estimated 8,000 farmers were able to produce their own food in 1985. In another action, OFDA airlifted 700 rolls of plastic sheeting from A.I.D. stockpiles for emergency shelter during the rainy season. The shipment was received by CARE on July 26 for distribution by other agencies to 5,000 displaced Chadian families.

Summary of OFDA Assistance

Ambassador's authority used for grant to Africare	\$25,000
Travel and administrative expenses of a CDC epidemiologist	\$21,790
Travel and administrative expenses of a CDC immunization team	\$44,594
Local purchase of two vehicles for immunization program	\$40,000
Transport of plastic sheeting (includes airlift, local handling, and cost of shipping 15 rolls for testing)	\$110,944
Airlift of rice seed from Senegal	\$264,698

IHAP grant for supplemental feeding program	\$1,493,745
CARE grant for food monitors and transport logistics	\$996,314
Mission allotment for local expenses of immunization team	\$13,365
Travel and administrative expenses of a sanitary engineer	\$28,715
Airlift of 10 CARE trucks	\$289,152
Contract to rehabilitate 135 wells	\$506,000
Value of 700 rolls of plastic sheeting ...	\$190,400

Summary of FFP Assistance

Sponsor & Commodity	Metric Tons	Commodity Cost	Freight Cost	Total Cost
GOC Title II: 2,500 MT sorghum; 5,000 MT rice	7,500	\$1,880,000	\$1,712,000	\$3,592,000
CARE Title II: 5,000 MT sorghum; 2,000 MT SFSG; 1,000 MT vegoil; 1,000 MT CSM	9,000	\$2,374,100	\$2,989,800	\$5,363,900
CARE Section 416: 1,000 MT NFDM	1,000	\$ 650,000	\$ 285,000	\$ 935,000
LRCS Title II: 2,500 MT corn; 2,500 MT wheat; 2,000 MT SFSG; 1,000 MT vegoil; 1,000 MT CSM	9,000	\$2,471,700	\$3,541,300	\$6,013,000
LRCS Section 416: 1,000 MT NFDM	1,000	\$ 650,000	\$ 285,000	\$ 935,000
WFP Title II: 720 MT CSM; 10,000 MT sorghum; 540 MT NFDM; 360 MT vegoil	11,620	\$1,954,900	\$3,701,100	\$5,656,000
WFP Section 416: 2,700 MT NFDM	2,700	\$1,755,000	\$ 769,500	\$2,524,500
WFP (IEFR) Title II: 9,000 MT CSM; 2,700 MT vegoil; 8,300 MT sorghum	20,000	\$6,526,500	\$6,888,800	\$13,415,300
TOTAL	61,820	\$18,262,200	\$20,172,500	\$38,434,700

Summary of Other USG (A.I.D.) Funds

Operating expenses (Africa Bureau's Supplemental funds)	\$45,000
Planning, Management, and Research Project (food monitor and local hire end use checker)	\$70,000
Monitors (Food Needs Assessment)	\$187,500
CDC Assessment Team (CCCD) (A.I.D. PASA with CDC)	\$19,490
Total OFDA funds	\$131,384
Total OFDA-administered Supplemental funds	\$3,893,333
Total FFP funds	\$38,434,700
Total Other USG funds	\$321,990
TOTAL	\$42,781,407

(Moyen-Chari), and Fianga (Mayo-Kebbi). (See also Assistance Provided by the U.S. Government.)

Live Aid/Band Aid — allocated over \$1,000,000 to Chad for long-term development projects.

Maryknoll Fathers — \$100,000 in cash for the support of nutritional centers.

Missionary Aviation Fellowship — \$20,000 to help finance TEAM's operation.

U.S.A. for Africa — approved projects for Chad totaling \$1,619,700 to be implemented through the U.N. and various voluntary agencies.

WVRO — organized an emergency program in southern Chad, addressing food and health needs; contributed \$350,000 for staff expenses, vehicles, radios, and relief items and \$144,928 for internal transport.

TOTAL \$3,234,628

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

Africare — assisted the resettlement of 3,600 displaced people in wadis near Abeche (supplying tools, seeds, and household items) with funds from the U.S. Ambassador's disaster assistance authority. (See also Assistance Provided by the U.S. Government.)

CARE — delivered 10,000 MT of emergency P.L. 480 Title II commodities for up-country distribution (see Assistance Provided by the U.S. Government); helped resettle some 2,000 displaced families near Cheddra (Kanem), and the dug over 500 wells; procured 9,000 blankets and clothing material in Cameroon and Nigeria for distribution to 4,500 displaced Chadian families (purchase and transport costs paid by NOVIB); delivered USG-donated plastic sheeting to other voluntary agencies for distribution to displaced/resettled families; provided 20 trucks (all procured with USG grants); and transferred 800 blankets, 50 wheelbarrows, 300 shovels and 200 hoes from the CARE stockpile in N'Djamena to Am-Timan in response to the flood disaster, value not reported.

The Evangelical Alliance Mission (TEAM) — purchased and airlifted 300 tons of food to southern Chad, value not reported.

International Human Assistance Program (IHAP) — sent a medical consultant and established feeding centers in Bokoro (Chari-Boguirmi), Niellem

Assistance Provided by the International Community

International Organizations

EEC — approved the donation of 74,000 MT of cereals for Chad in 1985; allocated emergency funds for the local purchase and distribution of seeds and cereals and for the transport of food aid; fully financed the building of a temporary bridge over the Logone River, partially funded the MSF mobile teams, and purchased 50,000 blankets in Europe for the LRCS airlift. Emergency assistance totalled at least \$26,245,100. In addition, the EEC supported a hospital and orphanage in Abeche, financed the construction of wells and the provision of tools, seed, and housing material for a resettlement village in Am-Timan, and provided a \$4.5 million grant for the rehabilitation of the livestock sector. FAO with the WFP and other donors, conducted crop assessments to determine food requirements; launched an international appeal in November 1984 for food aid and funding for transport, seed, equipment for water pumping, livestock programs, etc.; provided farm inputs and technical assistance to displaced persons at a cost of \$250,000, agricultural rehabilitation projects with a total value of \$1,844,500, and 148 trucks for internal transport, value not reported; distributed



*Africare resettlement site
in Quaddai Prefecture*

rice seed purchased by Cooperation Suisse and airlifted by the USG from Dakar.

LRCS — operated 160 nutritional centers in N'Djamena and in seven prefectures, reaching some 360,000 beneficiaries; distributed 10,000 MT of P.L. 480 Title II commodities (see also USG) and 7,500 MT of food transferred from the WFP; launched appeals to member societies for emergency assistance to Chad; airlifted 75,000 blankets (of which 25,000 were donated by the Danish Red Cross); and provided 10 trucks and four prefab warehouses.

OPEC — contributed 17 trucks, valued at \$600,000.

UNICEF — carried out a hydraulic project in Kanem and Lac prefectures, drilling some 100 wells in the former; also maintained wells in Guera Prefecture; supplied 1,800,000 ORS packets; airlifted 22,100 blankets donated by the Netherlands; relocated some 500 families at Assao in Chari-Baguirmi in conjunction with the GOC

and another 1,500 displaced persons in Am Silip (Kanem); also planned to resettle up to 7,500 persons from Moussoro region (Kanem) and provide agricultural inputs.

UNDRO — fielded a delegate to Chad to coordinate relief efforts with other U.N. agencies and NGOs; issued an appeal to the international community on November 20, 1984, for 100,000 MT of cereals and \$15.75 million for food distribution, trucks, the construction of a logistical base, and the building of a causeway across the Logone River; provided \$30,000 for a radio network and field operations.

UNDP — cooperated with the Swiss government in building a temporary bridge over the Logone River (financed by the EEC); approved \$1,070,000 for the construction of a semi-permanent bridge (Bailey type) and acted as coordinating agent for the bridge project; funded a seed program in the Sahelian zone at a cost of \$450,000 and a WHO-executed vaccination project; provided 15 trucks valued at \$1,200,000.

U.N. Geneva Staff — donated \$19,697 for an emergency agricultural project and purchase of seeds.

U.N. System — \$389,000 for warehouse facilities and well repair.

World Bank — provided 15 trucks valued at \$750,000 through the WFP; co-funded warehouse construction costs of \$970,000 with the WFP and Swiss Disaster Relief; bridge construction costs totaling \$3,000,000 with the German Federal Republic; and the costs of trucks and storage facilities valued at \$885,000 with Norway.

WFP — managed four logistical bases serving as secondary and dispatching centers for emergency food; provided personnel and recurrent costs for operation of these bases; coordinated international food contributions and expedited the transport of food through Cameroon (increasing throughput of the port of Douala from 6,000 MT to 26,000 MT/MO); operated two ferries; and provided nine tents for food storage at a cost of \$135,000 (partial contribution from Norway).

WHO — carried out a vaccination project.

Governments

Australia — \$38,271 in cash through UNICEF.

Belgium — 2,000 MT of wheat, value not reported.

Canada — donated 6,100 MT of wheat and wheat flour and \$2,919,708 in cash for food supplies and transport; financed a logistical base at Moundou at a cost of \$559,264; and gave \$5,147 in cash through UNDRO for emergency relief at Am-Timan.

China, People's Rep. — 1,500 MT of corn, value not reported.

Denmark — \$30,000 in cash through UNDRO, \$148,000 in cash through LRCS, and 3,000 MT of wheat, value not reported; also, \$99,000 for transport of wheat donated by the Danish Red Cross.

France — pledged 15,000 MT of food aid for 1985 and placed a heavy military plane at the disposal of the GOC to facilitate distribution to remote areas; provided 11 Renault/Berliet trucks valued at \$450,000.

Germany, Fed. Rep. — 3,000 MT of rice bought in Cameroon and 4,330 MT of wheat through the WFP, value not reported (may include 1,330 MT of sorghum purchased in Thailand by Deutsche Welthungerhilfe with FRG assistance at a cost of \$435,468); an additional 6,000 MT of wheat valued at \$1,223,896; \$203,225 in cash for transport (including assistance through the German Red Cross); 10,000 blankets and 500 tents, with a total value of \$118,065; 21 trucks worth \$161,290 and an additional 17 trucks, value not reported. A German construction company built the semi-permanent bridge over the Logone River and, with the World Bank, financed a six kilometer road connecting the bridge with a paved road south of N'Djamena.

Italy — 5,000 MT of rice and 1,000 MT of pasta, valued at \$3,906,250; medical projects, medicines and equipment valued at \$3,210,000; operational costs of a medical airlift estimated at \$250,000; trucks valued at \$1,200,000; \$100,000 in cash to UNICEF and \$3,000,000 for a vaccination campaign.



Feeding center in Kanem Prefecture

Japan — 5,000 MT of rice, value not reported; \$10,000 in cash through UNDRO.

Netherlands — \$1,198,038 in cash for UNICEF; MSF and other PVO programs; 4,400 MT of food commodities and transport valued at \$1,924,062; rice seed and transport worth \$71,429; an additional cash contribution of \$181,373; and \$25,000 through UNDRO for emergency relief in Am-Timan.

Norway — \$451,977 in cash for the purchase and transport of grain, woolen blankets, and other supplies; \$168,539 to UNICEF for protein biscuits; and trucks and storage facilities in conjunction with the World Bank (see International Organizations).

Saudi Arabia — over 3,000 MT of food (wheat, maize, and oil) valued at \$2,072,182.

Sweden — provided food and medicines valued at \$79,789 through the Swedish Save the Children; donated a ferry to WFP.

Switzerland — co-funded the cost of warehouse construction with the WFP and the World Bank and provided technical supervision, valued at \$69,565, for the construction of a semi-permanent bridge over the Logone River (co-financed with UNDP); provided seeds and internal transport valued at \$189,394; \$10,351 in cash and logistics assistance worth \$798,000 to UNDRO; port assessment at Douala at a cost of \$10,870 and two Swiss Disaster Relief experts whose expenses totaled \$78,260; 53 tons of milk valued at \$217,862; transport and food aid distribution costs totaling \$217,391; and medical assistance valued at \$60,870. In addition, Swiss aid (government and private sources) operated a \$310,000 project in Ouaddai and Biltine prefectures designed to maintain approximately 20,000 persons in 11 villages.

Voluntary Agencies

Action International Contre La Faim (France) — transported food for the WFP and medical supplies for MSF; planned to implement a rural development project in the Salamat prefecture in 1985.

Agro Action (Ger. Fed. Rep.) — contributed blankets and tents in conjunction with the FRG and six trucks with spare parts; pledged over 1,400 MT of food. [Please note: Total value of \$1,112,200 may represent some unavoidable double counting with the German government contribution.]

Association de Cooperation Rurale en Afrique (Italy) — carried out two rural development projects in Chad — at Niellem and Bol, establishing agricultural cooperatives and village pharmacies, and constructing wells; planned to rehabilitate a cooperative in the canton of Dobo (Moyen-Chari) encompassing some 30 villages.

Belgium Committee for UNICEF — \$45,455 in cash.

CAFOD (U.K.) — \$79,420 in cash and one Mercedes truck, value not reported.

Canada Committee for UNICEF — \$182,481 in cash.

Cardinal Leger and His Works (Canada) — \$304,000 in cash.

Caritas Belgium — \$40,439 in cash.

Caritas France — \$99,500 in cash.

Caritas Germany — \$30,629 in cash; 1,500 MT of rice purchased in Cameroon for distribution by SECADEV, value not reported.

Caritas Italy — \$262,384 in cash.

Caritas Netherlands — \$14,286 in cash.

Caritas New Zealand — \$7,204 in cash.

Caritas Switzerland — \$38,540 in cash through UNDRO.

Cooperation Suisse — purchased 224 MT of rice seed in Senegal for airlift to Chad (airlift paid by USG).

Denmark Red Cross — food transport costs of \$99,000 and 25,000 blankets through LRCS, value not reported.

Development and Peace (Canada) — \$76,500 in cash.

ICCO (Netherlands) — 200 MT rice seed, value not reported.

Italy Committee for UNICEF — \$43,715 in cash.

Japan Red Cross — \$40,152 in cash through LRCS.

Korea Red Cross — \$74,561 in cash through LRCS.

MSF (France-Belgium) — in connection with its regular health care program in Chad, monitored the nutritional status of drought victims; organized four mobile teams to follow the movement of displaced persons and coordinate emergency aid; carried out feeding and/or resettlement pro-

grams in eight prefectures and in N'Djamena, using \$37,000 in MSF funds and donations from EEC and the Netherlands; distributed vitamin A tablets to reduce the incidence of xerophthalmia in Batha at a time when emergency foods consisted solely of grains.

Misereor — gave one truck for food transport in southern Chad, value not reported.

Netherlands Red Cross — 890 MT of grain, value not reported, and \$14,143 in cash through LRCS.

Norway Red Cross — \$65,636 in cash through LRCS.

NOVIB (Netherlands) — provided a grant for \$101,500 for the purchase and transport of blankets and clothing material procured by CARE.

Oxfam/UK — \$63,976 in cash to assist various NGO programs; \$25,000 for internal transport; \$75,284 for the purchase and transport of food and seeds; and \$29,125 for resettlement projects.

SCF/Sweden — in cooperation with UNICEF, operated nutritional centers in Kanem Prefecture, providing supplemental feeding to some 15,000

persons, while also carrying out a vaccination program in 20 villages.

SCF/UK — in cooperation with LRCS, organized a 50-truck convey to pick up food in Cameroon for Chadian refugees in Sudan.

SECADEV (Secours Catholique Pour le Developpement) — distributed 1,500 MT of rice purchased by Caritas Germany and procured seeds with funds provided by the EEC; assisted resettlement efforts in the southern Lake Chad area and in Chari-Baguirmi Prefecture.

SOS (France) — relief items valued at \$103,281.

Spain Red Cross — \$1,864 in cash through LRCS.

Switzerland Red Cross (with Swiss Government) — \$189,394 in cash through LRCS.

United Kingdom Committee for UNICEF — \$43,572 in cash.

United Kingdom Red Cross — 2,000 MT of wheat through LRCS, value not reported.

Unspecified organizations — \$2,683,828.

TOTAL \$74,524,902

Cyclone**Comoros****Date**

February 14-17, 1985

Location

Major damage to most of the island of Anjouan, particularly to the prefectures of Sima, Mutsamadu, and Domoni, and some damage to the east side of Grande Comore island

No. Dead

Two

No. Affected

35,000

Damage

Road damage was estimated at \$1.35 million; some bridges and more than 100 houses were destroyed. Food crops, banana trees, and clove trees were damaged.

The Disaster

On February 14, Cyclone Feliksa lashed the Comoran island of Anjouan before moving northwest to hit the eastern coast of the island of Grande Comore. Anjouan is the most densely populated island of the Comoro archipelago and is an important producer of cloves and ylang-ylang. Clove trees are particularly fragile and suffered a 40% loss in the prefecture of Domoni.

Other crop losses on Anjouan included 70% of the food crops and 90% of the banana trees in Sima prefecture; 45% of the banana trees and 40% of the manioc and bean crops near Anjouan's capital of Mutsamudu; and all of the bean, maize, and rice crops and 80% of the banana trees in Domoni.

The storm also caused major damage to infrastructure and dwellings in Anjouan. A bridge at Domoni and a ford about 15 km away were washed out by the torrential rains, leaving that region completely isolated. The rains also washed away road beds and covered the downtown areas of Mutsamudu and Bambao in almost a meter of silted water. Many smaller villages were also flooded. A hundred huts were carried away by the water. Roads on the east, the less inhabited side of Grande Comore, were also badly damaged by the storm, though not cut. An engineering study assessed total road damage at 750 million CFA (U.S. \$1.35 million).

Action Taken by the Government of the Comoros (GOC)

When the extent of the damage done to Anjouan by Cyclone Feliksa became apparent, President Ahmed Abdallah requested UNDRO to appeal to the international community for help in dealing with the disaster. Specifically, the GOC asked that donors provide cash for hospital equipment and reconstruction. The government also asked officials from the U.S. Embassy in Antananarivo (which was accredited to the Comoros) to assess the situation in Anjouan.

Assistance Provided by the United States Government

Two U.S. Embassy/Antananarivo officials toured Anjouan in late February at the GOC's request. After confirming the extent of the damage, Ambassador Robert Keating declared the situation to be of disaster proportions on March 1. He then presented a check for \$25,000 to the GOC to clean up and repair the Anjouan Hospital.

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported.

Assistance Provided by the International Community

UNDRO — provided \$15,000 in cash for the purchase of hospital equipment.

WFP — handled major problems related to the agricultural sector.

TOTAL \$15,000

Drought/Famine

Ethiopia

Date

1983–1985

Location

Tigray, Wollo, Shoa, Eritrea, Gonder, Sidamo, Harerge, Arsi, and Bale regions

No. Dead

More than 300,000

No. Affected

7.75 million

The Disaster

Several years of negligible rainfall and insufficient harvests pushed much of Ethiopia to the brink of catastrophe by the middle of 1984. The spectre of famine loomed over the already troubled central and northern highlands and, by November 1984, 6 million to 10 million people were in danger of starvation. Of these, 2.5 million were in immediate, life-threatening jeopardy.

In the fall of 1984, the hardest hit regions were Tigray, Wollo, and Eritrea — areas with extremely limited road and transportation networks. Moreover, these regions were the scenes of longstanding anti-government rebellions which created precarious security situations. By January 1985, conditions had deteriorated and northern Shoa, Sidamo, Harerge, and eastern Gonder provinces were added to the list of severely affected areas. The usual grain surplus regions of Gojam, southern Shoa, Arsi, western Gonder, eastern Wollega, and northern Bale had sharply reduced harvests in 1984. Death from starvation was a daily occurrence in 12 of the country's 14 regions. It was estimated that 7.75 million people, of a total population of close to 42.5 million, were at risk in January.

Many people remained in their villages until conditions became desperate. Many stayed until they were unable to scratch anything else from the parched soil, had slaughtered all their dying animals, and eaten what few seeds had been available for the next planting. Only then did they leave their land and villages for makeshift displaced persons camps. Approximately 1.5 million to 2 million people abandoned their farms and moved with their families toward relief camps in Ethiopia or Sudan. Some were moved to government resettlement sites in southern Ethiopia.

For most areas seriously affected by the drought, disease killed as many or more people as starvation. Many of those who left their villages were severely weakened by the time they reached the camps. Crowded and unsanitary conditions in the camps sparked a more rapid spread of diseases. In the spring of 1985, when the welcome rains finally came, ironically, they helped spread cholera and other diarrheal diseases. Rains also made transporting supplies and food to camps and relief centers more difficult, as some roads and bridges were washed out. Poor protection against the cold caused hypothermia in children.

The diseases which caused the most problems in the camps, many water and sanitation related, included cholera, measles, malaria, typhus, trachoma, Vitamin A deficiency, meningitis, relapsing fever, and scabies.

Descriptions of the disaster in the most affected areas, by region, follow:

Eritrea — Ethiopia's only coastal province, Eritrea has been wracked by rebellion for more than 20 years. Though major cities such as Asmara, Massawa, and Assab usually remain in government hands, much of the surrounding countryside is often controlled by the Eritrean People's Liberation Front (EPLF). The resultant tense security situation along the roads, and the Ethiopian government's reluctance to distribute food in rebel territory greatly exacerbated the food shortage. Thousands of famished Eritreans were forced to trek to refugee camps in the Kassala area of eastern Sudan. For a long time, the ICRC was the only external organization allowed to work in Eritrea although, in the summer of 1985, CRS started a "Food for the North" program.

Tigray — Makelle, capital of the province, was at the heart of the most affected area in early November 1984. Like Eritrea, Tigray also has been the scene of fighting between government troops and guerrillas, members of the Tigrayan People's Liberation Front (TPLF). The fighting and the region's inaccessibility led to an exodus of more than 200,000 Tigrayans to refugee camps in eastern Sudan or to displaced persons' camps in Wollo province to the south.

A massive airlift was organized to reach those thousands who remained in their remote villages. More than 25 heavy aircraft, contributed by the governments of the United States, United Kingdom, Italy, Germany Fed. Rep., Belgium, France, the Netherlands, and Sweden, and operated by the ICRC, WVRO, the government of Ethiopia, and other organizations, were involved in ferrying 14,000 MT per month from the port of Assab to Makelle and Axum.



Conditions remained harsh in Tigray for many months, however. In mid-November 1984, close to 10,000 people had to sleep outside without shelter in Makelle. The death rate in that city exceeded 100 people/day. Because of the security situation and many Tigrayans' fear of going to government-run feeding centers, it was not until almost the summer of 1985 that voluntary agencies and international organizations could gain more than limited access.

Wollo — In the drought-stricken central highlands of Wollo province, relief centers and displaced persons camps in towns such as Korem, Alamata, Lalibella, Kobo, and Bati became synonymous with misery and starvation. Korem was the largest camp in Ethiopia with a population in excess of 100,000 people in the spring of 1985. Other camps also had almost unimaginably large populations and daunting problems: Bati and Lalibella each had more than 30,000 people in April, Alamata more than 40,000. In the fall of 1984, the death rate at the camp at Bati was a horrifying 120/day; in mid-April 1985, 20 people/day were dying from cholera in Korem, Alamata, and Kobo.

Although many of these camps were close to a major road, the supply situation was not always guaranteed; TPLF guerrillas contested parts of northern Wollo and military activity often closed the road. However, it was much easier for PVOs and the Ethiopian Government's Relief and Rehabilitation Commission (RRC) to establish feeding centers and provide medical assistance in Wollo than in the northern regions of Tigray and Eritrea. Hence, these camps and feeding centers attracted people from Tigray as well as from all over Wollo.

Gonder — Ibbet camp, for a long time the second-largest camp in Ethiopia, was located in the neighboring Gonder region. Ibbet, too, filled Western newspapers with horror stories of starvation and disease, compounded by forced evacuations by the local authorities.

Shoa and Sidamo — South of Wollo, in Shoa and Sidamo regions, even areas relatively close to the capital, Addis Ababa, were not spared from the disaster. More than 1.3 million people were estimated to be at risk in these regions in February 1985. The province of Wolayita, often called the "Bible Belt" of Ethiopia, in northwestern Sidamo, was particularly hard hit. With a population of 131,000, this is one of the most densely populated areas in Ethiopia. Wolayita also had the highest incidence of kwashiorkor the spring of 1985.

Harerge — In early November 1984, there were close to 860,000 drought victims in this isolated eastern region. About 360,000 of these, many of them nomadic Issas, had gone to Djibouti where they were given food at reception centers and then sent back to Ethiopia. By April 1985, there were still pockets of seriously affected people in the highlands while lowland areas also needed sustained food assistance.

In November 1984, after it became apparent that a major disaster was engulfing Ethiopia, both the FAO and the Ethiopian government conducted food crop assessments. The conclusion of the missions was that the 1984 harvest shortfall would be 5.2-5.6 million MT; this represented 25% to 30% less than the average for the previous three drought years and put approximately 7.7 million people in need of food aid.

Production was lower than the previous year in all 14 regions. Harvests in the most seriously affected regions, Wollo, Tigray, and Eritrea, were estimated to be reduced from normal levels by about 70%, 60%, and 45% respectively. The RRC estimated that the minimum food aid requirement for 1985 would be at least 1.7 million MT of cereals, a four-fold increase over actual imports in 1984. Furthermore, the meager 1984 harvest was consumed by February 1985; the next harvest was not due until November.

Most of this massive food aid had to enter through the Red Sea ports of Massawa or Assab, with less frequent shipments going through the Gulf of Aden port of Djibouti. Assab was the principal port with a maximum estimated offtake of 60,000 MT per month; the total offtake from all three ports was 135,000 MT per month. This limited port capacity, very poor road and transport system, and delicate security situation in the area greatly hampered relief efforts. Lack of coordination among donors also proved to be a problem.

The rains did return in 1985, to everyone's great relief. In the late spring and early summer, those people who were able began leaving the relief camps for their home villages. Before leaving, relief officials gave them "ag-paks" consisting of a hoe or other tool, grain, and seeds. Meanwhile, the RRC, private relief agencies, and international organizations rushed to set up feeding centers and dry-ration distribution points in towns accessible to the returnees to tide villages over the "hungry period" between planting and the harvest. This would thereby enable villagers to stay home and work in their fields rather than return to camps. These feeding centers were particularly important in northern regions of Ethiopia such as Tigray and parts of Wollo.

However, this drought and famine will have a strong negative impact on Ethiopian agricultural production well beyond the 1985 harvest. First, by no means were all camp denizens able to return to the fields; in some cases, the land remained insupportable despite rainfall, and in others, military action prevented returns. Those forced to stay in camps have had great difficulty in planting a crop. Second and more importantly, those who managed to return to their villages had trouble cultivating their normal hectareage and maintaining their fields. Much of the seed for the 1985 harvest was eaten by desperately hungry people the previous year. Livestock herds were also catastrophically decimated. Nevertheless, the situation in Ethiopia in the fall of 1985 was a vast improvement over that of the previous year.

Action Taken by the Provisional Military Government of Socialist Ethiopia (PMGSE) and Local Non-Government Organizations

The PMGSE made famine relief a top priority and made resources available to the RR, established by the government in 1974. There is responsible for coordination and direction of all disaster relief operations. It is an exclusively civilian organization. The fact that Ethiopia had a central organization such as the RRC greatly facilitated government-donor coordination.

The RRC was in charge of distributing food donated to the PMGSE for emergency relief. It operated three main storage complexes for donated food in Nazareth (southern Shoa), Kombolcha (southern Wollo), and Asmara (Eritrea). The facilities and management were considered good; problems with storage at these complexes centered on a shortage of trucks for onward transport to second-

ary distribution points and feeding centers. The RRC operated more than 275 feeding centers benefiting more than 2.5 million recipients in February 1985. Some of these feeding centers were jointly run with international PVOs while others were managed exclusively by the RRC.

The RRC also took part in the airlift which ferried food from Asmara in Eritrea to Makelle, the capital of Tigray. The PMGSE used Ethiopian Air Force Antonov planes for this operation. The RRC also acquired a Twin Otter and a C-130 to airdrop supplies in otherwise inaccessible areas.

Several Ethiopian PVOs and churches were also closely involved in the emergency relief effort. The Ethiopian Catholic Secretariat is the local counterpart of CRS and together they have a large presence in Eritrea and Tigray and a small presence in Bale, Harerge, Kefa, Gamo Gofa, and Gonder. They distributed close to 45,000 MT of food in these regions during FY 85.

The Mekane Yesus Ethiopian Evangelical Church, meanwhile, is the local counterpart of LWF. These two organizations are active in Wollo, Shoa, Wollega, Sidamo, and Illubabor. They also distributed about 45,000 MT of food in FY 85.

The Ethiopian Red Cross Society, with assistance from 25 LRCS delegates, provided medical care and supplemental feeding for five centers in Wollo and one in Sidamo. More than 85,000 people received assistance from the Ethiopian Red Cross.

Finally, both guerrilla movements had corresponding relief agencies; the Eritrean Relief Association works in EPLF territory and the Relief Society of Tigray in TPLF strongholds. Both groups distributed supplies and food.

As a long-term measure against famine, the PMGSE has started a resettlement program to move peasants from chronic drought areas (such as Tigray and Wollo) to more fertile areas in the south of the country (regions such as Kefa and Illubabor). The PMGSE asserts that the program is voluntary, but there have been reports of force, coercion, and split families. Moreover, the fact that many settlers are able-bodied men from rebel areas has also called the motives of the program into question.

Assistance Provided by the United States Government

The enormity of the disaster was apparent in the fall of 1984 and, accordingly, U.S. Charge d'Affaires David A. Korn declared on October 14 that a disaster existed requiring U.S. assistance. At that time, the situation was most acute in the remote, strife-ridden Tigray region and, therefore, the initial allocation was to support an airlift to provide food to the Makelle area.

By mid-October 1984, a special inter-agency Task Force on the African Famine was set up in Washington to coordinate USG response to the crisis sweeping drought-stricken Africa (see "Introduction"). The number one priority was supplying food and getting it to the people who needed it. Medicines, medical supplies, and personnel were also identified as urgent needs.

Accordingly, the USG donated more than 400,000 MT of P.L. 480 Title II food, Section 416 dairy

products, and Food Security Reserve (FSR) bulgur and wheat flour. 50,000 MT was granted to the RRC in a government-to-government program and the rest was distributed through PVOs and international organizations. (See below, "FFP Assistance.")

The huge amounts of food arriving from the U.S. and other donors clogged the ports of Eritrea and Djibouti. Furthermore, the civil war in Eritrea and an inadequate transportation system made it very difficult to move the food inland to the starved highlands. OFDA therefore contracted with Transamerica Airlines to fly two C-130s to ferry supplies from Asmara to Tigray, mostly to Makelle, for a year.

OFDA also immediately began supporting PVO operations in Ethiopia. Grants were given to CRS, WVRO, SCF/US, FHI, CARE, ADRA, HKI, and Africare for inland transport of food and other relief supplies, feeding centers, food monitors, and



Photo courtesy of Catholic Relief Services

medical personnel. OFDA also supported the programs of international organizations such as UNICEF, LRCS, and the U.N.'s Office of Emergency Operations in Ethiopia (UN/OEOA), an office specially formed to deal with international assistance for Ethiopia.

By the spring of 1985, the need in Ethiopia, as well as throughout Africa, remained great and had exhausted the USG's normal resources for disaster assistance. In mid-May 1985, Congress passed a supplemental appropriation bill providing \$137.5 million for the International Disaster Assistance Account to be used for emergency relief and recovery assistance in Africa from then until March 31, 1986. For Ethiopia, in addition to funding activities similar to those described above, the supplemental was used to purchase trucks and other vehicles. These were badly needed to move food and supplies as the in-country truck fleet was inadequate. The trucks and logistical support were also crucial in allowing the expansion of feeding centers in the northern regions of Tigray and Eritrea when the security situation improved.

The following section gives a more detailed description of how OFDA funds were spent in FY 85. Assistance will continue to be provided by the USG throughout FY 86.

Summary of OFDA Assistance

Ambassador's Authority — used for purchase of gasoline and oil for two Ethiopian airplanes ferrying supplies from Asmara to Makelle in October 1984 \$25,000

Grant to WVRO for an emergency water/medical relief program \$1,597,640

Contract with Transamerica Airlines to fly food and supplies in two C-130s from Asmara to Makelle and other places in Tigray . . \$10,862,800

Transamerica Airlines contract extension from July to October (supplemental funds) \$5,764,544

Grant to CRS for inland transport of food \$6,987,880

Contract with CARE for two people to monitor the distribution of the 50,000 MT of Government-to-Government PL-480 Program by the RRC \$397,555

Grant to ADRA for emergency relief program \$620,874

Transport of medicines for MAP International (value: \$1.5 million) \$71,000

Transport of blankets for ADRA \$12,500

Grant to CRS for support of Missionaries of Charity food program \$578,400

Grant to RRC for inland transport of the initial tranche of the Gov't.-to-Gov't. 50,000 MT Title II program \$450,000

Grant to Food for the Hungry International (FHI) for five feeding centers in southern Shoa and Gonder \$683,297

Grant to WVRO for operating costs of an airlift of emergency relief supplies \$1,113,010

Grant to WVRO for five nutritional/health centers (\$1,533,668 is from supplemental funds) \$3,641,694

Grant to UNICEF to drill 12 wells over a period of 10 months \$750,000

Reimbursement to WVRO of air freight costs of ORS packets \$23,427

Four 3,000-gal. water tanks \$9,188

900 rolls of plastic sheeting taken from OFDA stocks \$244,800

Reimbursement to UNICEF for airlift of medical supplies \$52,978

TDY of CDC nutritional specialist (Dr. Thomas Novotny) — 4 weeks (May 20-June 25) . . \$11,010

Grant to Helen Keller International (HKI) for a blindness prevention program \$34,083

Grant to SCF/US for 30 trucks (10 long-haul and 20 short-haul) to move 50,000 MT of USG food from the ports to distribution points inland \$980,000

Ocean freight costs for 200 rolls of plastic sheeting \$5,500

Inland transportation of 200 rolls of plastic sheeting given to WVRO and Irish Concern for Ibnet camp (supplemental funds) \$717

Grant to UNICEF for truck leasing and tires for UN/OEOA (supplemental funds) \$500,000

Grant to UNDRO for 2-week TDY \$14,065

Grant to UNDRO for a staff member (Thomas Joyce) on the UN/OEOA team from 6/6/85 to 2/28/86 to help monitor and coordinate emergency food programs (supplemental funds) \$48,000

Grant to UNDRO for the lease of a Land Cruiser for Thomas Joyce (supplemental funds) . \$17,500	Contract with Goodyear for tires (supplemental funds) \$485,080
Grant to ICRC to airlift ten Mercedes trucks from West Germany (supplemental funds) . . \$400,000	Grant to Heifer Project International to purchase 2,000 oxen locally over two years and distribute them through PVOs to farmers. Some plows and other farm implements will also be distributed. This project will be implemented through CRDA. (supplemental funds) \$540,000
Grant to Africare for voluntary medical teams (supplemental funds) \$300,000	Grant to WVRO for 20 trucks and operating costs for its food distribution program in Tigray (supplemental funds) \$1,613,685
Grant to AJJDC for relief supplies at Ibnet (supplemental funds) \$350,000	
23,040 wool blankets from stockpile, OFDA transport/value \$92,261	
TDY of Transamerica expert to assess airlift and airdrop operation (supplemental funds) . \$18,319	

Summary of FFP Assistance

Sponsor & Commodity	MT	Commodity Cost	Transport Cost	Total Cost
CARE Title II: 1,500 MT CSM; 1,525 MT vegoil;	3,025	\$ 1,952,800	\$ 3,398,700	\$ 5,351,500
CARE FSR: 29,982 MT bulgur	29,982	\$ 6,596,000	\$ 4,347,400	\$10,943,400
Missionaries of Charity Title II: 2,994 MT SFSG; 264 MT rice; 80 MT pinto beans	3,338	\$ 760,500	\$ 618,000	\$ 1,378,500
CRS Title II: 26,739 MT bulgur; 3,611 MT NFDN; 6,059 MT SFSG; 4,149 MT vegoil	40,558	\$11,620,900	\$ 7,483,700	\$19,104,600
CDAA Section 416; 13,303 MT NFDN; 2,843 MT butter oil	16,146	\$13,053,700	\$ 2,987,100	\$16,040,800
CDAA Title II; 30,733 MT bulgur; 10,195 MT vegoil; 9,211 MT SFSG; 7,278 MT CSM; 1,315 MT SFB	58,732	\$21,233,900	\$35,907,100	\$57,141,000
CDAA FSR: 86,316 MT bulgur	86,316	\$18,989,500	\$12,515,800	\$31,505,300
PMGSE Title II: 40,000 MT wheat; 10,000 MT CSM	50,000	\$ 9,433,500	\$ 5,039,100	\$14,472,600
WVRO Title II: 2,500 MT wheat; 2,846 MT CSM; 40 MT SF Oats; 521 MT vegoil; 151 MT SFRO; 95 MT NFDN	6,153	\$ 1,867,800	\$16,730,400	\$18,598,200

Sponsor & Commodity	MT	Commodity Cost	Freight Cost	Total Cost
WVRO Section 416: 3,600 MT NFDN; 3,600 MT butter oil	7,200	\$ 7,920,000	\$ 1,332,000	\$ 9,252,000
WVRO FSR: 24,267 MT bulgur	24,267	\$ 5,338,700	\$ 3,518,700	\$ 8,857,400
SCF/US Title II: 1,225 MT SFSG; 382 MT NFDN; 307 MT vegoil	1,914	\$ 603,600	\$ 798,600	\$ 1,402,200
SCF/US Section 416: 1,131 MT NFDN	1,131	\$ 735,200	\$ 209,200	\$ 944,400
SCF/US FSR: 14,110 MT bulgur	14,110	\$ 3,104,200	\$ 2,046,000	\$ 5,150,200
CRS – FFN program Title II: 5,000 MT SFSG	5,000	\$ 1,070,300	\$ 1,930,000	\$ 3,000,300
WFP/IEFR Title II: 1,207 MT vegoil; 4,690 MT CSM; 3,000 MT wheat; 1,076 MT ICSM	9,973	\$ 3,428,900	\$ 1,736,200	\$ 5,165,100
LRCS Title II: 2,500 MT wheat flour; 1,633 MT vegoil; 660 MT NFDN; 150 MT rice	4,943	\$ 2,280,400	\$ 653,700	\$ 2,934,100
LRCS FSR: 6,667 MT wheat flour	6,667	\$ 1,520,100	\$ 966,700	\$ 2,486,800
ICRC Title II: 2,500 MT wheat; 3,120 MT vegoil; 7,500 MT wheat flour; 5,250 MT pinto beans	18,370	\$ 7,639,200	\$ 2,772,400	\$10,411,600
ICRC FSR: 21,765 MT wheat flour; 8,519 MT bulgur	30,284	\$ 6,836,600	\$ 4,391,100	\$11,227,700
Missionaries of Charity Section 416: 920 MT NFDN; 396 MT butteroil	1,316	\$ 1,211,800	\$ 243,500	\$ 1,455,300
CRDA Food for Seeds (transport only)			\$ 360,000	\$ 360,000
TOTAL	419,425	\$127,197,600	\$109,985,400	\$237,183,000
Total OFDA funds		\$ 27,725,294		
Total OFDA-administered Supplemental funds		\$ 11,571,513		
Total FFP funds		\$237,183,000		
TOTAL		\$276,479,807		

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

When films and reports of famine-stricken Ethiopia were broadcast in mid-October of 1984, the public around the world responded with a tremendous and almost unprecedented outpouring of funds and concern. Countless individuals, from schoolchildren to retirees, contributed to PVOs and other groups. This expression of public concern reached a peak with the international Band Aid/Live Aid fund-raising concert on July 13 attended by thousands and watched by perhaps one billion people on television. Meanwhile, PVOs responded to the Ethiopian crisis in the same spirit: supplies and funds were collected and channeled to Ethiopia, and programs and projects were developed or expanded. Below is a list of more specific contributions by PVOs.

ADRA — operated an emergency relief program with a grant from OFDA, and donated blankets.

Africare — purchased cooking utensils locally, worth \$15,000, for 750 families at Bati and Korem camps in Wollo; bought 10,000 blankets in Kenya for residents at Bati and Korem, value not reported; provided \$20,000 worth of medicines and arranged ocean shipment of two packaged disaster hospital units donated hospital equipment, drugs, blankets, and cooking utensils, worth \$500,000; and provided medical teams for camps.

American Jewish Joint Distribution Committee (AJJDC) — contributed 77 MT medicines medical supplies, and clothing, including transport, valued at \$816,000; donated five MT of medical supplies, valued at \$132,000; clothing, cloth, needles, and thread, valued at \$81,254; 25,000 blankets, valued at \$39,511; 75 MT of faffa (a local mixed food for children), valued at \$41,250; and provided transport and storage, valued at \$96,284.

ANRC — donated \$4,150,000 to the ICRC for its operations in Africa and Ethiopia of which \$250,000 was specifically for the purchase of trucks in northern Ethiopia.

CARE — handled a 41,526 MT feeding program in Harerge using USG commodities. This program had two components: a) on-site supplementary wet feeding for 10,000 malnourished children at 29 centers; and b) emergency dry-ration distribution of grains and oil in over 40 locations in an area between Mieso and Dire Dawa to members of farmers' associations (kebeles), with a total of close to 250,000 recipients. CARE took over dis-

tribution of a number of RRC feeding sites, thereby freeing the RRC to concentrate its limited resources. With its own resources, CARE embarked on a project to assist the RRC in improving its system for control and monitoring of RRC commodities. Through a contract with OFDA, CARE provided food monitors to assist the RRC's Title II food distribution program. Finally, CARE was the principal organization operating in the region of Harerge. During 1985, CARE expanded its operation into southern Sidamo.

CRS — with WVRO, CRS had one of the two largest U.S. PVO operations in Ethiopia. It helped form a cooperative effort among four PVOs: CRS, LWF, the Ethiopian Catholic Secretariat, and the Mekane Yesus Church. CRS coordinated food importation while each agency took responsibility for distribution in different regions. CRS committed more than \$30,000,000 from donations for 1985 and 1986; provided Missionaries of Charity with USG food; paid for a C-130 to deliver food from the port of Assab to Asmara, Makelle, and Axum, value not reported; 24 trucks for inland transportation of food and supplies; and leased 55 trucks for ten months, starting in early October 1985 from a Kenyan firm. In addition to operating 18 feeding centers in Shoa, of which eight have special feeding programs for malnourished children, in the summer of 1985, CRS started a "Food for the North" program to distribute food in Eritrea.

CWS — provided \$60,000 through CRDA, a PVO consortium, to cover the first ten flights of the airlift from Asmara to Makelle; collected 50,000 blankets to give to CRDA for distribution, value not reported; provided an Ethiopian Orthodox Church medical team at Senbete, valued at \$276,696; donated 50 MT of supplemental food, worth \$200,000; and donated 100,000 blankets, worth \$520,000, 6,500 tents, valued at \$818,000, communications equipment, worth \$3,200, and trucks, trailers, and water tanks costing \$587,000; and donated \$75,000 for the transport of wheat, flour, and blankets.



Photo courtesy of Catholic Relief Services

FHI — provided 3,000 MT of wheat and transport, valued at \$1,788,000. FHI distributed food in “hunger pockets” near Addis Ababa, in the Sodo/Shashemene area of Sidamo, and at Areb Gebiya in Gonder. FHI also provided a nurse and a nutritionist to work in Sidamo.

HKI — with a grant from OFDA, surveyed incidence of xerophthalmia and Vitamin A deficiency and disseminated information on these diseases.

Illinois Agriculture for Africa Famine Relief — is a collaborative effort among AID/FFP, WVRO, and the people of Illinois. AID provided 858 MT of Section 416 NFDN while Illinois charitable contributions financed the provision of Illinois corn and soybeans and their processing with the NFDN to form 5,715 MT of CSM. WVRO transported and distributed this CSM.

InterAction — is a coalition of over 120 U.S. PVOs which established a special Ethiopian fund; as of February 18, \$820,000 had been raised for the fund. InterAction arranged an airlift in May 1985 of PVO supplies, including oral rehydration kits, high protein foods, butteroil, a portable food storage warehouse, tents, medical supplies, 1,000 blankets for ADRA, plastic sheeting for Irish Concern, and vitamins. The PVOs participating were

CRS, CARE, SCF/US, Africare, WVRO, MAP International, ADRA, and Oxfam/US, for a total cost of \$240,000.

Inter Aid International — provided medical assistance and supplementary food worth \$180,000.

Live Aid Foundation — is the American counterpart to Band Aid Trust. All-day rock concerts on July 13, 1985 in London and Philadelphia raised approximately \$70 million for famine relief in Africa. To allocate this huge amount of money and to improve administrative procedures, Live Aid established an American operations center at Georgetown University. This center is run by Georgetown’s Center for Immigration Policy and Refugee Assistance and reviews proposals submitted by PVOs and other groups. As of late November 1985, Live Aid had bought 17,000 MT of grain, 169 trucks, 758,000 liters of diesel fuel, and numerous other supplies. It is not possible to identify amounts specifically allocated for Ethiopia.

Louisiana Civil Defense — donated two packaged disaster hospital units, each containing equipment and supplies for a 200-bed field hospital, to Africare, value not reported.

MAP International — transported medicines.

Newman’s Own — a food company owned by actor Paul Newman, donated \$250,000 to CRS.

Oxfam/US — donated 5,000 MT of wheat, value not reported.

SCF/US — runs a feeding program reaching 250,000 people in northern Shoa, most of whom provide some sort of service in exchange for the food; plans to expand to southern Wollo in 1986; bought ten GM trucks, value not reported; and bought 200 MT of chickpea seeds in Morocco to distribute in northern Shoa.

SIM — concentrated its work in the Wolayita area of Sidamo, where it distributed wheat (donated by the U.S. and Canada and provided through LWF), in the villages of Faracho, Demika, Shalla, and Erborg, and provided medical teams for these towns and for the Sodo/Shashemene area.

Southern Baptist Mission — provided 10,000 blankets to the RRC for people in camps, value not reported; and food, well-drilling equipment, and transportation, worth \$79,000.

USA for Africa — is a group of entertainers who recorded an album and accompanying video called "We Are the World." All proceeds from the sale of the record and video went for famine relief, including a \$4,000,000 grant to CRDA for trucks, a vehicle workshop, and 1,000 MT of faffa.

WVRO — is one of the two largest U.S. PVOs working in Ethiopia (along with CRS). It runs health/nutrition centers at 12 sites: at Ibnet in Gonder, at Lalibella, Alamata, Ajibar and Sanka in Wollo, at Ansokia, Kemisse, and Omosheleko in Shoa, at Kibish in Kefa, at Humbo and Sanyo in Sidamo, and at Inda Selasie in Tigray. WVRO's program at Inda Selasie involved only dry-ration distribution, whereas all the other centers concentrated on the provision of food, nutrition, water, and health assistance, including an intensive wet feeding program for malnourished children. More than 281,000 beneficiaries were reached by the 11 health/nutrition centers, while dry-ration distribution at Inda Selasie reached 100,000 people. At many of the camps, WVRO distributed "ag-paks," comprised of agricultural tools and seeds to those who wished to go back to their villages when conditions permitted. WVRO also operated two Twin Otters to move supplies from Assab to Asmara, Makelle, and Axum, and contributed food, clothing, medical services, transportation and staff, worth \$5,530,000. WVRO sent a relief flight from the U.S. to Ethiopia and Sudan in late June.

TOTAL \$51,568,195

Assistance Provided by the International Community

International Organizations

Agfund (Saudi-based organization) — donated \$75,000 through UNDR0.

Caritas Internationalis — provided \$650,000 in cash.

EEC — donated the following: 1,400 MT milk powder and 500 MT of edible oil, value not reported; 2,000 MT of food for a project to aid 300,000 drought victims returning from Djibouti to Harerge, value not reported; \$743,850 through the ICRC; \$743,850 through the EEC Delegation; \$5,500,000 for internal transport; cash contribution of \$250,000 to UNDR0 for internal transport; \$3,719,250 to buy 9,000 MT of seed for the PMGSE; internal air transport and emergency food through the ICRC, worth \$1,125,000; 2,500 MT of food through the RRC, valued at \$6,750,000; \$3,825,000 in cash through UNICEF, CRDA, LRCS, and MSF; \$300,000 in cash through UNDR0 for internal transport; \$1,500,000 in cash through the UNHCR; 80,000 MT of food and seeds, including transport and distribution, worth \$22,500,000; other relief items, worth \$3,750,000; 45,000 MT of cereals, valued at \$8,500,000; and 11,500 MT of cereals, 710 MT of butteroil, 1,700 MT beans, and 160 MT edible oil, all through ICRC, worth \$4,507,731.

FAO — provided 100 MT of potato seeds, valued at \$50,000; sent an assessment mission to investigate requirements for food production development in resettlement areas for 500,000 drought victims; conducted a food crop assessment in November 1984; and allocated \$200,000 to purchase pesticides to fight army worm infestation in Sidamo.

ICRC — was able to contribute in many ways because its mandate and reputation allows it to work in contested areas, or "gray areas," where no other organization or government may operate. In Ethiopia, the ICRC worked in regions of conflict including Tigray, Eritrea, Harerge, Wollo, and Gonder. ICRC operated more than 34 dry-ration distribution centers in these regions. In Eritrea, these were in Barentu, Keren, Adi Kaye, Segeneiti, Asmara, Areza, Akordat, Decamhare, Senafe, and Massawa. In Tigray, distribution centers were located at Makelle, Mai Chew, Mehoni, Adi Godom, Axum, Adwa, Adigrat, Wukro, Idaga Hamus,

Quiha, Mehoni, Atsbi, and Rama. ICRC operated four centers in Wollo, at Alamata, Sanka, Lalibella, and Didigsala; and four in Gonder, at Ibnet, Debark, Debat, and Areb Gebiya. The USG donated almost 50,000 MT of food to the ICRC in FY 85, about one-third of the total the ICRC distributed in Ethiopia. In late July 1985, ICRC was reaching 670,000 beneficiaries with a dry ration of 15 kilos/person/month. It also donated more than 17 articulated lorries and a Hercules aircraft for three months, built a feeding center outside Makelle to house 1,000 malnourished children, built another one in Mai Chew, and ran two medical centers in Axum and Adwa. The ICRC also provided grain storage tents for displaced persons camps and feeding centers, and operated two C-130s for the Asmara-Makelle airlift. At the onset of the disaster, ICRC launched an appeal for \$16,602,316 and increased its delegation in Ethiopia to 50 people.

International Confederation of Free Trade Unions — gave \$5,000 through UNDRO.

LRCS — managed supplementary feeding centers and sent 25 League delegates to work with the Ethiopian Red Cross. In early November 1984 and in July 1985, LRCS launched appeals for \$16,602,316 (\$7,335,907 and \$9,266,409 in-kind), including shipments of 25,000 MT food; by August 30, \$6,351,292 in cash and over 32,600 MT of food, worth \$6,473,056, had been received from more than 30 sister societies. LRCS arranged 21 airlifts providing medicines, tents, vehicles, and other supplies. The organization also distributed more than 11,000 MT USG Title II and FSR commodities to 300,000 beneficiaries in the regions of Wollo, Harerge, and Sidamo.

LWF — helped provide medical services, along with the MOH, for the CARE feeding program in Harerge; donated 14,394 MT of grain, 141 MT of powdered milk, 101 MT of clothing, and 34,400 blankets, valued at \$4,847,597; paid for the airlift of those supplies, which cost \$275,000, and also paid for the inland transport of 16,000 MT of grain which cost \$1,500,000.

OPEC — donated 33 short-haul trucks, valued at \$1,440,000.

UNDRO — launched an appeal for \$395.8 million for seeds (\$33.0 million), health (\$5.4 million), shelter (\$5.2 million), and logistics (\$139.2 million); and sent a six-man logistics/monitoring team to strengthen the UN/OEOA office in Addis for one year (sponsored by Finland, Norway, Switzerland, the U.S., and the EEC), valued at \$470,000; and contributed \$1,000,000 through UN/OEOA, WFP, UNICEF, FAO, and the RRC.

UNHCR — donated \$2,936,902 for a program to assist 300,000 people returning to Harerge from camps in Djibouti.

UNICEF — gave 26,700 blankets to the RRC for distribution at camps; from the fall of 1984 through February 1985, UNICEF spent \$1,950,700 on emergency programs, \$1,994,900 on emergency health projects, and \$1,327,800 on shelter and water projects (of the total \$5,273,400, \$2,777,830 was from government contributions). During the period February through June 1985, UNICEF contributed \$6,792,160 for health, nutrition, water supply, sanitation, and transport projects. UNICEF programs focus on the supply of essential drugs, use of ORS, immunization programs, provision of safe drinking water, and supplementary feeding programs.

UN/OEOA — was formed in the fall of 1984 to coordinate donor activities; Kurt Jansson was appointed as assistant secretary-general for emergency operations in Ethiopia; held a U.N. Special Session on Ethiopia on December 18 and made an appeal for more food aid, trucks, and medical, shelter, and other supplies; and provided a transportation specialist. The U.N. also consolidated a fleet of more than 200 trucks to provide all long-haul requirements for emergency food for Wollo.

WCC — provided and transported relief supplies, valued at \$750,000, through the Ethiopian Orthodox Church.

WFP — fielded a technical mission to evaluate unloading capacities of the ports of Massawa, Assab, and Djibouti; donated \$1,250,800 for the internal transport of 26,647 MT of food; provided 31,900 MT of food and internal transport, worth \$11,940,000; 32,148 MT of food for 842,667 people in Wollo for 90 days, and transport worth \$7,263,000; 3,578 MT of food for 75,000 people in Harerge for 90 days, worth \$987,400; and paid \$1,536,334 for internal transport, storage, and handling.

WHO — sent a team in mid-December to review the health aspects of the national drought emergency situation, and donated medical equipment worth \$600,000. In close collaboration with the Ministry of Health, RRC, UNICEF, and other concerned agencies, the team compiled a list of emergency requirements, including drugs, pharmaceuticals, and minor supplies. WHO appointed a coordination officer to work with the UN/OEOA office in early June 1985.

World Bank — contributed 100 short-haul trucks, worth \$4,000,000, and spare parts, valued at \$2,900,000.

Governments

Algeria — made a cash grant of \$200,000; gave wheat, valued at \$1,500,000; and donated \$1,000,000 in cash to the PMGSE.

Australia — donated 20,000 MT of wheat through WFP, 5,000 MT of wheat through PVOs, 20 MT of high protein biscuits for UNICEF; made cash grants to Australian NGOs and the ICRC, and provided a medical team and supplies through UNICEF and ICRC, all worth \$4,604,348. Australia also donated \$143,478 to PVOs for inland transport; 100 MT of biscuits, valued at \$228,261; 280 MT of vegoil for Gamo Gofa, worth \$466,667; a rangeland extension advisor and 30 training projects, worth \$189,130; 20 MT of biscuits, 20 MT of whole milk powder, and 2,000 MT of wheat, worth \$2,391,304, for Eritrea through Australian PVOs; and 25,000 MT of food through WFP. Australia also gave cash grants of \$144,927 to ICRC, \$492,900 to the UN/OEOA, and \$181,160 to the UNHCR.

Austria — donated 4,000 MT of wheat through WFP, and 20 trucks and spare parts, valued at \$1,000,000.

Belgium — donated 4,000 MT soft wheat (wheat and flour mixture) through UNICEF, and 10,000 MT of food, worth \$2,223,000; gave \$2,323,684 to various PVOs; sent a C-130 and a Hercules for use by the ICRC to ferry food from Asmara to Makelle, valued at \$1,403,508; and provided 2,920 MT of wheat flour, valued at \$1,160,000, in the summer of 1985.

Botswana — provided a Hercules airplane to the ICRC to ferry food from Asmara to Makelle, value not reported.

Bulgaria — donated 12,000 MT of wheat, 5,000 MT of flour, 600 MT of other food, medicine, 10 trucks, 12 tractors, 12 trailers, 4 excavators, 100 water pumps, 5,000 blankets, 50 MT of other items, and 2 aircraft, 2 helicopters, and crew to transport commodities; total value \$12,500,000.

Canada — donated 2,650 MT of flour through the ICRC and 250 MT of vegoil through CRS, value not reported; donated approximately 25,000 MT of wheat (20,000 from the federal government and 5,000 from the Government of Ontario), worth \$4,962,000; provided more food aid, valued at \$37,000,000; gave \$2,274,190 in cash grants through ICRC, LRCS, Oxfam, UNDRO, and other groups, and \$7,634,000 in cash grants through Canadian relief organizations; provided medicines through UNICEF, worth \$74,074; paid for the transport of medicines, food, and clothing, worth \$382,000; sent a Bell 212 helicopter for use by CRDA; provided the RRC with airplane spare parts, valued at \$202,206; and provided a medical administrator to the ICRC through the Canadian Red Cross, valued at \$29,000.

China, People's Rep. — contributed 15,000 MT of maize, valued at \$1,620,000.

Czechoslovakia — provided three planes carrying 26 MT of food and 4 MT of medicine, with a total value of \$374,000.

Denmark — donated five trucks, emergency food, seeds, transport, and medicines, through Danish Church Aid, valued at \$3,152,709; provided medical assistance through Danish Church Aid, worth \$147,783; gave a cash grant of \$310,345 to LRCS through the Danish Red Cross; provided food, tents, clothing, medicines, and trucks, all valued at \$693,596, through the Danish Red Cross; donated medical assistance, blankets, and trucks, worth \$331,034, through the Danish People's Relief Association; and gave 116 MT of powdered milk and cash for health and feeding projects, valued at \$197,044, to SCF/Denmark.

Finland — made cash contributions totaling \$237,170 to ICRC, UNICEF, and the Finnish Red Cross; gave UNHCR a cash grant of \$226,667 for the returnee program in Harerge; provided food, blankets, tents, and transport to the Finnish Red Cross, worth \$135,039; and donated food valued at \$2,378,000.

France — donated 2,000 MT of wheat, and provided a C-160 for in-country airlifts, value not reported; and contributed food aid, valued at \$23,045,000.

German Dem. Rep. — donated 1,100 tents, 40,000 blankets, food, medicines, 35 trucks, and three transport planes (for 90 days) for internal airlifts, all valued at \$6,622,516; and 50 tractors, 1,000 MT of sugar, 100,000 blankets, 1,930 tents, 208 MT of rice, 45 MT of peas, 9.7 MT of medicine, and 60 MT of powdered milk, value not reported.

Germany, Fed. Rep. — donated \$150,000 in cash, 3,000 MT of sorghum, 477 MT of vegetable oil, and sugar (the value of the food was \$445,000) to UNHCR for the returnee program in Harerge; provided 40,000 blankets through CARE, valued at \$50,000; and donated relief supplies through CRDA, valued at \$170,000. The Luftwaffe provided two airplanes for 60 days (mid-November to mid-January) for in-country airlifts and airdrops of food and other relief supplies, value not reported. This airlift was extended until late August because the German planes were smaller than the others and were able to service strips, such as Lalibella's, which others could not. The West German government also contributed pharmaceuticals through PVOs worth \$112,903; tents, clothes, and blankets through PVOs, valued at \$177,419; 147 Mercedes Benz trucks, valued at \$3,300,000; food, including 6,000 MT of wheat flour and 100 MT of edible oil, worth \$16,318,000; supplemental food, tents, blankets, medicines, vehicles, and transport, all valued at \$2,675,000, to the UNHCR and ICRC; \$3,905,000 in cash to various PVOs; emergency technical as-

sistance, valued at \$6,985,000; 35 MT of medicine through the German Red Cross, valued at \$48,387; and 116,000 jute bags for air-dropping of emergency food, valued at \$43,226.

Greece — provided 120 MT of baby food, value not reported.

Hungary — provided baby food, flour, sugar, dried pasta, and milk powder, worth \$982,125.

Iceland — contributed food aid, valued at \$51,000.

India — donated 57,000 MT of wheat, 20,000 MT through WFP, 30,000 MT through the RRC, and 7,000 MT to be monetized to pay for internal transport and handling costs; total value of the wheat is \$15,390,000.

Iran — provided 90 MT of food and medicines to the RRC, valued at \$1,393,000.

Ireland — donated 600 MT of food aid and other relief supplies with transport, valued at \$1,232,000.

Italy — provided the following assistance: \$2,604,166 in cash for warehouse construction in Assab port; 100 trucks, 115 trailers, spare parts, maintenance facilities, and a fully-equipped workshop, all worth \$7,291,666; two medical teams to Makelle and one to Bati for six months in collaboration with UNICEF and ICRC, with tents, drugs, medical equipment, vehicles, and air shuttle service carried out by two Italian Air Force planes, all valued at \$3,385,415; construction of a warehouse in Dire Dawa, capital of Harerge, at a cost of \$2,083,333; medical assistance to Gonder, valued at \$3,125,000; enriched supplementary food, including semolina and cheese, worth \$2,864,583; \$3,124,999 in cash to Caritas Italiana for feeding and water research programs; \$785,250 to drill wells and provide pumps to supply water to the Italian health centers in Makelle and Bati; four fixed and two mobile food processing plants, worth \$1,000,000; \$26,041,666 for rehabilitation ventures, including medium and small-scale irrigation projects (through UNDP), dam construction, rural road projects, and warehouse construction; \$260,416 in cash for UNDRP for internal transport costs; and \$520,823 to Caritas Italiana, UNICEF Committee for Italy, and other Italian PVOs for air freight of relief supplies. Italy was a leader in providing vehicles for inland transportation; in addition to the 100 mentioned above, Italy provided another 136 to the RRC over the year.

Japan — granted \$7,400,000 worth of food and agricultural supplies; provided 1,200 tires, worth \$200,000, spare parts for Japanese trucks, valued at \$50,000, and forklifts and tugs, valued at \$200,000; and gave \$90,000 through UNDRO for air drop activities.

Jordan — gave 13.6 MT of food airfreighted by the Royal Jordanian Air Force, value not reported.

Libya — provided a seven-man medical team, and three aircraft for internal transport, value not reported.

Maldives — donated \$5,000 in cash.

Netherlands — donated supplementary food, seeds, farm equipment, and six trucks, worth \$823,000; one C-130 aircraft for a shuttle between Asmara and Makelle, valued at \$3,800,000; \$1,846,800 in cash to Dutch PVOs; a Hercules aircraft to transport food from Asmara inland, 6,000 MT of grain, seeds, and animals, 50 MT of biscuits through UNICEF; value not reported; 3,000 blankets to the RRC for distribution at DP camps; equipment to facilitate port operations at Assab, worth \$900,000; 24,000 MT of wheat, valued at \$2,910,000; and \$50,000 in cash through UNDRO for air drop activities.

Norway — provided \$1,800,000 for purchase and transport of food grain through Norwegian Church Aid and SCF/Norway; 120 MT of high-protein biscuits through UNICEF; worth \$316,384; contributed \$56,500 to UNICEF, LRCS, and SCF/

Norway for vaccination campaigns; contributed tents through Norwegian Church Aid, valued at \$112,994; donated 60,000 garments for children, women, and men, valued at \$27,000, through a Norwegian PVO; provided 60 MT of fish-protein concentrate valued at \$45,000, through a Norwegian PVO; donated \$94,444 worth of medical supplies through Norwegian Church Aid; provided \$115,400 for an emergency administrative expert for one year and \$38,742 for a health coordinator for the UN/OEOA office; gave \$37,778 through WHO for a health coordination training course; provided blankets, valued at \$17,422, through Star of Hope (a Norwegian PVO); purchased medicine, worth \$44,443, through the Norwegian Red Cross; contributed \$1,824,817 in cash to Norwegian Church Aid, and donated 9 MT of supplementary food, including transport, to CRDA, worth \$38,961.

Pakistan — provided 500 MT of rice, value not reported.

Poland — sent three MI-8 helicopters to move food to plateaus not suitable for drops in northern Shoa, valued at \$2,400,000.

Saudi Arabia — provided 3,000 tents (two-family size) to the RRC for camps, value not reported.

Soviet Union — provided 10,000 MT of rice, sugar, and baby food; 8 MT of medicine; blankets; 10 water tank trucks; two water-drilling installations with experts; 300 trucks; 12 Antonov transport planes, partly to ferry food and relief supplies, but mostly to resettle more than 66,000 people; 24 helicopters for 180 days, to Wollega, Kefa, and Illubabor, less drought-prone regions in the south; and an ambulatory hospital with a staff of 150; value not reported for any of these items.

Spain — supplied 5,000 MT of grain plus other food and tents, valued at \$53,685; the transport provided by Iberia and the military; also provided 7 MT of food and medicines for children, 7 MT of blankets, 1 MT of tents, clothing, and medical supplies, with air transport, all valued at \$85,715.

Sweden — donated the following: 10,000 MT of wheat, worth \$1,334,000, through LWF; \$7,640,000 in cash to the RRC to buy and transport Swedish wheat to inland distribution centers; \$1,110,000 in

cash to the ICRC; \$445,000 in cash to LRCS; \$275,000 in cash to UNICEF; 10,000 MT of wheat to the RRC, valued at \$1,110,000; spare parts, tires, and water equipment, worth \$890,000, to the RRC; food, medicine, and internal transport costs, worth \$835,000, to LWF; emergency food, valued at \$1,110,000, through a Swedish PVO; and a C-130 and a Hercules airplane for use by the ICRC for six to eight weeks to ferry food from Asmara to Tigray, value not reported.

Switzerland — donated \$115,830 to UNICEF for its emergency program; 8 MT of pesticide, valued at \$65,217, for army worm infestation in Sidamo; \$1,961,304 in cash to ICRC, WFP, and various PVOs; 2,000 MT of cereals and 500 MT of supplementary food, including transport to ICRC, WFP, and various PVOs, worth \$2,173,913; and four Swiss Disaster Relief experts to ICRC and UNHCR, valued at \$147,826.

United Kingdom — donated 26,000 MT of grain, valued at \$7,539,729; two RAF aircraft C-130s to transport 50 MT/day of supplies within Ethiopia for 90 days, worth \$5,000,000; 6,500 MT of food and two Hercules aircraft for internal transport for three months, valued at \$1,210,000; 16 Land Rovers, tires, and spare parts for the RRC and PVOs, two mobile workshops for the RRC, ten dump trucks, two grain conveyors, spare parts for the port of Assab, one Halco drilling rig and one Hands England rig for the Ethiopian Water Commission, five 30-MT trucks, seeds, tools, tents, blankets, tarpaulins, internal transport, mechanics, and food monitors, all worth \$6,050,000; 15,000 MT of food to the RRC, Oxfam/UK, and the WFP, worth \$4,325,000; 5,000 sprayers of both the manual and battery-operated types with spare batteries for army worm infestation in Sidamo; 480 tarpaulins for Assab port, valued at \$1,073,781; \$2,857,142 in cash to ICRC; and \$1,071,428 in cash for the ASG/EOE transport fund.

Vatican — provided \$55,000 to local church organizations and \$50,000 in cash through Caritas.

Voluntary Agencies and Other Private Groups

AODRO (Australian PVO) — donated food and blankets, worth \$260,000.

Band Aid Trust — is an organization of British performers formed by Bob Geldoff (of the Boomtown Rats) to raise money for famine relief in Africa. In late 1984, British musicians released a record called, "Do They Know It's Christmas?," the proceeds of which were donated for relief supplies. This also served as a catalyst for the U.S. recording, "We Are the World," and the fund-raising rock concerts in London and Philadelphia in the summer of 1985. About \$70 million was raised by these concerts and will be used for logistics, food, and other relief items to combat hunger in Africa. As of December 1985, Band Aid had donated \$1,300,000 for the U.N. consolidated truck fleet for Ethiopia. (See also "Live Aid" under U.S. Voluntary Agencies and Other Private Groups.)

China, People's Rep., Red Cross — provided \$70,000.

Christian Relief and Development Association (CRDA) — is a PVO consortium that provided a conduit for about 80% of the 48 PVOs working in Ethiopia; contributed 52,000 blankets to the RRC for distribution at camps; held regular bi-weekly meetings; used a helicopter provided by Canada to haul grain for its members; purchased trucks from Mercedes Benz; distributed 1,500 MT of teff seed; and provided a vehicle-servicing facility (for light work) for its 43 member agencies; value not reported.

Church Drought Action for Africa (CDAA) — was a PVO consortium consisting of CRS and its local counterpart, the Ethiopian Catholic Secretariat, and LWF and its local counterpart, the Mekane Yesus Ethiopian Evangelical Church. In FY 85, CRS and ECS handled about half of the almost 90,000 MT of food donated by the USG for CDAA distribution. They had a large presence in Eritrea and Tigray, and a smaller presence in Bale, Harerge, Kefa, Gamo Gofa, and Gonder. LWF and Mekane Yesus distributed the other 45,000 MT and were active in Wollo, Shoa, Wollega, and Sidamo.

Cyprus Weekly Newspaper — made a cash contribution of \$1,357 to UNDR0 for food and medicines.

Daimler Benz Company (Germany, Fed. Rep.) — donated 8 Mercedes Benz trucks.

Danish Church Aid — contributed \$88,810 in cash to CRDA.

Finnish Lutheran Church — bought 1,500 MT of wheat from the Netherlands for arrival in northern Ethiopia before Christmas 1984, value not reported.

Germany, Fed. Rep., Red Cross — provided mobile kitchens, generators, tents, beds, and blankets, worth \$62,119; and sent a five-man medical team to Alamata, value not reported.

Irish Concern — ran eight emergency relief camps and feeding centers: at Ibnet (in Gonder), at Bodessa, Edo Bolosso, Sake, and Jerare (in the Wolayita area of Sidamo), at Harbo (in Wollo), and at Kemisse and Cherite (in Shoa). The total beneficiaries of Concern's programs numbered 112,000 in May 1985. In the Sidamo region, it was one of only a few organizations working to aid famine victims. Harbo camp, in Wollo, was considered the model camp in Ethiopia by the RRC.

Irish Farmers Association — donated 2,153 MT of grain and 30 MT of milk powder through Irish Concern.

Japan Red Cross — donated \$1,215,000 and 1,000,000 blankets raised from private sources.

Libya Red Crescent — provided 30 MT of food through the ERC, value not reported.

Medecins sans frontieres (MSF) — sent a team of 7 doctors, 13 nurses, a lab technician, and 3 logistics officers to work at the camps of Korem and Kobo in Wollo Province and contributed medicines, medical equipment, tents, and shelter for hospitalization and recovery, and part of the specialized food for therapeutic feeding centers for these camps. MSF worked in Ethiopia from March 1984 until December 1985, when the PMGSE expelled the organization from the country because of its criticism of Ethiopia's resettlement policies. MSF's contribution in 1984 was valued at \$4,729,730, some of which was financed by the EEC.

Missionaries of Charity — with CRS providing logistics and management, distributed 1,316 MT of USG-donated NFDN and butteroil.

Norwegian Church Aid — donated 8,240 MT of cereals and supplemental food, tents, and other supplies, worth \$3,016,000.

Oxfam/U.K. — from July 1984 through mid-January 1985, Oxfam raised \$9,411,765 from the public. Oxfam allocated funds for two shipments of grain

(for a total of 20,000 MT), the costs of various relief flights, expenses of teams of nutrition workers and water engineers working in Wollo and Sidamo, supplementary foods, Oxfam feeding kits and weighing scales, high energy biscuits, water pumps (including a well and two pumps to provide clean water at Lalibella), tanks, piping and taps, vehicles, blankets, plastic sheeting, medicines, grinding mills, and molasses pumps.

Pan-Cyprian Association for Famine Relief — contributed \$19,355 for food and medicines through UNDRO, and \$80,645 in cash to UNDRO.

RIAS Berlin — a radio station in West Berlin, sent 24 MT of emergency supplies, including tents and protein biscuits, to be distributed at the camp at Lalibella (western Wollo). The Luftwaffe, Lufthansa, Pan Am, Transamerica, and British Airways provided transport.

SCF/U.K. — operated a substantial feeding program in northern Wollo and distributed supplemental food (such as high-energy porridge for underweight children) and dry rations at Korem, Kobo, Bistina, and Bulbula. SCF/UK also leased close to 40 trucks to provide inland transportation and provided an aircraft to ferry supplies from the port of Assab to Asmara, Makelle, and Axum, value not reported.

Soviet Union Red Cross — donated \$290,734 to ICRC.

Swiss Disaster Relief Unit — provided two experts to help the UN/OEOA office in Ethiopia, and provided WFP with a coordinator for Assab port.

World University Service Canada (WUSC) — is the implementing partner of the UNHCR for the returnee program in Harerge.

Yugoslavia Red Cross — donated \$4,772 in December 1984.

TOTAL \$451,734,684

Floods

Lesotho

Date

February 9-10, 1985

Location

Drakensberg area, as well as western lowlands

No. Dead

None reported

No. Affected

3,000 to 80,000

Damage

70 houses damaged, major bridges washed out

The Disaster

On February 9 and 10, the entire southern half of Lesotho was battered by heavy rains and high speed, tornado-like winds. The force and sudden onset of the rains caused flooding in many areas, washing out bridges and isolating large segments of the population.

In the Mokhohlong District, approaches to the bridge crossing the Khubelu River were washed out on both shores. Three thousand men, women, and children were stranded in the flooded area. The swift moving waters of the Senku River near the village of Sekokong hindered efforts to repair the bridge and allow access to the area.

In the western lowland area of Mohales Hoek, high speed winds tore the corrugated tin roofs from houses and scattered them over surrounding fields. The roofs of both the medical clinic building and the police headquarters were also blown off. The final tally in this area was 70 homes damaged and between 350 and 400 people left homeless.

Action Taken by the Government of Lesotho (GOL)

Within two days of the flooding, the Ministry of Public Works had road crews at the Khubelu and Senku rivers attempting to repair the approaches to the bridges. However, even when the approaches were repaired with gravel and rock fill, the rivers remained impassable until the waters receded to their normal levels.

On February 13, the Foreign Ministry called a meeting of the diplomatic community to describe the damage and appeal for aid and assistance to meet the national emergency. At the same time, the GOL requested assistance directly from the United States Government through its embassy in Washington.

Assistance Provided by the United States Government

U.S. Ambassador S. O. Abbott toured the Khubelu River disaster area by helicopter with the Minister of Works and subsequently inspected damage to the western lowlands. Based on his observations and the GOL's request, the Ambassador declared that a disaster existed in the Kingdom of Lesotho of a magnitude warranting U.S. assistance.

The USG provided \$25,000 to assist the GOL with the repair of the Khubelu River crossing, the only access to the isolated population of Mokhohlong district. Materials and equipment necessary to repair the bridge, including gabions and cement valued at \$12,972, were purchased locally by the GOL. The remaining funds were used to rent dump trucks, flat bed trucks, and a front-end loader to be used in the repair efforts.

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

The Federal Republic of Germany provided funds totaling \$3,250 to replace the roofs of two medical clinics.

TOTAL \$3,250

Cholera Epidemic

Mali

Date

June 1984 – September 1985

Location

Mopti, Timbuktu, Segou, and Gao regions

No. Dead

1,022

No. Affected

4,502

The Disaster

The first recognized clinical case of El Tor cholera in Mali was reported in mid-June 1984. Subsequent outbreaks occurred in Gao, Segou, Timbuktu, and Mopti regions, with the highest incidence in the two latter regions. The areas most affected by the epidemic had also suffered from three successive years of drought and famine.

The epidemic peaked by mid-November; however, the number of cases rose to at least 4,502, and the number of deaths to 1,022, as sporadic outbreaks continued through the summer of 1985. In a particularly severe outbreak in the Koro cercle of Mopti region, a total of 479 new cases were reported between May 1 and June 2, 1985. Another 466 cases and 90 deaths were reported in July. Epidemiological investigations revealed that contaminated food and water were largely responsible for the spread of the disease.

Action Taken by the Government of the Republic of Mali (GRM)

A local control and treatment program was begun in Gao Region in July, and a national strategy to combat the epidemic was developed in September. The national program required regional physicians to begin curative and preventive measures in any village in which a cholera-like illness had been reported. An attempt was also made to stock treatment supplies in all regions and to require weekly reporting by short wave radio of all new cases and deaths. Logistics and communications problems, however, hampered the delivery of medical assistance as the epidemic spread to less accessible areas.

Water supplies in central reservoirs were chlorinated and guidelines issued for treating drinking water elsewhere. The GRM began a large-scale immunization program in October, distributing vaccine by mobile health teams to areas thought to be at risk. The Mali Minister of Health launched an international appeal for assistance on October 9 and identified needed supplies for continuing the national program.

As the epidemic continued into 1985, Mali health officials reevaluated the methods being used to control the disease. On July 6, 1985, the Minister of Health announced major policy changes in the cholera control program. An emergency action program, developed with the assistance of USAID health personnel and emphasizing surveillance and oral rehydration therapy, was to be under-

taken for a six-month period. Since a major training effort would be needed to carry out the program, the Minister of Health again sought multi-donor support.

Assistance Provided by the United States Government

U.S. Ambassador Robert J. Ryan, Jr. determined on November 3 that the cholera epidemic was of such a magnitude that the GRM could not respond adequately without assistance. He authorized the expenditure by OFDA of his \$25,000 disaster assistance authority for the fielding of an epidemiological team and the provision of laboratory supplies and medicines.

A two-doctor team from the Centers for Disease Control (CDC) conducted epidemiologic investigations in Mali from November 8 to December 6. Based on their observation that most deaths could have been prevented with adequate oral rehydration therapy, the team stressed the importance of this treatment in its recommendations. At the same time, the CDC doctors counseled the avoidance of less effective means of control, such as mass vaccinations, except in special circumstances. The team also recommended the implementation of a national program for the treatment of all diarrheal illnesses and the designation of one person as national coordinator for cholera surveillance and response in the event of another outbreak.

Travel expenses for the CDC physicians and the cost of laboratory equipment to accompany them totaled \$12,475. In addition, OFDA provided a shipment of medical supplies through UNICEF at a cost of \$12,500. The commodities, which arrived in Mali on November 13, included 80,000 packs of oral rehydration salts, 500 liters of Ringer's lactate, and 5,000 disposable needles.

The USAID Mission also made available three all-terrain trucks and a pick-up truck to assist the delivery of medical supplies to outlying regions. Two health officers investigated the status of the Koro epidemic during an onsite visit in June 1985 and, under the USAID health services project, made major improvements to upgrade the medical infrastructure in the Koro cercle and three other clinics in the area. They also advised local health officials on the best procedures and strategy for dealing with cholera cases.

In response to the GRM's appeal for donor assistance in funding the accelerated cholera program,

OFDA provided a Mission allotment on August 8, 1985. Besides assisting the training and medical supervision components of the program, the \$100,000 grant from the Africa Supplemental Appropriation (see "Introduction") helped finance the distribution of materials and the establishment of a two-way radio system in the sparsely populated areas in which cholera and drought were still problems.

Also, in view of the continuing incidence of cholera, OFDA responded to the Mission's request to procure additional laboratory supplies and medical equipment. The shipment, which arrived in Mali on August 19, included sterile swabs and culture tubes, Cary-Blair transport medium, and reusable petri dishes. The cost of the supplies, including air freight, totaled \$11,973 and was funded from the Africa Supplemental account.

Total OFDA funds	\$24,975
Total OFDA-administered Supplemental funds	\$111,973
TOTAL	\$136,948

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

International Organizations

EEC — provided support valued at \$20,000 to a preventive/curative program in Timbuktu; also gave 500,000 fanasil tablets and 500,000 bags of rehydration salts, value not reported.

UNDP — made \$25,000 available to the UNDP/UNDRO representative and WHO/Bamako for the purchase of medicines and logistics support.

UNDRO — launched an appeal for international relief on behalf of the Mali Minister of Health; provided \$30,000 for medical supplies and logistics support.

UNICEF — gave medicines worth \$10,000 and logistics support valued at \$20,000.

WHO — donated medicines, laboratory and diagnostic material, and fuel, all valued at \$40,000.

Governments

Algeria — two technicians with two injectors and 200,000 doses of vaccine, value not reported

Belgium — \$2,660 for the local purchase of medical supplies and disinfectant

France — airlifted 200,000 doses of vaccine, 40 im-ojets, 100,000 tablets and 50,000 vials of fanasil, all at a cost of \$54,837; also provided an investigative team

Italy — Ringer's lactate, rehydration salts, and 5,000 sulfamide tablets, with a total value of \$52,630

Switzerland — 100,000 tablets of tetracycline, valued at \$2,500

Voluntary Organizations and Other Private Groups

Association Francaise Volontaires Progres — provided medical supplies valued at \$11,000.

MSF — (France — Belgium) within its ongoing health/nutrition program, engaged five mobile medical teams in preventive and curative action in Timbuktu (supported by EEC contribution); also provided 500,000 ORS packets, value not reported.

Palestine Liberation Organization — provided 25,000 doses of vaccine and seven technicians, value not reported.

TOTAL	\$268,627
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Drought**Mali**

(Please note: This disaster was declared near the close of FY 84 and remained active throughout FY 85.)

Date

June 1984 – December 1985

Location

Countrywide, particularly the regions of Gao (Region VII), Timbuktu (Region VI), Mopti (Region V), northern Kayes (Region I), and northern Koulikoro (Region II)

No. Dead

Not reported

No. Affected

1,500,000

The Disaster

Much of Mali lies in the Sahara Desert or in the dry Sahelian zone and is very susceptible to the vagaries of rainfall. Both 1982 and 1983 saw insufficient rainfall in the Sahel, which particularly affected the Gao and Timbuktu regions. When the rains failed again in 1984, the food shortage situation became disastrous, not only in Gao, Timbuktu and Kayes — often affected by drought — but also in Mopti and Segou. In the remote region of Gao, where distances are great and transportation links poor, normally about 49% of the population are nomads, but during this prolonged drought, some of the normally sedentary population had to migrate in search of water. On the other hand, most of the migration in drought-stricken Gao was from the rural areas to encampments either inside cities (where that has been allowed) or on the outskirts of cities. In mid-March, the uprooted population was estimated at greater than 40,000 in Gao and 52,000 in Timbuktu.

In general, the impact of the drought was most severe in the north with conditions improving marginally towards the south. Women and children were most at risk; many nomad and village men left their families to seek work but had not returned by the spring of 1985. Medecins sans frontieres (MSF), a French PVO, reported serious nutritional deficiencies in the affected areas. In a survey taken of children younger than five years old, the following regional populations were found to be below 80% of normal weight-height ratios: Timbuktu: 18-52%; Gourma Rharous (along the Niger River, east of Timbuktu): 27-70%; Dire (southern Gao): 12-47%; Niafunke (northern Mopti): 7-18%; and Goundam (southern Gao): 15-38%.

USAID estimated the national food deficit to be 440,000 MT in February 1985. Of this amount, only 210,000 MT were covered by on-farm stocks and commercial imports.

Many Malians have a precarious economic existence in the best of times and several years of insufficient rainfall, coupled with years of deforestation and erosion, pushed the country toward disaster.

Action Taken by the Government of the Republic of Mali (GRM)

In October 1983, the GRM launched an appeal for international aid. It also formed a national commission to aid victims of the drought. The FAO estimate of a 481,000 MT cereal deficit and its recommendation of 202,000 MT of food aid were endorsed by the GRM, and its requests for emergency food followed the recommendations.

The GRM tried to schedule food aid deliveries in the most efficient manner: all government-to-government food aid was received and accounted for by the Office des Produits Agricoles du Mali (OPAM), the government's agricultural office. OPAM was charged with selling 10,000 MT of USG-donated rice, the proceeds of which were placed in a joint USAID-GRM bank account and later applied to cover the cercle-to-village-level transport costs of the food for free distribution.

A top priority for rehabilitation was procuring seeds for the 1985 harvest. OPSS, the GRM agency charged with seed supplies, worked with the Canadian government and the Fonds Europeen du Developpement (FED) to purchase the millet, sorghum, and rice seeds. Production within Mali was sufficient to meet requirements but the seeds had to be purchased quickly before they were eaten by hungry farmers, as only locally-produced seed varieties are adapted to local conditions.

Finally, Secama, the Malian Catholic society, participated in food distribution to displaced nomads in Gao.

Assistance Provided by the United States Government

On September 13, 1984, Ambassador Ryan declared that the drought had caused a disaster in Mali. His disaster assistance funds were used to provide two grants of \$12,500 each to UNDRO and to the Coordinating Committee for Emergency Actions (CCAU, a group of non-governmental organizations) for inland grain transport. OFDA gave CCAU an additional \$300,000 and UNDRO \$50,000 from its special \$16 million appropriation for inland food transport.

Much of sub-Saharan Africa, particularly the Sahel zone, was in deep crisis throughout 1984 and 1985, rivalling the devastating drought of the early 1970s. Many international donors mounted a concerted relief effort, partly to prevent famine conditions from arising and partly to deal with the

underlying causes of the food shortage. Consequently, in late January 1985, OFDA sent a two-person team for a month to assess the extent of the emergency in Mali and to determine the most appropriate and effective U.S. response. Their report helped OFDA to decide on what further aid should be given to Mali in FY 85.

USAID's strategy to alleviate the disaster included both the sale and free distribution of P.L. 480 Title II food grains. Sales provided the counterpart funds necessary to transport other commodities for free distribution in rural areas as well as help to meet the national cereal requirement during a time of shortage. Free distribution took place in remote rural areas. Therefore, 5,000 MT of the Government-to-Government rice in FY 84 and 5,000 MT of the rice in FY 85 were sold through OPAM's eight outlets in the region of Mopti. Net proceeds were placed in a joint GRM-USAID bank account and used to pay for free distribution of the remainder of the Government-to-Government P.L. 480 food. OPAM assigned the free distribution of the remaining 75,300 MT to several PVOs which had experience in Mali. These included the Stromme Memorial Foundation, the Baptist Mission, Norwegian Church Aid, CARE, MSF, and ASC (a Swiss PVO).

In addition to the Government-to-Government program, USAID also donated Title II and Section 416 commodities for free distribution to LRCS, WFP, and the African-American Labor Center. (For details, see below, "FFP Assistance.")

USAID arranged a barter transfer of Ghanaian maize for Title II rice assigned to Mali and Burkina Faso. Under the contract, 9,202 MT of Title II rice was exchanged for 15,000 MT of Ghanaian white maize, 10,000 MT of which was transshipped to Mali (8,000 MT went to WVRO's program in Gao and 2,000 MT went to Nioro).

Four food monitors were hired by A.I.D.'s Bureau for Food for Peace and Voluntary Assistance for \$140,000 to oversee distribution of Title II food. In addition, the Africa Bureau of A.I.D. funded a Disaster Relief Advisor for a two-year assignment to help manage the entire USG disaster relief effort. This cost (\$206,000) was funded from a special portion of the supplemental funds allocated for operating expenses.

Vice President George Bush visited Mali in March during a trip to Africa. He was accompanied by a DOD C-141 filled with food, medicine, and medical supplies provided by PVOs, private citizens, OFDA, and DOD. The transport of the plane was paid for by OFDA. Vice President Bush also signed three agreements with the GRM finalizing rehabilitation projects.

As mentioned earlier, one of the most severely affected areas of Mali was the remote region of Gao. It was imperative to get food and other relief supplies to this area. The city of Gao is along the Niger River, 1,250 km from Bamako and 600 km from Mopti. During the height of the disaster, the ferry across the Niger River at Gao was frequently out of order. Therefore, OFDA funded a DOD operation to install a 60 MT capacity raft (U.S. Army M4T6, five float reinforced raft) to carry trucks and supplies across the river until the usual ferry could be repaired. The raft was operated from May 23, 1985, until the end of October. Fifteen people from the U.S. Army Corps of Engineers worked closely with Malian engineers to maintain daily crossings.

CARE received a grant from OFDA to handle the logistics of its food program. CARE purchased nine 10-MT four-wheel drive diesel station wagons and eleven 49-cc motorized bicycles, spare parts, and garage tools. CARE handled the distribution of 22,500 MT of the Government-to-Government Title II program.

Finally, OFDA funded a self-help project to rebuild, deepen, and provide a lip and a lid for five wells in isolated Koro cercle in the Mopti region. The funds paid for cement, parts, and well diggers and their transportation. The contributions of the 3,400 villagers involved represented 25-30% of total costs.

Summary of OFDA Assistance

FY 84

Grant to UNDRO for inland transport (\$50,000 of this amount was from supplemental funds) \$62,500

Grant to CCAU for inland transport (\$300,000 of this amount was from supplemental funds) \$312,500

FY 85

Disaster assessment team visit (January 31-March 1, 1985) \$23,193

Cost of DOD airlift of food and medical supplies during Vice President Bush's visit to Mali	\$64,224	Cost of in-country support for DOD Gao raft team (from supplemental funds)	\$300,000
DOD initial survey team of Gao ferry situation (mid-May)	\$5,000	Grant to CARE for logistical support of food program (from supplemental funds)	\$2,154,786
DOD airlift of the Gao raft from West Germany and support costs (from supplemental funds)	\$510,000	Wells self-help project in Koro cercle in Mopti (from supplemental funds)	\$36,000
		FY 86	
		Grant to Africare for food crop production program (supplemental funds)	\$1,723,000

Summary of FFP Assistance

Sponsor & Commodity	MT	Commodity Cost	Freight Cost	Total Cost
FY 84				
GRM Title II: 15,000 MT corn meal; 10,000 MT rice	25,000	\$ 6,472,700	\$ 5,069,000	\$11,541,700
WFP Title II: 10,000 MT corn	10,000	\$ 1,527,800	\$ 1,100,000	\$ 2,627,800
AALC Title II: 4,860 MT corn	4,860	\$ 742,500	\$ 1,069,200	\$ 1,811,700
TOTAL	39,860	\$ 8,743,000	\$ 7,238,200	\$ 15,981,200
FY 85				
GRM Title II: 20,000 MT rice; 15,000 MT corn meal; 25,000 MT corn; 300 MT NFDM	60,300	\$12,917,900	\$15,354,200	\$28,272,100
LRCS Title II: 405 MT NFDM; 4,872 MT rice; 162 MT vegoil	5,439	\$ 1,712,600	\$ 1,309,000	\$ 3,021,600
LRCS Section 416: 840 MT NFDM	840	\$ 546,000	\$ 239,400	\$ 785,400
WFP Section 416: 360 MT NFDM	360	\$ 234,000	\$ 102,600	\$ 336,000
TOTAL	66,939	\$ 15,410,500	\$ 17,005,200	\$ 32,415,700
Four food monitors				\$ 140,000



Gao River Ferry

Total FY 84 OFDA funds	\$25,000
Total FY 84 OFDA-administered	
Supplemental funds	\$350,000
Total FY 84 FFP funds	\$15,981,200
Total FY 84	\$16,356,200
Total FY 85 OFDA funds	\$92,417
Total FY 85 OFDA-administered	
Supplemental funds	\$3,000,786
Total FY 85 FFP funds	\$32,555,700
Total FY 85 Special Supplemental for operating expenses	\$206,000
Total FY 85	\$35,854,903
TOTAL	\$52,211,103

Assistance Provided by U.S. Private Voluntary Agencies

ADRA — provided 4,050 syringes and needles, valued at \$4,800, for Vice President Bush's airlift.

ANRC — gave 1 MT of cream dry milk, valued at \$24,500, for the Vice President's airlift.

African-American Labor Center — handled 4,860 MT of Title II corn provided by the USG in FY 84.

Africare — donated 68,700 doses of measles vaccines, worth \$54,432, and 2.3 MT of high protein bars for the Vice President's airlift.

Baptist Mission — distributed USG Title II corn in FY 84 and distributed 4,000 MT of Title II corn (provided through the Government-to-Government program) in the dryland area of Mopti (Douentza and Koro), Segou (IV), and Koulikoro (II) and in Nioro (IV Region); and provided trucks for inland transport. The Mission purchased two 10-MT four-wheel drive trucks to transport the grain within the country.

CARE — made surveys of drought-stricken areas; distributed food and relief supplies in the VI Region (Niafunke, Timbuktu, Gourma, and Tonka), the V Region (Douentza, Mopti, and Djenne), and the IV Region (Macina and Nioro); and provided 2.3 MT of yellow cornmeal, valued at \$790,000 on the Vice President's airlift.

MAP International — provided 4.5 MT of medical supplies, worth \$13,175, for the Vice President's airlift.

WVRO — distributed 90 MT of rice in Kayes and the Niore du Sahel area, and provided food aid and transport to Kayes (Region I), Kolokani, and Menaka (in Gao region where WVRO is working with LRCS), worth \$2,448,876.

TOTAL \$3,335,783

Assistance Provided by the International Community

International Organizations

Caritas Internationalis — provided \$1,443,915 in food and other aid.

EEC — donated \$1,200,000 for the local purchase of food and seed and for their transport to the affected regions; gave \$625,005 to MSF for a health program; procured two engines for a river barge at Koulikoro, and provided 23,500 MT of corn, rice, and sorghum with inland transportation, worth \$4,914,700. In May 1985, EEC had expended a total of \$31,480,050 for food aid and relief needs during 1984-85.

FAO — conducted an assessment of the food shortage situation in December 1983 with WFP.

FED — provided substantial support for rice and millet seed acquisition in surplus areas; and replaced one engine of a 40-MT ferry at Gao.

LRCS — runs the only organized, large-scale feeding program in the Gao region (concentrating in the city of Gao, Menaka, and Ansongo). In early February, LRCS operated 99 feeding centers (with a target of 160) benefiting 57,500 children, each of whom received at least one hot meal (consisting of a mixture of rice, milk, oil, and sugar) per day. Later, it expanded its feeding program to include distribution of raw grains to 40,000 family members. LRCS provided emergency health and nutrition services in Gao and Timbuktu regions. By May 1985, LRCS's nutritional program was assisting 290,000 people. LRCS also provided eight refrigerators and 60 containers to hospitals and health posts; provided medicines and oral rehydration packs for maternal-child health clinics and first aid posts; and appealed for a 10-ton truck, two four-wheel drive Toyotas, a Land Rover, and food.

UNDP — used \$1,085,000 from its emergency funds for hydro-agricultural projects and pumps.

UNDRO — sent evaluation teams in May 1984 and in November 1984; sent a representative to

Bamako to coordinate relief efforts; made an urgent appeal for 400,000 MT of seeds; distributed 5,000 MT of grain; and contributed \$9,000.

UNICEF — organized two medical teams for Gao, Timbuktu, and Dire; and UNICEF national offices in Belgium, Japan, and the U.S. contributed \$214,000.

U.N. Sahelian Office — installed 50 pumps.

WFP — distributed more than 100,000 MT of food and contributed 10,000 MT of maize, valued at \$3,480,000.

WHO — conducted a health program in the drought zones.

Governments

Algeria — provided wheat worth \$200,000, and placed three C-130s in Mopti to airlift 2,000 MT of cereal. Operations began June 21 and lasted one month. USG commodities received top priority.

Austria — donated 1,510 MT of rice.

Belgium — bought 2,500 MT of rice on the local market.

Canada — provided substantial support for rice and millet seed acquisition from surplus areas, and provided 24,194 MT of corn.

China, People's Republic — provided 2,000 MT of rice and 6,000 MT of corn.

Denmark — gave \$90,407 in cash through UN-DRO and 1,125 MT of rice.

France — donated 15,000 MT of maize.

Germany, Fed. Rep. — donated 12,000 MT of corn and sorghum, and provided an engine for the Gao ferry.

Italy — contributed \$3,000,000 in FY 84 and \$5,000,000 for cereals and processed foods in FY 85; airlifted commodities from Dakar to Bamako and then from Bamako to outlying areas for one month.

Japan — provided 2,800 MT of rice through WFP, 20,000 blankets, and 24 MT of biscuits.

Korea, Dem. Rep. — gave 1,000 MT of corn through WFP.

Netherlands — provided 5,500 MT of rice and 2,024 MT of yellow corn, valued at \$1,500,000, and \$141,666 in cash.

Norway — donated food and medicines through Norwegian Church Aid (NCA) worth \$803,571, and made a cash contribution to NCA of \$611,111 and one to Stromme Memorial Foundation of \$131,222.

Pakistan — donated rice.

Switzerland — provided \$17,000 to UNDRO for food transport.

Thailand — gave 100 MT of rice.

United Kingdom — donated 1,890 MT of rice.

Yugoslavia — contributed 50 MT of food.

Voluntary Organizations

ASC (Swiss Disaster Relief) — distributed 2,500 MT of USG Title II food in the city of Gao.

Cardinal Leger and His Works (Canada) — contributed \$304,000 in cash.

Caritas Austria — contributed \$90,000 in cash.

Caritas Belgium — contributed \$27,576 in cash, and \$3,960 in kind.

Caritas Canada — contributed \$418,000 in cash.

Caritas Germany, Fed. Rep. — contributed \$30,870 in cash.

Caritas Korea, Rep. of — contributed \$9,590 in cash.

Caritas Malaysia — contributed \$9,600 in cash.

Caritas Netherlands — contributed \$28,000 in cash, and \$215,827 in kind.

Caritas New Zealand — contributed \$7,204 in cash.

Caritas Singapore — contributed \$10,471 in cash.

Caritas Switzerland — contributed \$397,343 in cash.

Cebemo (Netherlands) — contributed \$114,000 in cash.

Coordinating Committee for Emergency Action — channelled donations to PVOs for inland transport of food.

Denmark Red Cross — donated 125 MT of rice, valued at \$90,909.

Euro-Action Accord (EAA) — provided assistance to uprooted people in the Gourma-Rharous area of Timbuktu (Region VI); managed a dried meat project founded by EEC.

Italy Red Cross — provided 200,000 liters of oil, value not reported.

MSF — conducted nutritional surveys and health programs in Gao and Timbuktu regions; supported health projects for children in Douentza (Region V) and distributed 300 MT of USG NFD in Douentza and in the towns of Timbuktu, Goudam, and Dire (VI Region). MSF's emergency program cost \$463,000, which was financed by France, Netherlands, Switzerland, the EEC, UNICEF, UNDRO, and Oxfam/U.K.

Norwegian Church Aid (NCA) — operated the major relief effort in Gossi (VI Region). NCA distributed food (including 2,150 MT of USG Title II food) to displaced persons north to Gourma, south to N'Daki (at the Burkina Faso border), west to Hambouri, and east to Doro. NCA reached 4,000 people in the immediate Gossi area and close to 100,000 throughout the entire Gourma plain. Each family of five in NCA's program received 25 kg. of food. NCA also has a fleet of nine vehicles and its staff includes an agronomist, an engineer, a mechanic, and nurses. It maintains a storage capacity of over 1,580 MT and is actively engaged in nutrition and health care intervention.

Oxfam/U.K. — provided \$32,712 for the purchase of maize and rice, and made grants to various PVOs worth \$370,950.

Stromme Memorial Foundation (Norwegian PVO) — worked with Baptist Mission in FY 84 to distribute food; distributed 2,500 MT of U.S. Title II corn in the inland delta region of Mopti from February to April 1985 and 3,000 MT of Title II corn in May, June, and July; also worked in Nioro (IV Region), Nara (II), and Kayes Region (I); provided mechanics, drivers, logisticians, nutritionists, and five four-wheel drive trucks for the relief effort.

Veterinarians sans frontieres — used meat from cattle purchased for slaughter to prepare dried food in Douentza (Region V).

TOTAL \$49,924,039

**Drought and
Food Shortage**

Mauritania

Date

1983-1985

Location

Nationwide

No. Dead

Not reported

No. Affected

1.6 million affected (91% of total population); 800,000 seriously affected

Damage

The October 1984 cereal harvest came to only 20,000 MT of millet and sorghum, almost one-third of normal annual cereal production. Approximately one-half of the population was dependent on emergency food aid and an estimated 200,000 were displaced by the drought.

The Disaster

Once considered part of the Sahel, Mauritania is now almost entirely covered by the Sahara Desert. Only a thin strip of fertile land along the southern border normally receives over 400 mm of rain between the months of June and September. In this region, farmers can grow millet and other crops on the banks of the Senegal River and nomads can graze cattle, sheep, camels, and goats in the savanna grasslands of the southeast. By the end of the 1984 rainy season, this region had received only 50 percent of its average annual precipitation and domestic cereal production had declined to only 20,000 MT.

The drought that began in 1977 produced a severe food shortage that affected approximately 91% of the total population. The most seriously affected group was Mauritania's nomadic population, which was forced to abandon its traditional way of life. Many nomads migrated south into Senegal and Mali in search of water and pasture for their herds. Those who stayed behind camped on the outskirts of towns or along the east-west highway to be closer to food distribution centers. The health situation remained serious among the most affected groups: children, pregnant women, and the elderly. Children under five years of age continued to suffer from severe levels of malnutrition. An epidemic of measles broke out in several of the relief camps and 424 cases of cholera were reported in the Guidimaka and Gorgol regions in May 1985.

After seven straight years of disappointing rainy seasons, heavy rains finally returned to Mauritania in July of 1985. Abundant and well distributed rains fell just in time for the annual planting season. With the advent of the rainy season, most of Mauritania's nomadic population returned to their southern grazing lands. In some areas, the rains caused flooding that damaged many houses and paved roads. In September, a new threat emerged as swarms of grasshoppers infested the regions of East Hodh, West Hodh, Assab, and Guidimaka. However, by October, nearly 60,000 MT of cereal had been harvested nationwide, a threefold increase over 1984.

Action Taken by the Government of the Islamic Republic of Mauritania (GIRM)

In November 1983, the government adopted an emergency action plan and established a National Commission for Assistance to People Affected by

the Drought (CNAPES). Although the December 1984 overthrow of President Haidalla attracted international attention, it had little effect on the GIRM's drought relief strategy. In March 1985, the GIRM published a revised emergency action plan, which included detailed sectoral assessments of the food, health, water supply, and environmental situations. The plan also outlined short-term and long-range plans for alleviating the disastrous effects of drought and desertification. The plan was presented at a UNDP/OEOA donor meeting held in Dakar, Senegal, in April and was reviewed by representatives of various UN agencies and donor governments.

The GIRM's Commissariat for Food Security (CSA) distributed emergency food rations to approximately 800,000 people at over 200 community feeding centers. In July, the CSA initiated a food-for-work (FFW) program in an effort to increase national employment and reduce the population's dependence on free food aid. At the same time, the CSA began a program of offering incentives to encourage displaced farmers to return to their villages. Families were offered free food rations, transportation, seed, and tools and assured that the CSA would purchase their crops if they returned to their farms and began cultivation. With the return of abundant rains in July, thousands of Mauritians migrated back to rural areas.

The GIRM's Ministry of Health launched a nationwide vaccination program with the support of WHO, UNICEF, and USAID, and dispatched mobile medical teams to improve health conditions among isolated nomadic groups. The Ministry of Rural Development adopted a water supply rehabilitation strategy to reverse the progress of desertification. With the assistance of UNDP, UNICEF, and the governments of France, Canada, and Saudi Arabia, several wells were built or repaired to provide water to towns and returning livestock herds.

Assistance Provided by the United States Government

For the second consecutive year, the USG provided emergency food aid and relief supplies in response to Mauritania's drought and food shortage. In FY 1984, the USG contributed 20,000 MT of emergency food commodities, over \$134,000 worth of medical supplies, and over \$2.5 million in support of inland transportation costs of food and relief supplies. On December 5, 1984, Ambas-

sador Edward Peck declared a state of disaster in Mauritania. Following discussions with representatives of the GIRM and WHO, the USAID Mission in Nouakchott requested that OFDA provide partial funding for the delivery of WHO emergency health kits to Mauritania. OFDA provided \$18,000 to finance the airfreight and crating costs of nine WHO emergency health kits.

Responding to a direct appeal from the GIRM's Ministry of Water and Energy, OFDA allocated \$735,000 from the 1985 African Famine Relief Supplemental (see "Introduction") to refurbish the Ministry's fleet of well-drilling and water tank trucks. Of this amount, \$425,000 was used to purchase spare parts and provide service engineers (both provided by International Harvester) to return vehicles of the fleet to working order. The remaining \$310,000 was used to purchase six

double-axle, 3,000-gallon water tank trucks that were used to deliver water to displaced nomads living in remote areas.

The USG was the largest single emergency food donor to Mauritania in FY 1985. A.I.D.'s Office of Food for Peace allocated 10,000 MT of P.L. 480 Title II wheat and 10,000 MT of NFDN directly to the GIRM's Commissariat for Food Security (CSA). As part of its allotment to Mauritania through WFP, the USG contributed 44 MT of ICSM and 98 MT of NFDN. In response to a LRCS appeal, the USG provided 2,500 MT of wheat, 65 MT of CSM, 270 MT of butteroil, and 380 MT of NFDN to be distributed at community feeding centers run by the Mauritanian Red Crescent. In support of CRS's emergency feeding program, USG contributed 1,916 MT of Title II SFSG for distribution by CRS.

Summary of FFP Assistance

Sponsor & Commodity	Metric Tons	Commodity Cost	Transport Cost	Total Cost
GIRM Title II: 10,000 MT wheat	10,000	\$ 1,580,700	\$4,977,700	\$ 6,558,400
GIRM Section 416: 10,000 MT NFDN	10,000	\$11,000,000	\$2,850,000	\$13,850,000
WFP Title II: 44 MT ICSM; 26 MT NFDN	70	\$ 36,900	\$ 19,300	\$ 56,200
WFP Section 416: 72 MT NFDN	72	\$ 46,800	\$ 20,500	\$ 67,300
LRCS Title II: 2,500 MT wheat; 65 MT CSM	2,565	\$ 415,400	\$ 564,300	\$ 979,700
LRCS Section 416: 270 MT butteroil; 380 MT NFDN	650	\$ 665,500	\$ 185,300	\$ 850,800
CRS Title II: 1,916 MT SFSG	1,916	\$ 410,200	\$ 278,000	\$ 688,200
TOTALS	25,463	\$ 14,155,500	\$ 8,895,100	\$ 23,050,600

Summary of OFDA Assistance

Airlift of nine WHO emergency health kits (supplemental funds) \$18,000

Purchase of six water tank trucks and spare parts (supplemental funds) \$735,000

Total OFDA-administered Supplemental funds \$753,000

Total FFP assistance \$23,050,600

TOTAL \$23,803,600

Assistance Provided by U.S. Voluntary Agencies

CARE — In late 1984, OFDA allocated \$1,245,656 to CARE to implement a food transportation program in Mauritania. As part of its project agreement with CSA, CARE contracted private trucking companies to transport food from central warehouses to regional distribution centers and from there to remote rural villages and camps. CARE was also responsible for monitoring the program to ensure that food was reaching the people in need of supplemental food. CARE also received funding from UNICEF and EEC.

CRS — continued its emergency feeding program in Mauritania, distributing monthly food rations to approximately 30,000 mothers and 40,000 children at 35 feeding sites. CRS also managed several small-scale water pump and vegetable gardening projects in rural areas.

USA for Africa — allocated \$65,000 to Terres des Hommes to support maternal and child health (MCH) centers; provided communication equipment to CARE, worth \$400,000, and tools and equipment to support the CSA food-for-work program, valued at \$85,000; and donated \$450,000 in support of a UNDP drilling project.

WVRO — managed a dry food ration program at 14 feeding centers in the Tagant region.

TOTAL \$1,000,000

Assistance Provided by the International Community**International Organizations**

EEC — 500 MT of DSM, 200 MT of butteroil, 14,000 MT of wheat (\$1,800,000); internal transport subsidy (\$1,400,000); sorghum seeds (\$86,000)

FAO — provision of tools and vegetable seeds (\$140,000); irrigation project (\$85,000); livestock vaccination project (\$117,000); transport of medical supplies to community feeding centers (\$423,280)

LRCS — launched an appeal on June 7 for \$850,000 to be used for emergency food, transport and warehousing, recovery projects, and support of the Mauritanian Red Crescent.

UNDP — provision of fertilizer (\$200,000); support for UNICEF vaccination campaign (\$150,000); measles immunization program (\$12,000); well and borehole rehabilitation projects; 735 MT of fertilizers

UNICEF — nationwide health, water supply and sanitation program (\$100,000); technical and personnel support for national vaccination campaign

WFP — sponsored a three-year school feeding program; donated 669 MT of wheat and 44 MT of ICSM; provided a grant to finance internal transport (\$423,000).

WHO — supported national vaccination campaign; provided \$67,000 for cholera and meningitis control; sent 29 emergency kits (\$154,500).

Governments

Austria — 4,000 MT of grain; sent volunteers to provide technical assistance to the GIRM food-for-work program

Belgium — 2,040 MT of wheat (\$425,000)

Canada — 7,500 MT of wheat (\$1,357,310); 730 MT of pulses (\$361,950); 445 MT of DSM (\$376,428); Nouakchott water supply rehabilitation project (\$97,000)

China, People's Rep. — 3,000 MT of maize, 2,000 MT of wheat

France — 6,112 MT of wheat; water supply rehabilitation project in Tidjikdja (\$55,000)

Germany, Fed. Rep. — 6,000 MT of wheat, four water tanks for outfitting tanker trucks

Japan — 3,100 MT of rice; 300 MT of DSM; pesticides for combatting grasshopper infestation (\$500,000)

Kuwait — provided a \$201,000 cash grant for emergency relief assistance.

Saudi Arabia — contributed ten Land Rovers to GPRM's transport fleet; financed well-drilling project (\$5,300,000).

Soviet Union — 1,000 MT of rice

Voluntary Agencies

MSF — provided mobile medical teams operating in West Hodh.

Terres des Hommes — managed MCH centers in the Brakna region.

TOTAL \$13,831,468

Drought/Famine

Mozambique

Date

1981-1985

Location

The provinces of Tete, Manica, Sofala, Inhambane, Gaza, and Maputo

No. Dead

Accurate figures are not available; estimates vary from tens of thousands to as many as 100,000 dead from starvation or disease.

No. Affected

In January 1985, the total affected population was estimated at 2,466,000, with 1,662,000 severely affected.

Damage

Marketed production of maize, sorghum, and rice was only 60,000 MT, while the total emergency food aid requirement was estimated at 400,000 MT. Nutritional surveys recorded that 43% of the children in the most affected provinces were suffering from moderate malnutrition and 19% from severe malnutrition.

The Disaster

A combination of drought, floods, and civil war resulted in a devastating famine that affected six of Mozambique's ten provinces. The drought that began in 1981 was responsible for reducing domestic food production by as much as 80 percent. Floods in 1984 and 1985 destroyed crops and livestock in the south and central provinces. To further aggravate the situation, anti-government guerrillas harassed the rural population, destroyed road and railway links, and attacked relief convoys delivering emergency food aid. By the end of 1984, it was reported that as many as 100,000 people had died as a result of the famine.

Due to the combined relief efforts of the Mozambique government and the international community, the famine situation had noticeably improved by 1985. The number of affected persons was estimated at 2,466,000, down from an estimated 4,750,000 in 1983. In 1984, the international community provided over 308,000 MT of food to Mozambique and in 1985 the emergency food aid requirement was estimated at 400,000 MT. Mozambique's bankrupt economy made it almost totally dependent on the international community for donated food, supplies, and technical assistance.

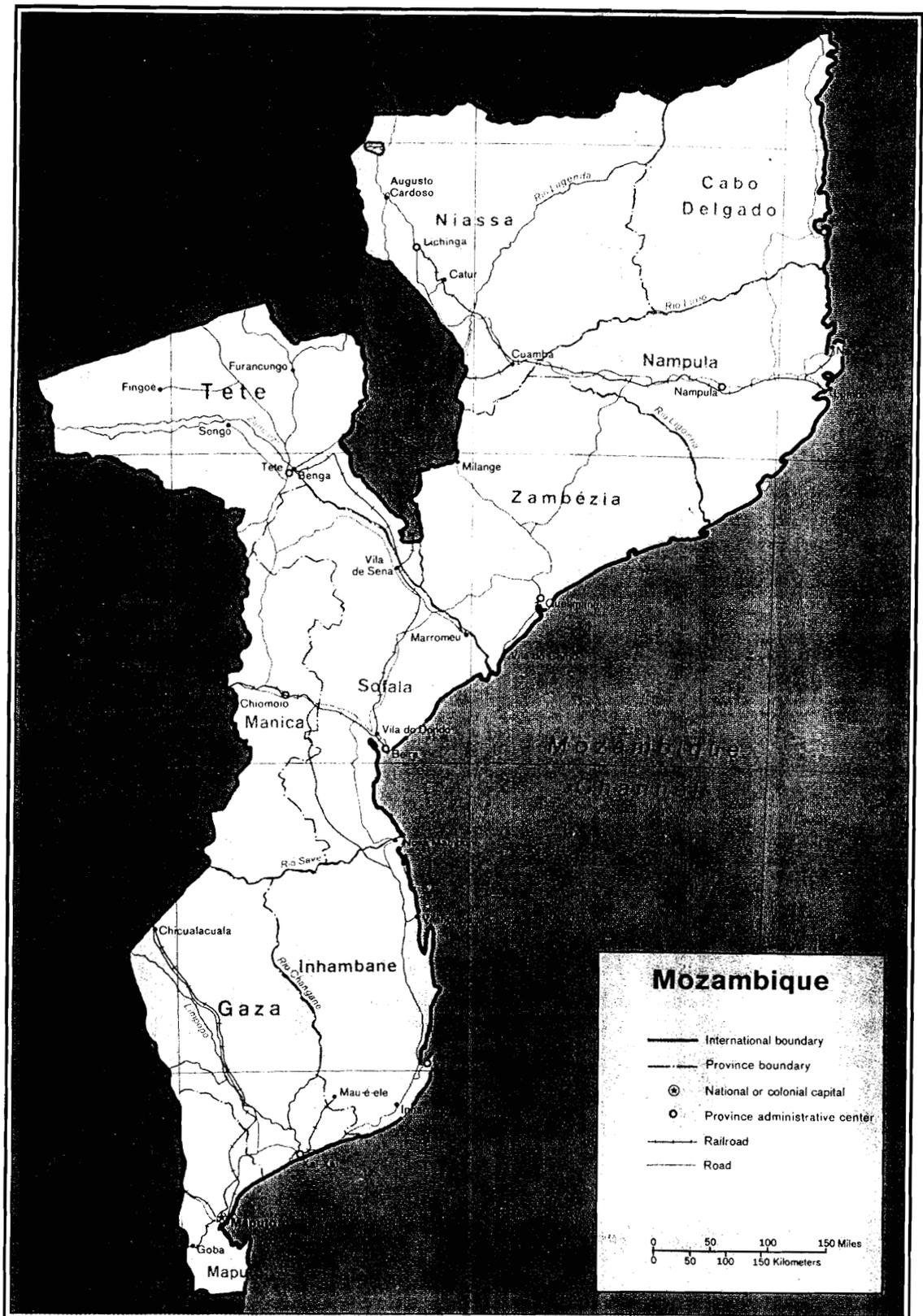
Despite this massive international assistance, the situation in Mozambique remained critical. Approximately 1,662,000 people were still regarded as severely affected by the famine in Tete, Manica, Sofala, Gaza, Inhambane, and Maputo provinces. Malnutrition persisted in each of these affected provinces, especially among children and young women. Some families in remote rural areas subsisted on seeds, leaves, and aquatic plants. Severe shortages of seeds, agricultural tools, clothing, blankets, and medicines were reported in all of the affected provinces.

Insurgent activity intensified during 1985, causing thousands of Mozambicans to migrate to neighboring countries or move into government-run relief camps. The Gazankulu homeland in South Africa was a haven for tens of thousands of Mozambican refugees trying to escape the ravages of the civil war. Swaziland, Zambia, and Zimbabwe also reported an increased influx of Mozambican refugees. An additional 300,000 displaced persons abandoned their land and moved to government-protected relief camps. With the advent of the rainy season, many of these refugees returned to their land in desperate need of assistance.

Mozambique experienced a near normal rainy season in 1985, but rural insurgency and a shortage of seeds and other agricultural inputs severely inhibited food production. Marketed production from state farms, cooperatives, and private commercial farmers was estimated at only 60,000 MT of maize, rice, and sorghum, 42 percent less than the previous year. While the number of deaths due to starvation was down from the preceding years, the incidence of malnutrition and communicable diseases continued to rise at an alarming rate. By the end of the year, the situation remained precarious and the lives of over 2 million people were still at risk.

Action Taken by the Government of the People's Republic of Mozambique (GPRM)

The GPRM's Department for the Prevention and Control of Natural Calamities (DPCCN) continued to serve as the central government agency responsible for coordinating the relief activities of other government departments, private voluntary organizations, and the international community. Working closely with the Ministry of Internal Commerce and international donors, the DPCCN assessed the food needs of the affected population and issued monthly situation profiles on each affected province. The DPCCN also managed the distribution of emergency food donations and monitored most of the other on-going relief projects in Mozambique. One project that undoubtedly improved the GPRM's ability to deliver emergency commodities was the creation of a Logistical Support Unit (LSU) within the DPCCN. Funded by OFDA and staffed with CARE employees, the LSU was put in charge of port clearance, handling, and warehousing of incoming relief commodities, maintenance and operation of delivery vehicles, and distribution monitoring.



The GPRM used all available means of transportation to deliver emergency food supplies to affected areas. Truck convoys with military escorts were used to deliver food in rebel-controlled areas. Mozambique's antiquated railway system was employed to transport food and other relief supplies to townships in Maputo province. In cooperation with UNDP, DPCCN airlifted hundreds of tons of food and high value goods to remote localities in Manica, Sofala, Tete, and Zambezia provinces. Another cooperative venture for delivering emergency assistance was the charter of the Cinq Juin, a 350-ton capacity, flat-bottomed landing barge. This vessel, financed by UNDRO, UNICEF, and WFP, brought desperately needed food supplies to famine victims living along the coast of Inhambane province.

Virtually every government agency and local voluntary organization was involved in the disaster relief effort. AGRICOM, the Mozambican agricultural marketing parastatal, purchased surplus food from local farmers to encourage increased agricultural production. The National Seed Company purchased several varieties of high quality cereal seed to give to farmers in affected areas. The Ministry of Marine Transport and Navique, the GPRM shipping agency, assisted in the operation of the Cinq Juin, providing navigational guidance and off-loading the emergency supplies. In cooperation with UNICEF, three government water and drilling agencies were involved in a nationwide water and well rehabilitation project. The Mozambican Red Cross carried out its own emergency airlift and



supplementary feeding programs in Gaza, Manica, Sofala, and Maputo provinces, while the Christian Council of Mozambique provided emergency supplies to relief camps in Inhambane, Gaza, Sofala, and Maputo.

Assistance Provided by the United States Government

By the start of fiscal year 1985, the USG's disaster relief effort in Mozambique was already well underway. During the previous fiscal year, the USG provided project grants to CARE, WVRO, LRCS, and WFP and furnished over 50,000 MT of P.L. 480 Title II food commodities. (See *OFDA's Annual Report FY 1984*). On January 8, 1985, U.S. Ambassador Peter de Vos determined that the drought and food emergency continued to exist in Mozambique, and extended the disaster declaration made in fiscal year 1984. In January, the Ambassador and a U.S. Congressional delegation visited several relief camps to assess the situation. Throughout the disaster, the U.S. Embassy staff in Maputo worked closely with their counterparts in the GPRM, UN, and voluntary agencies to identify the needs of the affected population and coordinate the USG response.

In FY 1985, the USG increased its Title II emergency food aid contribution to Mozambique to over 60,000 MT. A.I.D.'s Office of Food for Peace contributed 42,250 MT of P.L. 480 Title II corn, and 2,850 MT of NFD, 850 MT of butteroil, 500 MT of cheese, and 1,440 MT of butter (all Section 416) to the Mozambique government for free distribution by the DPCCN. The USG's contribution to WFP included 155 MT of CSM, 70 MT of vegoil, and 104 MT of Section 416 NFD. As part of its project agreement with Church World Service, the USG provided 313 MT of rice, 226 MT of peas, 121 MT of vegoil, and 635 MT of corn, distributed in Inhambane province. Another 12,850 MT of corn was furnished to the WVRO program in Tete and Manica.

In response to an urgent appeal from the GPRM, the U.S. Embassy in Maputo requested the immediate delivery of blankets to be distributed to thousands of displaced persons. OFDA arranged an immediate airlift of 7,982 blankets from McGuire Air Force Base aboard a USAF C-141 aircraft. The plane arrived in Maputo on February 2 and the blankets were later sent to Manica province. Later in the year, an additional 11,720 wool blankets from the OFDA stockpile in Leghorn, Italy were delivered by a chartered airline and by boat to Beira in Sofala province.

As part of its grant agreement with CARE, OFDA allocated \$600,000 to continue the operation of the DPCCN's Logistical Support Unit. This amount supplemented the previous year's allocation of \$1,763,000, which was used for the purchase of 23 Leyland trucks, staff salaries, travel expenses, and start-up costs. In September, OFDA sent two consultants to evaluate the CARE project. During their two-week stay in Mozambique, the evaluation team conducted interviews with several GPRM, CARE, USG, and other relief agency personnel, inspected LSU facilities, and traced a bag of corn from its arrival at port to its delivery to a distribution warehouse. In a report submitted to OFDA, the evaluation team concluded that the CARE-staffed LSU had become an integral unit of the DPCCN and recommended the continued funding of the project.

In support of the CWS feeding program in Inhambane province, OFDA provided a matching grant to CWS for the purchase of four Leyland Landmaster trucks and 24,000 liters of diesel fuel. OFDA also provided a \$3,250,000 grant to UNICEF to fund an emergency relief and rehabilitation program, which included projects in logistical support, NGO collaboration, and shallow well construction.

Summary of OFDA Assistance

DOD airlift of 7,982 blankets	\$125,865
CARE grant for Logistical Support Unit (\$503,859 is from supplemental funds)	\$600,000
CARE project evaluation team (supplemental funds)	\$19,340
CWS matching grant for trucks	\$65,000
Grant to UNICEF for emergency relief and rehabilitation program (supplemental funds)	\$3,250,000

Summary of FFP Assistance

Sponsor & Commodity	Metric Tons	Commodity Cost	Transport Cost	Total Cost
GPRM Title II: 42,250 MT corn	42,250	\$ 6,128,900	\$2,003,000	\$ 8,131,900
GPRM Section 416: 2,850 MT NFDM; 850 MT butteroil; 500 MT cheese; 1,440 MT butter	5,640	\$ 5,653,000	\$1,043,500	\$ 6,696,500
WVRO Title II: 12,850 MT corn	12,850	\$ 1,864,000	\$2,935,000	\$ 4,799,000
CWS Title II: 313 MT rice; 635 MT corn; 121 MT vegoil; 226 MT peas	1,295	\$ 378,400	\$ 240,900	\$ 619,300
WFP Title II: 155 MT CSM; 70 MT vegoil	225	\$ 116,400	\$ 16,300	\$ 132,700
WFP Section 416: 104 MT NFDM	104	\$ 67,600	\$ 19,200	\$ 86,800
TOTAL	62,364	\$14,208,300	\$6,257,900	\$20,466,200

Total OFDA funds	\$287,006
Total OFDA-administered Supplemental funds	\$3,773,199
Total FFP assistance	\$20,466,200
TOTAL	\$24,526,405

Assistance Provided by U.S. Voluntary Agencies

American Jewish World Service — drugs and medical supplies (\$750,000) in support of UNICEF.

Air Service International (ASI) — provided air transportation to DPCCN and LRCS for airlifting emergency supplies to remote relief camps. ASI submitted a proposal to OFDA to finance the charter of a twin-engine airplane for monitoring the emergency assistance program.

CARE — In February 1984 the GPRM signed a project agreement with CARE to manage and operate a logistical support unit within the DPCCN. As part of its agreement, CARE provided on-the-job training to host nationals, with the intention

that the LSU would eventually become permanently integrated into the DPCCN. CARE also contributed \$150,000 for continuation of UNDP emergency airlift and a cash grant of \$435,000 to purchase fuel.

CWS — In collaboration with the Christian Council of Mozambique, CWS carried out an emergency feeding program consisting of 1,295 MT of rice, corn, peas, and vegoil to benefit 33,500 persons in Inhambane province.

Hope for Africa — provided \$100,000 worth of seeds and tools for Manica province.

Oxfam/U.S. — managed an integrated rural development project in Magoé District, Tete Province.

USA for Africa — three 20-ton trailer trucks through Red Cross (\$169,500), ten 20-ton trailer trucks through CARE (\$501,200), five tanker trucks through CARE (\$188,300), six 7-ton trucks through UNICEF (\$195,800), eight farm tractors through UNDP (\$145,200), fuel through UNDP (\$500,000), radio for communication through CARE (\$25,000), five forklift trucks through CARE (\$100,000), ten pick-up 4WD trucks through UNICEF (\$120,000) and water supply materials through UNDP (\$55,000).

WVRO — distributed 12,850 MT of P.L. 480 Title II corn to approximately 400,000 famine victims in Tete and Manica provinces.

TOTAL \$3,435,000

Assistance Provided by the International Community

International Organizations

Caritas Internationalis — received contributions in cash and kind from national Caritas societies, valued at \$1,564,826.

EEC — provided an estimated \$7,035,230 worth of emergency food commodities (maize, wheat, pulses, butteroil, NFDm) and 30,000 liters of diesel fuel for delivery vehicles; donated 1,200 tons of seeds destined for Inhambane province.

FAO — assessed seed requirements and donated cereal seed for Maputo and Gaza provinces, valued at \$500,000.

ICRC — concentrated on providing medical assistance to victims of civil strife.

LRCS — supported the Mozambican Red Cross emergency airlift and intensive feeding program, providing several League technical delegates to assist in health, school, and training projects. LRCS proposed disaster preparedness and first aid training projects for 1986-88.

LWF — 1,000 MT of maize (\$260,000); 10,000 blankets (\$25,000); seeds, tools, medical supplies (\$435,000); subsidy for fuel (\$10,000)

UNDP — funded emergency airlift service of food and high value goods to affected provinces, using the Mozambique national airline, LAM (\$450,000); tractors and Land Rovers (\$253,500)

UNICEF — \$165,000 to purchase fuel; \$40,000 for continuation of UNDP emergency airlift; continued support of the Cinq Juin; UNICEF's emergency relief and rehabilitation program was financed by numerous donors and includes projects in health care, commodity-grain exchange, food security, refugee rehabilitation, NGO collaboration, logistical support, and rural water supply recovery.

WCC — reported a total of \$1,511,569 of donations from various Christian voluntary relief organizations in response to its appeal, used to purchase beans and support Christian Council of Mozambique.

WFP — distributed 340 MT of CSM, DSM, vegoil, and sugar (\$253,000) to vulnerable groups in Tete province, and 9,000 MT of corn (\$1,980,000) to famine victims in Gaza and Inhambane. WFP also financed and operated the Cinq Juin, the landing barge used to deliver food to famine victims in Inhambane province.

Governments

Algeria — 800 MT of rice, valued at \$350,000

Australia — contributed emergency food commodities (rice, DSM, vegoil) to WFP, valued at \$1,304,347.

Belgium — 3,000 MT of wheat, valued at \$667,000

Canada — diesel fuel for Tete (\$186,000); 30 MT of skimmed milk.

China, People's Rep. — donated 2,000 MT of maize.

Denmark — purchase and transport of food, medicine, equipment (\$692,000); purchase and transport of milk powder (\$213,000) through Red Cross; diesel fuel (\$692,000); cash grant to Danish Red Cross (\$99,000); cash grant to Development Aid from People to People (\$49,500).

France — 13,000 MT of food to CRS; five Renault trucks (\$150,000)

Germany, Fed. Rep. — provided 12,000 MT of cereals through WFP (\$2,981,500), 100 MT of dried fish through the German Red Cross (\$161,290), and insecticides (\$15,238).

Greece — 3,000 MT of cereal

Ireland — cash grant to UNDRO (\$16,762)

Italy — two cash grants to UNDRO appeal (\$1,304,823); 10,000 MT of rice; processed food, seeds, vehicles, and tools (\$11,500,000); 26 MT of canned meat and soap through UNICEF; six generators (\$660,000)

Japan — five Mitsubishi Pajero jeeps to WFP for DPCCN emergency logistic operations (\$50,000); six Toyota Landcruisers (\$60,000); two generators for Ministry of Health emergency hospital unit in Tete province

Kuwait — \$420,000 for relief assistance

Netherlands — 6,950 MT of wheat and 15 trucks to Sofala and Manica provinces; funded operation of four landing barges for off-loading the Cinq Juin (\$500,000)

Norway — 300 MT of stockfish (\$12,600); 500 kgs of fish protein concentrate (\$2,285); NORAD (Norwegian government aid agency) assumed operating costs of Cinq Juin.

Portugal — agricultural tools (\$38,600); grant to Ministry of Industry and Energy (\$17,000); technical assistance (\$10,200); insulation materials (\$85,500); calculators and other equipment (\$1,550)

Soviet Union — 2,000 MT of rice and consumer goods

Sweden — \$5,000,000 for medical assistance from SIDA (Swedish government aid agency); pesticides (\$500,000); agricultural tools (\$2,000,000)

United Kingdom — cash grant to support Oxfam/UK project in Tete (\$196,078); 17 trucks and spare parts (\$196,078); medical supplies (\$92,810)

Yugoslavia — 10,000 MT of maize, 100 MT of canned meat, 128 MT of food, 25 MT of beans, 7.5 MT of rice, and 1,863 kg of canned fish

Voluntary Agencies

Arbeiter-Samariter-Bund (FRG) — 17.1 MT of food and relief supplies (rice, beans, vegoil, peas, cornmeal, DSM, sugar, salt, meat, and soap)

Aviation sans frontieres — provided air service for UNDP/DPCCN emergency airlifts.

CAFOD (U.K.) — cash grant to Caritas of \$15,000

Caritas Austria — cash grant of \$63,960

Caritas Belgium — cash grant of \$19,000

Caritas Germany — cash grant of \$102,000

Caritas Italy — cash grant of \$900,000

Denmark Red Cross — 200 MT of DSM, 50 MT of vegoil, 100 medicine kits, three relief delegates

Development and Peace — cash grant of \$87,400

Diakonisches Werk — cash grant of \$25,000

Dutch Solidarity Group — 10,000 liters of diesel fuel

Germany (DRG) Red Cross — 960 blankets

Germany (FRG) Red Cross — one delegate

Finland Red Cross — 13 MT of cheese, 10 MT of macaroni, 32 MT of DSM, 24 MT of vegoil, 32 MT of wheat flour

Japan Red Cross — 500 MT of DSM, 45 MT of vegoil, 60 MT of corn flour, 8,300 blankets, seven transport vehicles, ten portable radio sets

Knights of Malta — 5,000 cases of canned tuna and doses of medicine; 367 MT of food, clothes and seeds (\$10,000,000)

Medecins du Monde — rural health program in Sofala

MSF — sent medical teams to Tete City, Mutarara, Inhambane, and Manica.

Netherlands Red Cross — 5,000 blankets, 45 MT of vegoil, 55 MT of sugar, 27 MT of soap.

Oxfam/UK — vehicle spare parts, fishing supplies (\$11,618); seeds and vehicles (\$70,200); projects in Tete, Gaza, and Cabo Delgado provinces.

SCF/UK — sent epidemiologist to work with GPRM Ministry of Health; and provided material assistance to Zambezia province.

Spain Red Cross — one relief delegate

Switzerland Red Cross — three relief delegates

TOTAL \$56,094,264

Floods

Mozambique

Date

February 7-12, 1985

Location

Maputo, Gaza, Manica, and Sofala provinces in south and central Mozambique

No. Dead

8

No. Affected

500,000 directly affected by disruption of food delivery

Damage

Over 14,000 hectares of farmland were flooded causing significant losses of rice, maize, sweet potato, and butterbean crops. The bridges at Moamba, Chiomoio, and Boane and 400 meters of National Route 1 were completely washed away. Although no official damage estimates were made, the government appealed for over \$500,000 for repair work.

The Disaster

After four long years of devastating drought, the rains returned to Mozambique with a vengeance in early February 1985. Torrential rains fell steadily for six days on the southern and central provinces, causing the Limpopo, Incomati, Punge, and Zambezi rivers to overflow. The rains were a mixed blessing to farmers, bringing an end to the drought, but flooding several thousand hectares of farmland and destroying crops. There were eight storm-related deaths reported, two from electrocution by downed power lines. The flooding also disrupted several of the vital transportation links used to deliver food to famine-stricken populations in these areas. The country's most important highway, National Route No. 1, was cut in several places and 400 meters of it were completely washed away. The bridges at Moamba, Chiomoio, and Boane were also washed away and landslides destroyed several segments of the southern railroad network. Streets in the low-lying areas of Maputo city were submerged beneath a meter of water.

Action Taken by the Government of the People's Republic of Mozambique (GPRM)

In 1984 Cyclone Domoina (see *OFDA Annual Report FY 84, "Mozambique - Cyclone"*) destroyed much of Maputo's infrastructure, most of which had not been repaired before the flooding. However, due to their experience dealing with the cyclone disaster, local and national authorities were better prepared to evacuate people living along the rivers and relief operations were better organized. Lacking foreign exchange reserves, the GPRM appealed to the international community for over \$500,000 for highway repairs. The GPRM's Department of Roads and Bridges requested international donations to purchase culverts, 12-ton tipper trucks, cement and bitumen for road pavement, and diesel fuel for earth-moving equipment. A parastatal construction company was contracted to reconstruct the 400 meters of destroyed roadway and resurface an additional 2,000 meters on National Route No. 1 with asphalt.

Assistance Provided by the United States Government

On February 22, Ambassador De Vos determined that a disaster situation warranting USG assistance existed. The Ambassador's \$25,000 Disaster Authority was provided as a grant to the GPRM's Ministry of Construction to be used to purchase cement, asphalt, and fuel for rehabilitation work on National Route No. 1 between Palmeira and Xinavave.

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community**International Organizations**

EEC — provided a grant of \$228,000, specifically for emergency aid to flood victims.

Governments

Italy — contributed \$352,000 for reconstruction of the bridge over the Incomati River at Moamba.

Netherlands — provided a \$16,000 cash grant to UNDR0 to reimburse the cost of helicopter operations for rescue and relief missions.

United Kingdom — donated ten pipe arch culverts, two 12-ton tipper trucks, and two radio communication units for repair crews working on National Route No. 1 (estimated cost \$134,000).

TOTAL \$730,000

Storm

Mozambique

Date

March 26, 1985

Location

Maputo province

No. Dead

None reported

No. Affected

Not reported

Damage

Thirty-two electrical transmission towers between Maputo and the South African border were blown down or struck by lightning and 400 houses and 3 warehouses were damaged.

The Disaster

On the evening of March 26, a cyclonic storm, with 100 km/hr wind gusts, knocked out thirty-two high-tension pylons, which supplied the capital city of Maputo with electric power generated from South Africa. Coming on the heels of the previous month's flooding in the south and central provinces, the storm destroyed hundreds of homes and flooded 800 hectares of farmland cultivated with maize. The disruption of electrical power in the port city of Maputo adversely affected ongoing relief activities in the famine-stricken provinces of Gaza and Inhambane, by temporarily shutting down port facilities, refrigerated warehouses, hospitals, industrial plants, irrigation schemes, and waterworks. With all electricity supplied by South Africa effectively cut off, Maputo Province was forced to rely on the generating capacity of a single, antiquated, thermal power station.

Action Taken by the Government of the Peoples Republic of Mozambique (GPRM)

To the beleaguered nation of Mozambique, already beset by a prolonged drought and recent floods, the disruption of electrical power threatened to create a serious setback to the local economy and the continuing disaster assistance effort. The GPRM ordered the curtailment of all industrial activities, port operations, and public services and rationing of domestic energy consumption to five hours per day in Maputo Province. The GPRM estimated that it would take at least three months and \$1.5 million to repair the high-tension lines. In the meantime, between \$8.5 and 10 million would be needed to purchase fuel to supply the Maputo power station for three months. Fearing that the antiquated Maputo thermal plant would fail, and with no back-up installation available, the GPRM also requested technical assistance and funds to conduct a complete overhaul of the Maputo facility.

Assistance Provided by the United States Government

On March 29, Ambassador De Vos determined that the power shortage caused by the storm endangered the lives of drought victims receiving emergency assistance and declared a state of disaster for the third time in a year. The Ambassador obligated \$250,000 (including the \$25,000 disaster assistance authority) to purchase 30,000 tons of coal for the Maputo generating plant so that emer-

gency relief efforts would not be disrupted. At the request of the U.S. Mission in Maputo, OFDA identified and dispatched an electrical engineer to make an assessment of the Maputo power station, including recommendations on necessary improvements to increase the reliability and generating capacity of the power station. The two week TDY of the electrical engineer totaled \$17,321.

TOTAL \$267,321

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community**International Organizations**

EEC — made a cash grant of \$283,660.

LWF — provided a cash grant of \$10,000 to purchase jet fuel.

UNDRO — provided a cash grant of \$20,000.

Governments

Denmark — made a cash grant of \$909,090 to purchase diesel fuel to run Maputo power plant.

Italy — provided \$1,500,000 to repair the damaged transmission line.

Netherlands — gave \$285,000 to buy diesel fuel.

Norway — donated \$1,100,000 to purchase diesel fuel.

Sweden — contributed \$1,700,000 for diesel fuel purchase.

Switzerland — contributed \$208,333 to finance the overhaul of the diesel generator at the Maputo plant.

United Kingdom — provided services of an electrical engineer, value not reported.

Voluntary Agencies

Medecins du Monde — sent teams of doctors and nurses to Maputo and Nhamatanda, value not reported.

TOTAL \$6,016,083

Drought

Niger

(Please note: The drought was declared a disaster near the close of FY 84. A second declaration was made in April 1985.)

Date
1983-1985

Location
Nationwide; Diffa, Agadez, Tahoua, and Niamey most affected

No. Dead
Unknown

No. Affected
3,500,000

Damage
Fifty percent reduction in agricultural production; forty percent of livestock population lost; twelve percent decline in gross national product

The Disaster

The nationwide drought that devastated farmers and pastoralists in Niger and throughout the Sahelian zone in 1983-1984 reached its peak in 1985. Irregular and insufficient rains between June and September of 1984 resulted in the most severe drought conditions the country had experienced in 70 years. The failed harvest of 1984 forced thousands of Nigeriens to abandon their villages and seek emergency assistance in larger towns or government-organized out-of-season ("contre-saison") farming sites. Herders in the northern departments of Agadez and Tahoua were compelled to range further south and into neighboring Nigeria, Burkina Faso, and Benin, in search of grazing areas for their depleted herds.

Basic cereal production from the dismal October-November harvest of 1984 was estimated at 745,000 MT, which accounted for only 59% of the national consumption requirement. Following a week-long review of the agro-pastoral situation by the President of Niger, Seyne Kountche, the national newspaper, *Le Sahel*, reported that millet and sorghum production was 40 percent lower than the 1983 harvest, cowpeas were down 26 percent, and peanuts 55 percent. Only rice (grown in irrigated fields) showed a positive change of 18 percent.

In February of 1985 the number of people displaced by the drought was estimated at 400,000. By May the number of displaced persons had increased considerably and in two of the most affected departments, Agadez and Tahoua, 510,000 persons congregated around relief camps or feeding stations. Many of these were displaced herders seeking relief from the hot season and the corresponding reduction in standing water. Nearly a quarter were not participating in dry-season gardening projects. Moreover, severe malnutrition was observed, especially among those congregating at sites near Tahoua and in Ingall, northeast of Agadez.

A USAID/Niamey extensive site survey ending in May reported that 40 percent of children under five in Ingall were malnourished, and near Tahoua, acutely malnourished children under five exceeded 25 percent by the end of April.

Action Taken by the Government of Niger (GON)

After the devastating drought of the 1970s, the GON established a grain marketing agency (OPVN) to stabilize grain prices throughout the year and meet emergency needs. Harvested grain was purchased from farmers and sold back to the population throughout the year at a fixed price. In 1984, however, sporadic rainfall devastated Nigerian farmers in all regions of the country and resulted in the gradual depletion of OPVN stocks. President Kountche officially requested food assistance from the USG on September 20, 1984. Between November 1984 and October of 1985, international donors delivered 300,000 MT of food to Niger. The United States was the principal contributor, accounting for nearly half of that total.

The GON established an Interministerial committee chaired by the Prime Minister to meet with donors and coordinate efforts to address the situation. A subcommittee was established at the working level to monitor developments on a daily basis and keep senior officials of the committee informed of progress and problems.

In October of 1984, the GON initiated a major nationwide program to cultivate areas surrounding small bodies of water. Seven hundred dry-season gardening sites were established, encompassing 63,000 hectares of land. The farming sites generated a small but valuable harvest of food, and provided work to the many herders and farmers who were destitute because of the drought. Wells were sunk in areas where the water table was close to the surface and farmers/herders were supplied with seeds, tools, and technical assistance.

On another front, the GON undertook efforts to assist the herders, all of whom were encouraged to migrate south following their traditional transhumance patterns. Small-scale programs to transport cattle by truck from northern departments to the south assisted those herders whose cattle would not survive the long migration across barren fields. Later the GON began to buy cattle from the herders through a price support program. The purchased cattle were slaughtered and their meat preserved through a natural drying process (sun and wind) for later use as a supplementary food for the nomadic herders. This program provided cash to the herders, enabling them to buy food and other items and maintain their independence.

Between June and September of 1985, food aid destined for Niger began arriving at ports in Togo, Benin, and Nigeria. Major transportation bottlenecks occurred at these overcongested ports and along the dilapidated road network.

With further large arrivals of donor food expected at the ports, the GON requisitioned available vehicles and submitted a request to the donor community for additional aid to cover transport costs. The donors insisted that such aid be made contingent on the GON's development of a comprehensive distribution plan. In June, the GON developed a nationwide distribution plan and submitted it to a meeting of international donors. The donor community approved the plan and agreed to pay transport costs in full.

The GON distribution plan gave primary responsibility for emergency aid distributions nationwide to the Nigerien Armed Forces (FAN). One officer was assigned to each of the seven departments to oversee the execution of the plan. At the departmental level, allocations to arrondissements were determined by the prefect and officer-in-charge on the basis of need and the size of the at-risk population. OPVN supervised transportation to principal centers, which was carried out primarily by private vehicles. The FAN was responsible for end-point distribution including some transportation. As of September 20, 1985, when the GON officially ended general distributions nationwide, only 14,000 MT of donor food remained in OPVN warehouses.

Assistance Provided by the United States Government

As early as November 1983, when the GON first alerted the donor community of its increasing harvest deficits, the U.S. Mission in Niamey expressed its fears of a large-scale food shortage to Washington. By February 1984, the magnitude of the drought began to exceed Niger's ability to respond, and U.S. Ambassador William Casey declared a state of disaster. Another disaster determination was made on September 21.

Throughout late 1984 and 1985, the U.S. Mission in Niamey continued to monitor agricultural and grazing conditions, reporting regularly to OFDA and other bureaus in Washington. On September 30, a two-person team contracted by OFDA arrived in Niamey to assess the situation, evaluate GON mechanisms to respond, identify other donor actions, and make recommendations for a U.S. response to the disaster. Through discussions with local and national government officials, farmers, and voluntary agency representatives, the team performed a comprehensive assessment of conditions in each region. The team's recommendations to the U.S. Mission included graduated increases in food deliveries, a health/nutritional assessment of the most affected populations, and contingency plans for shelter and medical needs in the event that large numbers of people were displaced.

USG disaster assistance to Niger was directed in large part toward the provision of food and accompanying logistical support. OFDA gave the GON \$1,780,00 from its FY 1984 special appropriation for internal transport of emergency food in Africa. (See *OFDA Annual Report FY 1984*). USAID's Bureau of Food for Peace released a total of 140,783 MT of P.L. 480 Emergency Title II and Section 416 commodities for Niger during FY 1985. Of this total, 125,000 MT of sorghum and 5,000 MT NFDm were given to the GON in a government-to-government transfer, while the rest was donated to CARE, LRCS, and WFP. Targeted groups lived in zones where the harvest deficit was 70 percent or greater and received free food over a nine-month period. Also included were herders who had temporarily resettled in the dry-season farming sites. (For more detail, see below "Summary of FFP Assistance.")

To monitor and coordinate the arrival and distribution of the emergency food, USAID hired additional temporary staff, including two food monitors, and acquired two 4-wheel drive vehicles

for their use. USAID also funded three large-scale projects coordinated by voluntary agencies to meet the emergency needs of the displaced population. Using the Ambassador's Disaster Authority (second declaration of 1984) for start-up funds, USAID provided grants of \$12,500 to CARE and \$12,500 to Africare to conduct complementary projects in the Tanout area. In FY 85, an additional \$286,137 was given to CARE to fund this project fully and to pay for the internal transport of USG food aid.

Africare managed a Food for Work project in Tanout to complement the CARE program. Utilizing approximately 600 MT of GON food stocks, Africare provided technical assistance, tools, seeds, fertilizer, materials for well construction, and staff for the FFW projects in the off-season irrigation sites. USAID provided a grant of \$222,851 in addition to the original \$12,500 to implement this project.

During November 1984, a CDC Nutrition Surveillance team arrived in Niger and trained three

teams of GON Ministry of Health (MOH) personnel in health surveillance and reporting methods. Data on the health of vulnerable population groups was collected, and a system was established to continue the monitoring and recordkeeping over a period of several months. The MOH selected Zinder and Tahoua departments for the initial surveys and the three MOH teams conducted similar sampling in the other five departments to develop a national profile of conditions. The preliminary results were analyzed and recommendations were reported to the MOH and USAID. The team was funded by OFDA at the cost of \$10,532.

Concerned at the deteriorating conditions among herder populations in Niger's livestock zone, the USAID Mission in Niamey requested funding of a special relief project for nomads. The Mission observed that severe malnutrition was beginning to occur most frequently within this population group, and existing programs established for sedentary populations were limited to fixed sites

A dam is constructed across the Niger River to provide water for Niamey.



which did not reach mobile nomadic families. OFDA allocated \$175,000 for this activity to provide emergency feeding, shelter, and medical support to herders. Many of the recipients had lost nearly all of their animals and were grouped at contre-saison gardening sites.

A UNICEF program for emergency water development in rural Tanout was financed from the special Supplemental for African relief (see "Introduction"). The project cost \$1,000,000.

In March, U.S. Vice President George Bush arrived in Niger as part of his tour of drought-affected Africa. He brought with him food, medical supplies, and seeds donated by the American people (see "Assistance Provided by U.S. Voluntary Organizations", below), as well as 7,532 blankets and 20,160 IV sets donated by DOD. The cost of airlifting these contributions totaled \$78,484.

On April 29, 1985, Ambassador Casey made another disaster declaration and authorized the donation of \$50,000 from the International Disaster Assistance account. The funds were used to provide local food relief (\$25,000), and for a dam construction program (\$25,000). An earthen dam was built across the river Niger to retain water for Niamey during periods of low water supply.

Finally, an OFDA disaster relief specialist was sent to Niger to assess the drought situation and coordinate USG-funded PVO activities. An assessment aircraft was hired for his tour of drought-stricken areas at a cost of \$1,500. In addition, 2,000 armbands for measuring arm circumference of drought victims were provided by the USG; the armbands cost \$1,000.

Summary of OFDA Assistance

FY 84

Grant to CARE for Tanout Emergency Project	\$12,500
Grant to Africare for Tanout project	\$12,500
Assessment team	\$22,469
Grant to GON for inland food transport (from special FY 84 Supplemental for transport)	\$1,780,000

FY 85

Ambassador's Authority for local food relief (\$25,000) and for a dam construction program (\$25,000)	\$50,000
Nutrition assessment by CDC	\$10,532
Grant to CARE for inland transport of P.L. 480 food	\$286,137
Grant to Africare for well-drilling and relief supplies	\$222,851
USAID/Niamey relief project for emergency supplies to nomadic herders	\$175,000
DOD airlift of relief supplies	\$78,484
Armbands (2,000)	\$1,000
Hire of assessment aircraft for OFDA specialist	\$1,500
Grant to UNICEF for emergency rural water program (supplemental funds)	\$1,000,000

Summary of FFP Assistance (all FY 85)

Sponsor & Commodity	MT	Commodity Cost	Freight Cost	Total Cost
GON Title II: 125,000 MT sorghum	25,000	\$16,507,000	\$35,974,600	\$52,481,600
GON Section 416: 5,000 MT NFDN	5,000	\$3,250,000	\$1,425,000	\$4,675,000
CARE Title II: 5,800 MT CSM; 1,208 MT vegoil	7,008	\$2,981,100	\$2,731,900	\$5,713,000
CARE Section 416: 1,890 MT NFDN	1,890	\$1,228,500	\$ 538,700	\$1,767,200
WFP Section 416: 355 MT NFDN	355	\$ 230,800	\$ 101,200	\$ 332,000
LRCS Title II: 680 MT CSM; 210 MT vegoil	890	\$ 416,100	\$ 409,100	\$ 825,200
LRCS Section 416: 640 MT NFDN	640	\$ 416,000	\$ 182,400	\$ 598,400
TOTAL	140,783	\$25,029,500	\$41,362,900	\$66,392,400

Total FY 84 OFDA funds	\$47,469
Total FY 84 OFDA-administered Supplemental funds	\$1,780,000
Total FY 84	\$1,827,467
Total FY 85 OFDA funds	\$825,504
Total FY 85 OFDA-administered Supplemental funds	\$1,000,000
Total FY 85 FFP funds	\$66,392,400
Total FY 85	\$68,217,904
TOTAL	\$70,045,373

Assistance Provided by U.S. Voluntary Agencies

Africare — gave 60,000 doses of measles vaccine, valued at \$166,000, and vegetable seeds, valued at \$11,557, airlifted during Vice President Bush's visit to Niger; and administered agriculture and nutritional programs and conducted Tanout emergency FFW feeding project with CARE.

ANRC — gave 39.2 MT of sugar, value not reported, and \$1,393,771 in cash.

CARE — donated 2,268 kg of yellow cornmeal, valued at \$790, which was airlifted to Niger during the Vice President's visit. CARE distributed 5,800 MT CSM, 1,208 MT vegoil, and 1,890 MT NFDN of USG-donated commodities. CARE distributed these commodities through its Emergency Mother and Child Health Program and its Tanout Emergency Project. The CARE project aided 12,000 persons and provided meningitis vaccine to 25,000 children. CARE also procured shelter matting materials, sleeping mats, blankets, and soap; cooking equipment for a nutrition center; and medical supplies to augment existing village health and midwife programs.

CWS — sponsored community development programs.

LWR — conducted gardening and water projects.

MAP — contributed 4,536 kg of medical supplies, valued at \$13,295, airlifted in March during Vice President Bush's visit to Niger.

Maryknoll Fathers — donated three trucks valued at \$90,000.

SIM — sponsored rural health projects and agricultural training.

USA for Africa — through CARE, provided 4,000 kits for village health workers and midwives, worth \$120,000; donated Vitamins A and D, valued at \$25,000, oral rehydration tablets, worth \$45,000, fuel, worth \$10,000; and four trucks, valued at \$225,000; through UNDP/UNICEF provided \$409,355 to clean and deepen wells; and through WFP, provided 10 500-MT silos, valued at \$165,000.

TOTAL \$2,674,768

Assistance Provided by the International Community

International Organizations

EEC — gave \$139,904 for child nutrition, \$15,580 for the services of a logistician, \$717,391 in cash through LRCS, and contributed 42,800 MT of food, value not reported.

FAO — gave \$160,000 for dry-season farming and livestock assistance, and financed agriculture and livestock rehabilitation projects.

FED — in conjunction with UNDRO, provided a logistics specialist to work with OPVN; and jointly with EEC, contributed \$150,000 worth of drugs.

Islamic Development Bank — contributed 6,000 MT of fodder concentrate, value not reported.

LRCS — in response to an international appeal from LRCS for a specialized feeding program in Agadez and Zinder departments, the USG provided 680 MT of Title II CSM, 210 MT of Title II oil, and 640 MT of Section 416 NFDM. This food was used in on-site feeding programs established in Zinder and Agadez and operated by Red Cross Field delegates in cooperation with local Red Cross workers. In operation from June through November 1985, the program provided daily prepared feeding for 65,000 people at distribution centers outside the population centers in Zinder and Agadez. In addition, children participating in the program were regularly weighed and measured to monitor their health and nutritional status.

LRCS employed private truckers to transport these supplies from Lome to Niamey and on to Zinder and Agadez. From Zinder, LRCS moved approximately 450 MT per month to outlying villages with the aid of GON military and Red Cross vehicles. Incoming food was warehoused in Niamey, Zinder, and Agadez until it was moved in weekly increments to the final distribution points.

LWF — contributed 50,000 blankets, value not reported.

OPEC — gave 20 trucks valued at \$400,000.

UNDP — donated drugs valued at \$85,000, transport valued at \$316,000; gave \$450,000 for rehabilitation and construction of rural dispensaries; provided seeds, pesticides and 200 chemical vaccines, valued at \$400,000.

UNICEF — contributed 820 MT of grain, drugs, and vaccines for a child nutrition program; donated water supply equipment, seeds, fertilizers, trucks and equipment, and training to support dry-season farming, all valued at \$2,669,822.

UNDRO — in conjunction with FED, financed a logistics specialist to work with OPVN.

WFP — contributed four 7.5-ton trucks, seven silos, and 14 tarpaulins, all valued at \$210,000, and donated 24,000 MT of food, value not reported.

WHO — gave drugs and vehicles, valued at \$142,800.

Governments

Belgium — contributed 5,000 MT of food, valued at \$1,450,000, and 58 MT of powdered milk through UNICEF, valued at \$59,677.

Canada — donated \$52,922 in cash through LRCS and provided 10,000 MT of food commodities, value not reported.

China, People's Rep. — donated 5,000 MT grain, value not reported, and drugs valued at \$20,272.

Denmark — gave \$356,000 in cash through the Danish Red Cross for purchase and transport of food and \$99,000 to the LRCS drought relief program.

France — gave 16,800 MT of food, value not reported, and 100 MT of special milk for calves, valued at \$95,680.

Gabon — gave 100,500 MT of cereal and donated 880 MT of rice, flour, clothing, and medicines, value not reported.

Germany, Fed. Rep. — donated 12,750 MT of wheat, value not reported.

Italy — gave 2,500 MT of rice, 2,000 MT of 35 trucks, one mobile workshop, and one technician, all valued at \$1,984,210.

Luxembourg — gave 360 MT of maize, value not reported, and \$100,000 for an immunization campaign.

Kuwait — gave \$201,000 in cash.

Netherlands — gave 10,000 MT of grain, fifty trucks for food distribution, value not reported, and provided \$50,000 for logistics assistance.

Norway — donated \$43,826 through LRCS.

Saudi Arabia — gave 2,500 MT of food valued at \$1,095,890.

Spain — contributed 1,500 MT of grain, value not reported.

Sweden — provided \$224,719 for water supply rehabilitation.

Switzerland — gave dried milk through the Swiss Red Cross, valued at \$69,565, and \$100,43 in cash.

Togo — donated 1,000 MT of corn, value not reported.

United Kingdom — contributed \$130,434 through LRCS.

Netherlands Caritas — donated \$16,070 in cash.

Netherlands Red Cross — provided \$21,739 in cash.

New Zealand Red Cross — gave \$25,000 for nutrition projects.

Norway Red Cross — contributed \$205,109 in cash.

SOS Sahel (French PVO) — gave 5 MT razine (fortified food for children), valued at \$12,456, and medicines and drugs, valued at \$500,445.

Switzerland Caritas — donated \$200,000 in cash.

TOTAL \$15,359,614

Voluntary Organizations and Other Private Groups

Australia Caritas — gave \$13,670 in cash.

Band Aid Foundation — donated \$1,600,000 for emergency and recovery projects.

Belgium Caritas — \$26,550 in cash

Canada Developpement et Paix — gave \$7,000 in cash.

Canada Red Cross — donated \$68,513 in cash.

Finland Red Cross — gave \$73,913 in cash.

Germany, Fed. Rep., Caritas — gave \$517,937 in cash.

Italy Red Cross — gave 100 MT of rice, 15 MT of vegoil, 175 MT of DSM, medicines, blankets, shoes, one prefabricated school, and infant food, value not reported; and donated three Fiat Camagnolas, valued at \$35,000.

Japan Red Cross — gave \$46,086 in cash.

**Medical Emergency/
Civil Strife**

Nigeria

Date

April 25-May 3, 1985

Location

The city of Gombe in the state of Bauchi

No. Dead

200

No. Wounded

Approximately 200 to 500

The Disaster

An uprising in Gombe, in northeastern Nigeria, by members of the Maitatsine group, was crushed by local and mobile police and a locally based army unit after three days of bloody fighting. The Maitatsine had been involved in previous violence in that area. In this case, it was thought that their intention was to disrupt the May 4 installation ceremonies of the new Emir of Gombe. They attacked citizens in their homes and went on a rampage throughout the city, using weapons and ammunition captured from the police. The clash between the rioters and police and army forces resulted in about 200 killed and from 200 to 500 wounded and in need of medical attention.

Action Taken by the Government of Nigeria (GON)

The GON recognized that in-country medical supplies were insufficient to cover the casualties and requested outside aid. Air Nigeria flew in the donated supplies to Lagos, where the shipment was expedited through customs and subsequently presented to the Ministry of Health and GON officials.

Assistance Provided by the United States Government

On May 3, 1985, the U.S. Ambassador responded to the GON request for medical aid by declaring that a disaster existed in Gombe and asking that emergency medical supplies be provided. As there were no commercial suppliers immediately available, the U.S. Department of Defense provided and arranged for the shipment of medical supplies and drugs from DOD stocks in Philadelphia to Lagos via Air Nigeria. The cost of supplies, which included antibiotics, antiseptics, aspirin, bandages, sutures, and syringes, was \$1,934. Transport costs amounted to \$4,918.

TOTAL \$6,852

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

Epidemic

Somalia

Date

March 22 to May 30, 1985

Location

Primarily in refugee camps in the northwest region and Hargeisa city

No. Dead

1,262

No. Affected

4,815 cases (confirmed)

The Disaster

Cholera in Somalia was first suspected in the Gannet refugee holding camp in Hargeisa City on March 22, 1985 and the first cases were confirmed on March 31. The Gannet camp was not officially designated a refugee camp but rather functioned as a squatter settlement of about 45,000 people. Thus, its inhabitants did not benefit from the health care, shelter, or sanitation facilities usually found in refugee camps.

The cholera epidemic was not confined to the Gannet refugee holding camp. Cases of cholera were reported in five of the ten existing refugee camps in the north during April and the majority were a result of direct contact with refugees from Gannet. Casualties also occurred among the local Somali population in Hargeisa and other locations. April 1 was the peak of the epidemic, when the daily death rate reached 192. As of July 4, Somali health officials had reported 1,262 cholera deaths. Two factors contributed to the spread of cholera: the onset of major seasonal rains and Gannet's location in the city exacerbated cholera transmission; and the large influx of new refugees overburdened already strained sanitation facilities in the camps.

Action Taken by the Government of the Democratic Republic of Somalia (GDRS)

The GDRS regarded the cholera epidemic as a national threat and requested UNDR0 to launch an appeal to the international community. A national cholera control committee chaired by the Second Vice-President was formed to coordinate activities and an education/public awareness campaign was launched. A daily meeting on cholera, chaired by the Minister of Health, was held during the emergency to facilitate the exchange of information among Somali professionals and donor representatives. A Ministry of Health Information Exchange Secretariat was also established and, under the supervision of the Second Vice-President, prepared and updated situation reports.

On March 31, the Minister of Health called a meeting of donor agency representatives and ministry officials and gave a detailed breakdown of available medical supplies. An emergency medical supply list was drawn up and the donor representatives indicated which items they could supply.

The emergency response in Hargeisa, where the incidence of cholera was most prevalent, was

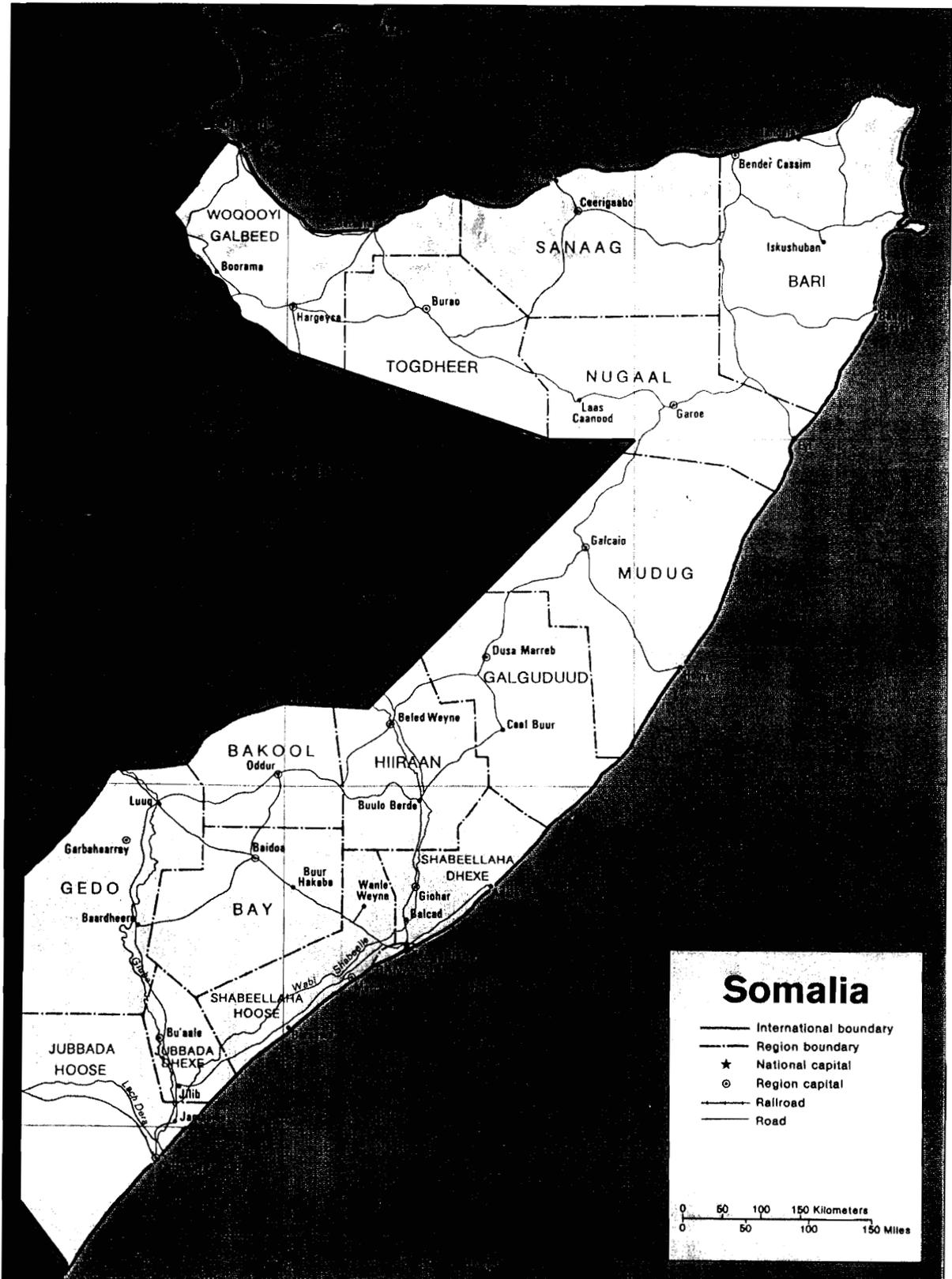
quick and utilized a number of UNICEF and trained Somali health personnel already working in the northwest region. The city of Hargeisa was divided into sections and response teams were organized to visit the scene of any suspected cases and to administer antibiotic prophylaxis to family members. Supplies were positioned in outlying areas and military and civilian agencies mobilized vehicles and manpower to expedite their movement. The operation was headed by the Vice-Minister of Health and organized into four committees: supply, distribution, personnel, and mobile emergency team operations. The healthy refugee population of Gannet Camp in Hargeisa was moved to a new site a few kilometers from the town and the original site was disinfected. The sick were isolated in a nearby location where health workers provided 24-hour medical support.

In spite of the cholera epidemic, new arrivals continued to flood the region. A refugee reception center was established in Abarso, 20 kilometers west of Hargeisa, where refugees were registered and screened for cholera. Those found to be free of cholera were moved with the healthy Gannet population to a second temporary camp.

Assistance Provided by the United States Government (USG)

On March 31 the Minister of Health requested U.S. assistance and asked specifically for two OFDA water purification units on loan, collapsible water tanks, and jugs. The U.S. Ambassador determined that USG disaster relief was warranted and authorized the use of international disaster funds. The following items were obtained from the OFDA stockpile in Leghorn, Italy: 2 water purification units (loaned), 8 nylon water tanks (each 3,000 gal.), 2,010 plastic water containers (5 gal. capacity), and 2 containers of HTH chloride (100 lb.). These items were flown commercially to Mogadishu and transported by truck to the Northwest.

Due to the sudden onset and rapid spread of cholera infection, local medicines were quickly depleted. Recognizing this urgency, the USG provided \$84,000 to cover the costs of a chartered flight from Copenhagen to Berbera to transport 37 MT of medical supplies donated by UNICEF.



The UNICEF supplies included the following:

3,000 butterfly needles
 1,000 tins of tetracycline caps
 2,000 tins of co-trimoxazole caps
 2,000 bottles of chlorhexidine
 1,200 liters of tetracycline syrup
 3,000 nasal feeding tubes
 5,000 tins of halazone tabs
 250 bottles of calcium hypochlorite
 250 folding cots
 750 meters of plastic sheeting
 250 pails

It became increasingly clear that the ability of the GDRS to identify cholera cases and control the epidemic was threatened by a shortage of hands-on expertise and inadequacies in local laboratory management. In response to an urgent request made to the U.S. Ambassador on April 11 by the Director General of the Ministry of Health, OFDA asked the DOD to provide a mobile team with expertise in epidemiological surveillance and microbiological testing. A six-member U.S. Navy Environmental Preventative Medicine Team was sent to Somalia from April 17 to May 14. The team, consisting of three preventative health technicians, one environmental health officer, one laboratory officer, and one laboratory technician, conducted surveys and performed microbiological testing of water and food supplies in Hargeisa and refugee camps in the vicinity. Serology was performed for identification of potential cholera carriers and technical assistance was provided to the MOH concerning laboratory management, operations, and personnel training. The team also collected and provided information to health agencies and made recommendations concerning disease control.

Summary of USG Assistance

Ambassador's Authority	\$25,000
Airlift of UNICEF medical supplies	\$84,000
TDY of DOD Medical Team	\$15,000
Eight nylon water tanks (3,000-gal.)	\$18,376
Commercial transport of jugs and tanks	\$5,000
TOTAL	\$147,376

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

International Organizations

EEC — \$211,200 in cash through MSF/Belgium.

LRCS — issued an appeal for \$706,713 for emergency relief and prevention; and gave \$40,000 for a chartered airplane to shuttle supplies between Mogadishu and Hargeisa for three days.

UNDRO — gave an emergency grant of \$20,000.

UNHCR — gave 15 MT of medical supplies, valued at \$115,000; and 5,000 tents plus transport, valued at \$670,000.

UNICEF — contributed \$150,000, which was partially spent on medical supplies.

WHO — provided medical supplies and laboratory equipment plus transport, valued at \$94,000.

Governments

France — provided an aircraft to transport 4,000-6,000 doses of IV solution from Djibouti to Berbera and medical supplies, value not reported.

Germany, Fed. Rep. — provided a German Air Force C-130 for transport and medical supplies, value not reported.

Italy — provided a charter aircraft, personnel, and medical supplies, value not reported.

Netherlands — gave \$133,600 for medicine, staff, transport, miscellaneous equipment and material, through MSF.

United Kingdom — in conjunction with Oxfam/UK and SCF/UK, gave \$57,000 for an aircraft to carry PVO supplies; \$12,500 for three nurses for three months; and \$12,500 for local purchase of relief supplies through the Embassy.

Voluntary Agencies

Caritas Mogadishu — gave medical supplies, value not reported.

Finland Red Cross — gave \$56,600 for a medical team, medical supplies, and freight.

Islamic African Relief Agency (Kuwait) — provided a charter aircraft and medical supplies, value not reported.

MSF — supplied personnel, a chartered aircraft, and medical supplies, value not reported.

Muslim World League — gave medical supplies, value not reported.

Oxfam/UK — gave sanitation equipment and supplied personnel; and in conjunction with the Government of the U.K. and SCF/UK, provided personnel, medical supplies, and a charter aircraft, value not reported.

SCF/UK — in conjunction with Oxfam/UK and the Government of the U.K., provided personnel, medical supplies, and a charter aircraft, value not reported.

United Kingdom Red Cross — gave medical supplies, value not reported.

TOTAL \$1,572,400

Accident

Somalia

Date

August 24, 1985

Location

Mogadishu harbor and surrounding area

No. Dead

None reported

No. Affected

The population in the vicinity of the harbor was threatened by smoke and chemical fumes. Residences and businesses along the harbor area were evacuated.

The Disaster

On August 24, a Panamanian-flag ship, the SS Ariadne, grounded while departing the harbor of Mogadishu. The ship carried 118 containers of hazardous materials and 482 containers of general cargo in its five holds and as deck cargo. Efforts by a Kenyan salvage firm to refloat the vessel were unsuccessful and on September 26, the deck over the rearmost hatch collapsed and a fire broke out. The fire was brought under control the same day, but it produced smoke and chemical fumes that threatened the port area. The subsequent break-up of the ship at the rearmost hold resulted in the release of considerable amounts of heavy fuel oil and drums or bags of chemicals which came ashore in the harbor area.

A principal concern of both Somali officials and technical representatives was the possibility of further fires that could ignite potentially explosive chemical vapors. However, this danger was greatly reduced after October 10 when three of the ship's holds were opened and ventilated. Also of great concern was the extent to which the environment was damaged by the release of oil and chemicals into the harbor. Because the ship had carried 118 MT of tetraethyl lead, it was feared that the leaked lead might enter the food chain and affect human health or cause serious long-term damage to the harbor ecosystem.

Actions Taken by the Government of the Democratic Republic of Somalia (GDRS)

Following the localized fire aboard the ship on September 26, the GDRS carried out a limited evacuation of the port and surrounding areas. A scientific and technical committee consisting of advisors from Somalia National University and other local experts was established. They conducted sampling and assessment activities to determine the environmental damage caused by the incident.

Recognizing the urgency of the situation, the GDRS immediately began to negotiate a contract with Murri International Salvage Company of Mombasa, Kenya. The contract was signed on August 27 and salvage operations began on September 14. However, attempts to refloat the vessel proved unsuccessful because the company did not have the heavy salvage equipment necessary to remove the wreck or its cargo.

Meanwhile, negotiations were underway in London between the SS Ariadne's insurer, the P and I Club, and a large Dutch salvage firm, Smit Tak, which was capable of providing the necessary equipment and expertise. Somali President Siad Barre dispatched the Permanent Secretary of Foreign Affairs and the Vice Minister of Marine Transport to London to expedite these negotiations. The outcome was a contract between the P and I Club and Smit Tak signed on October 3. The salvage tug and other equipment arrived in

Mogadishu in late October, but in the meantime the GDRS attempted to remove as much of the cargo as possible from the deck of the vessel. Large-scale recovery of beached cargo was conducted from October 3 to October 10 under the supervision of police. The recovered cargo, some of which were leaking chemicals, were loaded onto trucks and transported to the port area for storage, posing a serious hazard to port workers.

Assistance Provided by the United States Government

Based on reports and personal observation, Ambassador Peter S. Bridges determined that the SS Ariadne presented a severe chemical hazard to the city of Mogadishu. On September 26, he made a disaster declaration and authorized the donation of \$25,000 for disaster relief. On the same day, U.S. Embassy officials met with the Vice Minister of Marine Transport at the harbor to evaluate the disaster. He indicated that this was the first marine disaster in Somalia's recent history. At this meeting Embassy officials learned that Mogadishu authorities lacked the expertise to identify or respond to burning chemicals on the wreck.

In an effort to assist the Somali government, OFDA sent an Emergency Response Advisory Team (ERAT) composed of Coast Guard and Environmental Protection Agency (EPA) personnel to Mogadishu from September 28 to October 10. The primary function of the team was to assess the spill area, advise Ambassador Bridges, and make recommendations through him to the Somali government on how best to cope with the disaster. During their 13-day on-site assessment, the team made three recommendations. First, they advised that the salvage agreement with Smit Tak be expedited to remove the wreck as soon as possible. Second, the team recommended that unsafe interim measures be avoided such as improper handling of hazardous material. Finally, the team advised that a contingency plan for coping with future emergencies in the port be developed.

An additional \$7,465 was charged against the Ambassador's emergency funds to cover EPA's expenses. The cost of the ERAT was \$10,252, of which \$2,787 came from FY 86 funds, and the remainder from the Ambassador's \$25,000 donation.

The ERAT expressed its concern that the Somali recovery crews wore no protective clothing while handling or swimming around leaking drums. Acting upon a request from the Mission, OFDA

sent the following items of protective clothing:

- 50 pairs rubber boots with steel toes
- 50 pairs heavy PVC pants
- 50 pairs heavy PVC jackets
- 50 pairs safety goggles
- 50 pairs heavy rubber gloves

These items were purchased in the U.S. and airfreighted to Mogadishu, arriving on October 8. The value of the equipment, funded from FY 1986 accounts, was \$5,616 and airfreight cost \$1,571.

Total FY 85 OFDA funds	\$25,000
Total FY 86 OFDA funds	\$9,974
	TOTAL	\$34,974

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

France — sent a team of technical advisors and placed two C-160 aircraft one alert, one in Djibouti and one in Reunion.

Germany, Fed. Rep. — sent two chemists and two firefighting experts.

Italy — sent a team of technical advisors.

United Kingdom — sent a team of technical advisors.

**Drought/
Famine****Sudan****Date**

1983-1985; declared
November 29, 1984

Location

Countrywide, with major
impact in the western
provinces of Darfur and
Kordofan, Sudan's
traditional agricultural
sectors

No. Affected

Approximately 8.4 million

Damage

Starvation among the
population of the western
regions and the Beja nomad
population of the Red Sea
Hills Province; food deficit
estimated at 1.16 million MT
for 1985

The Disaster

During 1984 western Sudan was stricken with serious drought conditions, resulting in severe food shortages and the threat of famine over much of the area. Sudan's rainy season usually lasts from June to September; each year since 1980, however, annual rainfall failed to reach average levels. By mid-1983 the resultant drought conditions jeopardized the sorghum and millet crops in eastern and central Sudan as well as in the traditional agricultural sectors of western Sudan, Darfur and Kordofan.

During the 1984 growing season only 60% of the average rainfall was received, causing alarming drops in surface water and deep water supplies. Cereal output fell to 50% of normal. Production of sorghum, the country's principal food grain, fell to one-third below the 1983 output. By November 1984, food grain deficits for the year ahead were estimated to be as high as 1.16 million MT, approximately 30% of Sudan's food grain requirements.

Harvest deficits for 1984 were predicted and occurred mainly in rainfed agriculture, which is responsible for over 80% of sorghum production. Irrigated crops also suffered, as the water level of the Nile was down due to lack of rain in Ethiopia, creating shortages of water for irrigation. Thus, production of wheat, important in the urban diet, was reduced to 50,000 MT in 1984-85, or one-third of the previous year's harvest.

The farmers of Northern Kordofan and Northern Darfur experienced near total crop failures. As a result, thousands of farm families migrated southward and eastward to available pasture or urban areas. By the end of 1983, 300,000 people had left Northern Darfur for the better-off southern part of the region; during 1984, a similar number made the trek south. In Kordofan, feuds over land rights blocked the move south and forced some Kordofanis to set up tents in Omdurman, the city opposite Khartoum on the Nile. By the end of 1984 there were an estimated 42,000 destitute migrants in makeshift encampments in Omdurman.

In the east, poor rainfall was a devastating blow for the nomadic Beja of the Red Sea Province. December 1984 found about 10,000 Beja who had lost their livestock gathered in relief camps along the Port Sudan — Kassala Road.

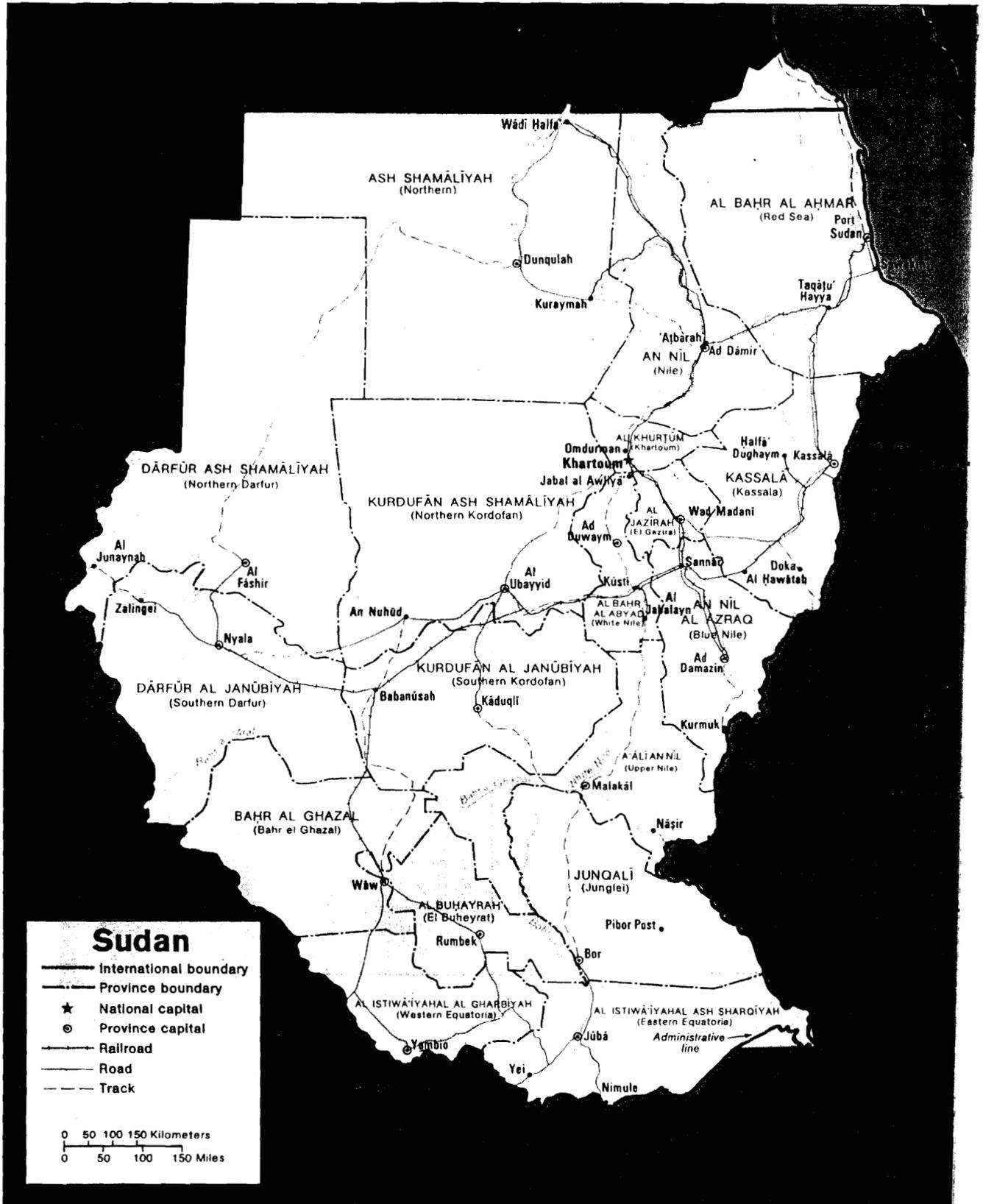
As 1985 unfolded, food supplies continued to diminish in drought-stricken areas and the number

of displaced Sudanese increased, as did dependency on relief grains and supplementary food. As general nutritional levels deteriorated, health problems increased. The malnutrition rate of displaced Sudanese was estimated to be at least five times higher than normal.

Large numbers of displaced Sudanese concentrated in various areas across the country, mainly between the 12th and 20th parallels. Some settled in camps, where they received intensive feeding. Many moved close to refugee camps, especially in the west, and others spread out in the White Nile areas south of Khartoum. By mid-1985, possibly over a million Sudanese were displaced.

Due to the influx of international aid, by early 1985 food supplies in-country were sufficient, but distribution to the hungry remained a problem. Congestion at Port Sudan and frequent breakdown of port equipment caused about a five-day waiting period for ships to berth and begin the unloading process. From Port Sudan, most food aid was trucked to Kosti (White Nile), where it was transferred to rail cars for delivery to Darfur and to small trucks for delivery to Kordofan.

Transport problems plagued the relief effort, especially in the west. Both the road and rail systems were inadequate to handle the influx of relief, and fuel was constantly in short supply. Various factors contributed to the unreliable performance of the Sudan Railways. Its equipment and infrastructure were worn out; engines were small; there was a shortage of cars, spare parts, and fuel; and washouts during the rainy season disrupted service. Another factor was lack of complete cooperation by the railroad administration. It was more profitable for the railroad to deliver consumer products to urban centers than to use its full capacity to carry food aid. The washout of the rail link from Kosti to Nyala (Southern Darfur) hindered the quick shipment of grains needed to build buffer stocks at key distribution centers before the onset of heavy rains.



Sudan

Initially, private domestic trucking fleets seemed capable of food deliveries, but problems continually arose, and the pressure on road transport caused serious inflation in transport fees. Trucking companies transporting sorghum from Kosti to El Obeid (Northern Kordofan) were reluctant to accept fixed transport tariffs, and the route was plagued with security problems. Food riots and assaults on grain trucks were reported in and around Kosti, the transshipment point for most grain to both Darfur and Kordofan. Hostility was partially attributed to the feeling of the local Sudanese that they were not getting a fair share of the food they observed flowing through. In Southern Kordofan, distribution was hampered after the rains started by steadily deteriorating road conditions, and trucks were dispatched in convoys to avoid security problems. Truckers also tended to go to the most accessible places first, instead of targeting the neediest.

The early stages of the rainy season in June held the promise of a good harvest, yet they also brought hardship. Much food aid arrived in Sudan too late for distribution before the rains. In addition to disrupting road and railroad service, the heavy rains contributed to a greater incidence of disease and mortality. Even with ample rains, recovery from the drought will be a slow process because of seed and draft animal shortages, displacement of the population, and soils exhausted by lack of water and overuse.

Refugees in Sudan

Refugees have been entering Sudan since the mid-1960s from Ethiopia, Uganda, Chad, and Zaire, and civil strife and food shortages in Ethiopia in late 1970 and early 1980 caused increasingly large influxes. Even before Sudan's disaster declaration, eastern Sudan was host to 133,000 registered refugees from Ethiopia in 22 established settlements, plus some 300,000 other Ethiopians spontaneously settled in the country. Since September 1984, eastern Sudan has received more than 300,000 new arrivals from its eastern neighbor. To the west, in Chad, drought and civil strife have caused about 60,000 Chadians to enter Sudan since mid-1984. Approximately 250,000 Ugandans have settled in southern Sudan. Sudan now hosts about one million refugees, the largest refugee population in Africa.

The drought had a dramatic impact on Ethiopian settlements in eastern Sudan, wiping out their crops and increasing their populations by as many as 3,000 persons per day at the height of the emergency. Spontaneous repatriation of about 50,000 refugees to Ethiopia in April, when there was promise of a good rainy season, alleviated conditions in the east somewhat. However, the need for assistance remains.

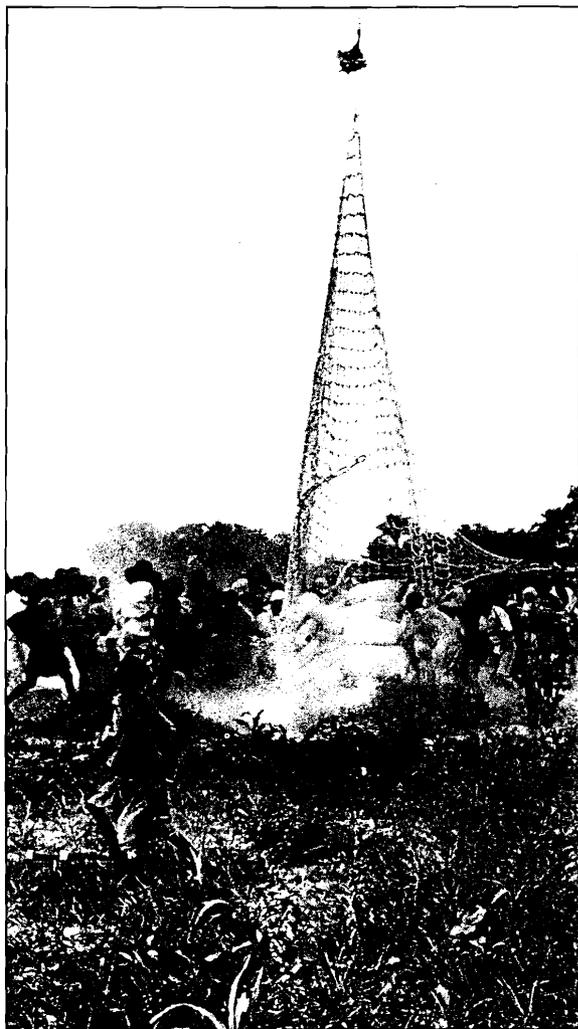
Chadian refugees in the west, numbered at 121,000 in mid-1985, are living in camps or have been absorbed into the local Sudanese population in Darfur. Food assistance is needed, yet difficult to deliver, in this isolated region.

Action Taken by the Government of Sudan (GOS) and Non-Governmental Organizations

After conducting a number of assessments in conjunction with WFP and other donor organizations, in July 1984 the GOS declared Kordofan and Darfur to be disaster areas. Sorghum exports had already been prohibited. Two months later, the Minister of Finance and Economic Planning formally requested international aid to assist the GOS in meeting its food needs over the coming year and, subsequently, a continuation of emergency food assistance for the growing number of Ethiopian refugees in Sudan.

The GOS created a National High Commission for Drought and Desertification (NHCDD), which was later assisted by the Relief Information and Coordination Support Unit (RICSU), a computerized information-gathering system which was established in collaboration with the U.N. and other international agencies. Sudan's Commissioner for Refugees (COR) continued to work with UNHCR as the number of refugees increased and their situation deteriorated due to the drought.

As food donations reached Sudan, the GOS and WFP held weekly meetings with UN agencies and other donors to review conditions, needs, and distribution activities. Sudan's Food Aid National Administration (FANA) worked with WFP's Food Aid Management and Logistics Team (MALT) to coordinate and distribute incoming food shipments. The Sudan Shipping Lines, performing at record rates, took responsibility for off-loading bulk grain in Port Sudan, and a logistics/management contract was signed by the GOS and a Sudanese-American firm to cover food distribution from Port Sudan to central points within the country. To finally distribute the food to the



Helicopter airdrops food to Sudanese village

drought victims, FANA identified and staffed district-level distribution points where food was received and stored for PVOs and village officials to allocate. Provincial, district, and village-level committees, and local community leaders worked closely with PVOs and other donors in the distribution process.

The Sudanese Red Crescent (SRC) worked with LRCS to provide health services and supplementary feeding. The SRC provided services to the Beja tribesmen in the Red Sea Hills and to the displaced in Darfur.

Despite its budgetary and foreign exchange problems, the GOS made a substantial allocation of budget resources, approximately \$80 million, for drought relief, including funds for in-country purchases of sorghum, transport of emergency food,

and support to PVOs for their local distribution programs.

On April 6, 1985, the Sudanese Popular Armed Forces (SPAF) staged a military takeover of the central government. The coup temporarily closed Sudan's borders and airspace, replaced regional governors with military leaders, and removed President Jaafar Mohamed el Nimeiri and his ministers and advisers from office. The drought and resultant economic crisis, the problems of a growing population of displaced persons and refugees, and the continuous and long-standing conflict between southern and northern Sudan, with its consequent deterioration of security, all combined to lead to the fall of the Nimeiri regime. After the coup, the president of the military council assumed the chairmanship of the NHCDD, which then met with the donor community and stated its recognition of the gravity of the drought and the need for continued collaboration and effort to provide both immediate relief and long-term measures. In May, the government announced a new coordinating structure, the Relief and Rehabilitation Commission (RRC).

Assistance Provided by the United States Government

As drought conditions worsened in western Sudan and the 1984 growing season suffered dramatically from lack of rain, the magnitude of the disaster became evident. On November 28, 1984, the U.S. Ambassador, Hume Horan, made a disaster determination and requested that U.S. assistance be given. He immediately provided his Ambassador's Authority of \$25,000, plus an additional \$45,000 from a Mission allotment, to CARE to be used for food monitors.

The inter-agency Task Force on the African Famine (see "Introduction") had already been established, and the first shipment of P.L. 480 Title II emergency food had arrived in Port Sudan even before the Ambassador requested assistance. As local food supplies diminished with the failing harvests, food aid to prevent starvation and malnutrition was given top priority. Consequently,

during FY 85, the USG contributed a total of 597,383 MT of P.L. 480 Title II food, Food Security Reserve wheat flour, and Section 416 dairy products.

For western Sudan, transportation and handling of emergency food — from receipt at Port Sudan to delivery at district level — was contracted to a commercial Sudanese-American firm, Arkel Talab. Arkel Talab's responsibilities included monitoring food shipment from the port to 21 districts in Darfur and Kordofan provinces; maintenance of the railroad, needed to deliver food from the city of Kosti in the east to points west; and trucking sub-contracts.

To distribute the emergency food from the district level down, OFDA funded CARE, which was operating a distribution network in Northern and Southern Kordofan and Kassala provinces; SCF/UK, working in Darfur; and Lalmba, working in Kassala. These PVOs collaborated with GOS provincial, district, and village-level officials to arrange the final allocation of P.L. 480 commodities to the drought victims.

Soon after the disaster declaration, the prepositioning of 20,000 MT of sorghum in Sudan was approved. This allowed procurement and shipping procedures to begin before a complete local distribution plan was formulated and provided a stockpile for the eastern regions as the influx of refugees continued.

In addition to the growing number of Ethiopian refugees in the east, displaced persons from the west steadily migrated east and formed a camp in the environs of Omdurman, which lies within the Khartoum urban area. OFDA provided funds to SCF/UK to help with an emergency feeding operation in the camp.

To combat the deteriorating health conditions of drought victims and refugees, health reconnai-

sance teams, including CDC personnel, medical technicians, medical supplies, and drugs were provided. OFDA also responded to UNHCR's emergency appeal for assistance to refugees and, in support of the U.S. Department of State Bureau for Refugee Programs, provided DOD airlifts of emergency supplies, including blankets, water tanks and smaller jugs, plastic sheeting for shelter, food, and medicine. Grants were given to support the relief activities of PVOs and international organizations with on-going operations in Sudan, including a donation to UNICEF for a well-drilling project.

Early in the year an assessment team from AID/Washington, including the Director of OFDA and the head of OFDA's Africa and Europe Division, visited Sudan to discuss USG drought and refugee assistance. Vice President George Bush and A.I.D. Administrator M. Peter McPherson also visited drought-stricken zones and refugee camps to present the GOS with an airlifted shipment of medical supplies and blankets.

To ease the burden placed on Port Sudan's facilities by the heavy flow of international food aid through the port, OFDA provided additional storage silos (portable hoppers), Vac-u-vators, and bagging machines. Further efforts to maintain efficient deliveries of food included the purchase and sealift of locomotives and spare parts from Brazil, rental of railroad repair equipment, and a DOD airlift of three helicopters and crew from Oregon. The helicopters took over distribution in the west to remote villages that were inaccessible by any other means. Fuel for their airdrop operations was shuttled to the helicopter campsites by a Transamerica C-130, funded by FFP internal transport funds. Funds were provided for fuel for both the rail and trucking operations, and a supplemental trucking program was put into action for delivery to Northern Darfur when railroad service suffered delays.

For agricultural recovery, OFDA provided assistance to the GOS in procuring seeds to meet the shortfall.

A detailed description of USG aid follows. Some of the relief funds were provided by a Congressional Appropriation adding \$137.5 million in supplemental funds for disaster relief in Africa (see "Introduction"). These supplemental funds are annotated as such in the following summary. Funds specifically designated for assistance to Ethiopian refugees in Sudan are listed separately.

Summary of OFDA Assistance	
- Ambassador's Authority plus additional funds — given to CARE for food monitors	\$70,000
- DOD airlift of relief supplies	\$89,942
- Temporary assignment of two DOD medical technicians for 90 days	\$27,000
- Grant to SCF/UK for the local purchase of food for a displaced persons camp	\$25,000
- Grant to Lalmba for internal transport of P.L. 480 food	\$89,408
- Contribution to UNICEF's emergency water project, used to provide an engineer and equipment for well-drilling	\$400,000
- Grant to Helen Keller International for a blindness prevention program	\$42,739
263 rolls of plastic sheeting from OFDA stocks	\$71,536
11,601 wool blankets from OFDA stocks	\$46,636
1,020 5-gallon water jugs from OFDA stocks	\$1,577
76 3,000-gallon water tanks	\$174,572
The following activities were funded from the supplemental appropriation:	
Medical supplies for the Expanded Program of Immunization: 35,000 TBC syringes, 150,000 needles, 500 thermometers, and 650 indicators	\$7,651
Medical supplies and transport from UNIPAC, Copenhagen	\$367,394
Locomotive spare parts	\$3,016,561



Ethiopian refugees at Wad Sherife camp in eastern Sudan

- Sealift of locomotive spare parts	\$15,143	- Grant to CARE for a food distribution program in Kassala Province	\$252,504
- Streptomycin, penicillin, and miscellaneous drugs	\$176,262	- Grant to CARE for a food distribution program in Northern and Southern Kordofan . . .	\$221,707
- Four Vac-u-vators and eight 3-ton hoppers for Port Sudan	\$346,089	- Grant to the GOS for the purchase of ten General Electric locomotives	\$8,000,000
- Temporary assignment for the Task Force on African Famine assessment team and DOD personnel	\$13,202	- DOD airlift of three helicopters from Oregon to deliver food in the east	\$325,000
- Airlift of medical supplies	\$33,979	- Contract with Arkel Talab Cargo Services for repair and maintenance of the railroad	\$2,400,000
Mission allotment used to hire three contractors to work with USAID/Sudan to plan and monitor relief work in Khartoum, monitor agricultural projects and emergency seed assistance, and oversee the movement of relief supplies through Port Sudan	\$504,500	- Rental of equipment to repair the rail line	\$700,000
		- Grant to SCF/UK for a supplementary feeding program	\$85,000
		Wheat seed rehabilitation program . .	\$3,500,000

Summary of FFP Assistance

Sponsor & Commodity	Metric Tons	Commodity Cost	Transport Cost	Total Cost
GOS— Title II 7,000 MT sorghum; 13,366 MT vegoil; 13,500 MT CSM; 6,000 MT beans; 1,000 MT NFDM	560,866	\$ 89,116,200	\$69,032,500	\$158,148,700
GOS— FSR 25,000 MT wheat flour	25,000	\$ 5,700,000	\$ 3,625,000	\$ 9,325,000
GOS— Section 416 8,960 MT NFDM	8,960	\$ 5,824,000	\$ 1,657,700	\$ 7,481,700
CRS— Title II 512 MT bulgur	512	\$ 112,700	\$ 345,200	\$ 457,900
WFP— Section 416 2,046 MT NFDM	2,046	\$ 1,329,900	\$ 378,500	\$ 1,708,400
TOTAL	597,384	\$102,082,800	\$75,038,900	\$177,121,700
Total OFDA funds		\$1,038,410		
Total OFDA-administered Supplemental funds		\$19,964,992		
Total FFP funds		\$177,121,700		
TOTAL		\$198,125,102		

Summary of OFDA Assistance to Ethiopian Refugees

Grants to LWR:

Local purchase of food	\$2,023,547
Lease of 50 trucks to transport food	\$900,000

Purchase of trucks and operating costs (supplemental funds) \$3,400,000

Grants to Mercy Corps International

Local purchase of food	\$3,787,457
Purchase of 26 trucks and operating costs to transport food	\$2,414,392
Purchase of additional trucks and operating costs (supplemental funds)	\$5,410,000

Summary of FFP Assistance to Ethiopian Refugees

Sponsor & Commodity	Metric Tons	Commodity Cost	Transport Cost	Total Cost
LWR — Title II beans; CSM; vegoil	76,769	\$15,749,700	\$14,222,300	\$29,972,000
LWR — Section 416 3,230 MT NFDM	3,230	\$ 2,099,500	\$ 597,600	\$ 2,697,100
ICRC — Title II vegoil; beans	9,850	\$ 3,801,300	\$ 1,022,500	\$ 4,823,800
WFP/IEFR — Title II 1,620 MT vegoil	1,620	\$ 1,578,400	\$ 169,300	\$ 1,747,700
LWR — FSR 8,800 MT bulgur; 9,600 MT wheat	18,400	\$ 3,452,800	\$ 2,236,000	\$ 5,688,800
ICRC — FSR 2,235 MT wheat flour	2,235	\$ 509,600	\$ 324,100	\$ 833,700
TOTAL	112,104	\$27,191,300	\$18,571,800	\$45,763,100

Total OFDA funds \$9,125,396

Total OFDA-administered supplemental funds \$8,810,000

Total FFP assistance \$45,763,100

TOTAL \$63,698,496

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

ADRA — conducted a supplementary feeding program in Kassala Province; provided 852 kg of vegetable seeds and 454 kg of SOLCAC for supplementary feeding, both commodities valued at \$32,852.

ANRC — provided tents to LRCS and \$805,654 in cash.

American Refugee Committee (ARC) — worked with Lalmba to provide medical assistance in the

Sudan-Ethiopia border area of Kassala Province; set up a clinic for refugees in Wad Sherife camp in central Kassala, the largest refugee settlement in Sudan.

Americares — donated and airlifted relief supplies to UNICEF, the International Rescue Committee, and UNHCR. The shipment consisted of 10 tents and 113 MT of medicine and other supplies including antibiotics, vitamins, bronchial medications, patients' arm bracelets, and 5,000 half-liter bags of Ringers lactate.

CARE — with a grant from OFDA, conducted a food distribution network in Southern and Northern Kordofan and Kassala provinces, which included monitoring, transportation, storage, and final allocation of food aid in cooperation with village officials.

CRS — arranged to divert 272 MT of P.L. 480 food from its Kenya and Burundi stocks for an emergency feeding program in southern Sudan. Food was consigned to Sudanaid when it entered Sudan and distributed through food-for-work activities and as direct emergency relief.

Helen Keller International — conducted a nutritional blindness and trachoma assessment and a blindness prevention program.

Houston community — contributed 24 MT of wheat flour, rice, and DSM, and basic medical

supplies. Supplies were airlifted to Khartoum, then to Kassala, and distributed to Ethiopian refugees at Tekl el Baab campsite.

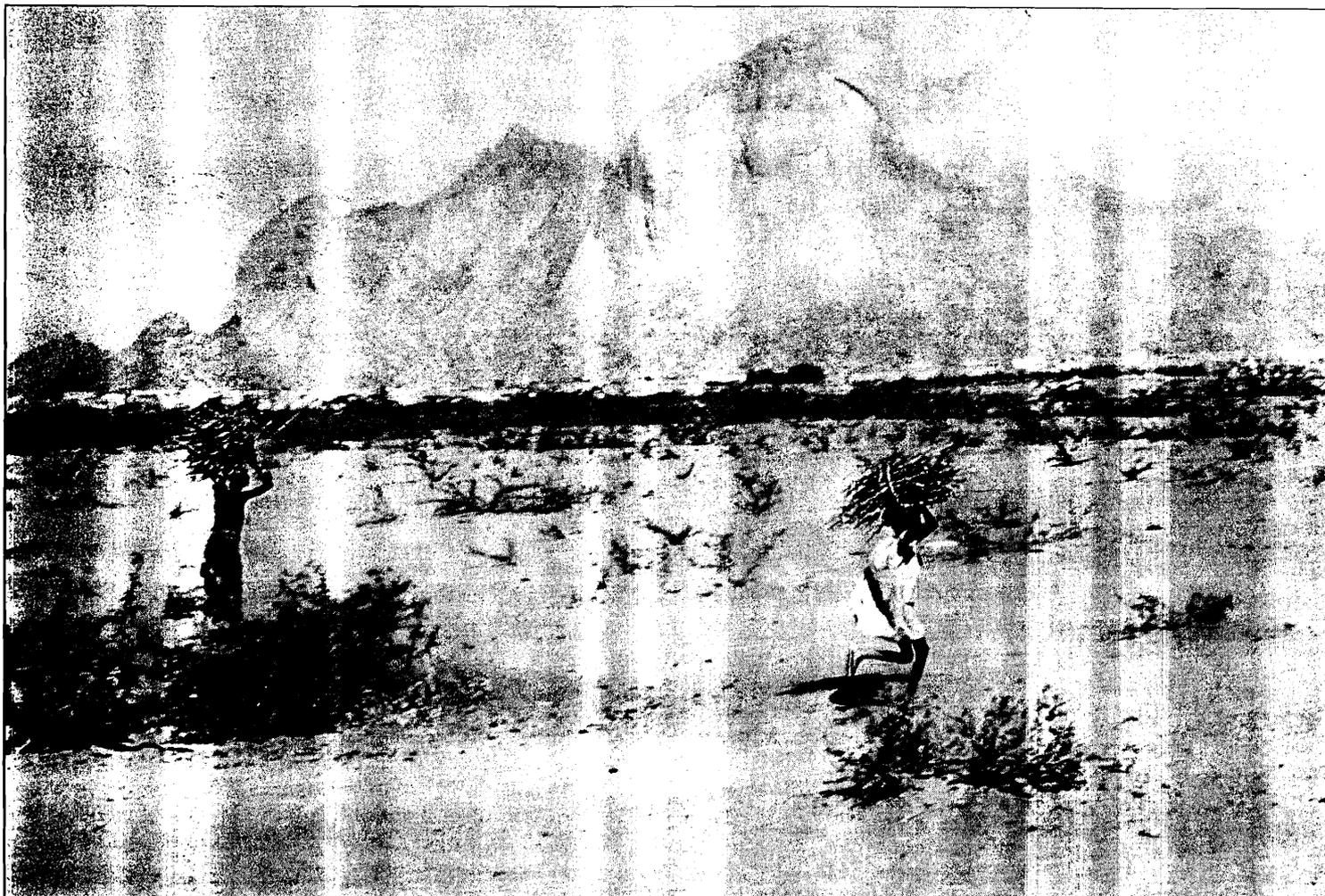
International Rescue Committee — provided medical assistance to Ethiopian refugees.

Lalmba — donated 5.4 MT of medical supplies to UNHCR and set up a clinic for refugees in Wad Sherife with ARC.

MAP International — sent medicines and health supplies valued at \$245,588.

Medical Volunteers International — conducted a supplementary feeding program in Red Sea Hills Province and provided TB medical care for Ethiopian refugees.

Mercy Corps International — provided food aid to Ethiopian refugees.



Operation Cincinnati — provided and airlifted 30 MT of medical supplies to LWR.

SCF/US — began emergency refugee programs in eastern Sudan in May, 1985, with plans to expand their operations to include Sudanese.

Sudanaid — conducted a supplementary feeding program in Southern Kordofan; helped distribute food in the southern provinces; and provided medical assistance in the Red Sea Province.

USA for Africa — airlifted relief supplies to PVOs and provided funding for 20-50 trucks to supplement the western railroad transport system.

WVRO — donated 840 MT of cooking oil, 750 MT of DSM, 2,110 MT of flour, and 70 MT of supplementary food, all valued at \$3,029,041, including inland transport; airlifted medical supplies; and conducted a supplementary feeding program in the central provinces.

TOTAL \$4,113,135

Assistance Provided by the International Community

International Organizations

EEC — contributed \$2,808,400 for the purchase and transport of vegetable seeds, DSM, and vegetable oil, through the Red Cross; gave a cash contribution of \$1,969,522; gave 1,000 MT of lentils and 1,000 MT of edible oil for Northern Darfur; 1,800 MT of wheat flour, 500 MT of lentils, 200 MT of sugar, and 60 MT of DSM for the Red Sea Hills; for refugees, \$1,400,000 through Oxfam and, through UNHCR, 12,482 MT of cereal, valued at \$1,715,085, and \$2,800,000 for the purchase and transport of food, shelter materials, medicines, and fuel; \$2,800,000 for the purchase and transport of seeds; \$7,280,000 for the purchase and transport of vitamin-fortified DSM and colza oil. The EEC also sent an emergency team of medical, nutritional, and agricultural specialists to Southern Darfur and provided basic medical facilities and supplementary feeding programs. The EEC approved an emergency aid program in April 1985 costing \$25,200,000. The program included food aid, cash to NGOs, internal transport for UNHCR, cash to UNICEF's medical and nutritional program, and a community intervention team. A cash contribution of \$3,658,750 was given to LRCS for the provision of supplementary food to the Red Sea Hills and Darfur regions. The EEC also contributed \$201,312 through Oxfam for the

purchase and transport of high-protein biscuits. In May, the EEC gave \$1,498,662 through NGOs for food aid to drought victims, \$1,148,000 for food aid to refugees, \$1,148,000 for 8,000 MT of cereal for drought-affected people, and \$1,363,250 to the ICRC for food aid to refugees. To help overcome the overland distribution problems, in June the EEC supplied five military Hercules airplanes (one from Belgium, one from the U.K., and three from the FRG) to airlift seeds, medical supplies, and food from Port Sudan to the western provinces.

International Labor Organization — conducted a labor-intensive special public works program to reduce seasonal unemployment and stabilize migration of the drought-affected population.

LRCS — launched an appeal on November 9, 1984 for food and medicine, worth about \$2 million for about 25,000 seriously affected people over the next 12 months. LRCS also provided a relief and medical team and 4,000 camels to assist both refugees and the local population in the Beida area in southern El Geneina. LRCS worked closely with the SRC and other organizations throughout the country, operated a mechanical workshop for vehicle repair, and maintained a medical team in Darfur.

U.N. — The Secretary General appointed a special representative for U.N. emergency operations in Sudan, who subsequently worked with other international organizations and the GOS to coordinate U.N. activities.

UNHCR — issued appeals and set up emergency programs in eastern and western Sudan to provide refugees with food, shelter, medical assistance, water, and other basic needs.

UNICEF — financed an internal transport operation and set up a warehouse in Khartoum to receive medical and other supplies; maintained a well-drilling operation for water supply improvement in Bahr' el Ghazel (Southern Kordofan), where 1,000 bore holes were put down, and the Red Sea Hills. In addition, its emergency program for Sudan provided drugs, immunization projects, training for health personnel, shelter and other camp supplies, and operational support for inland transportation.

WFP — provided approximately 1.37 million MT of food aid during the 1985 fiscal year, out of pledges totaling about 1.5 million MT. Deliveries to Darfur and Kordofan presented great difficulties, particularly during the rainy season, and WFP arranged the opening of a landbridge in western Sudan, north of the railroad route. WFP gave logistics support in purchasing outside the country nearly 7,000 MT of fuel to keep trucks delivering relief food, managed a fleet of 170 trucks, and provided maintenance.

Governments

Australia — donated food and transport costs, value not reported; also gave \$72,579 to LRCS and \$130,643 to UNHCR for shelter, medical care, water supplies, and logistic services.

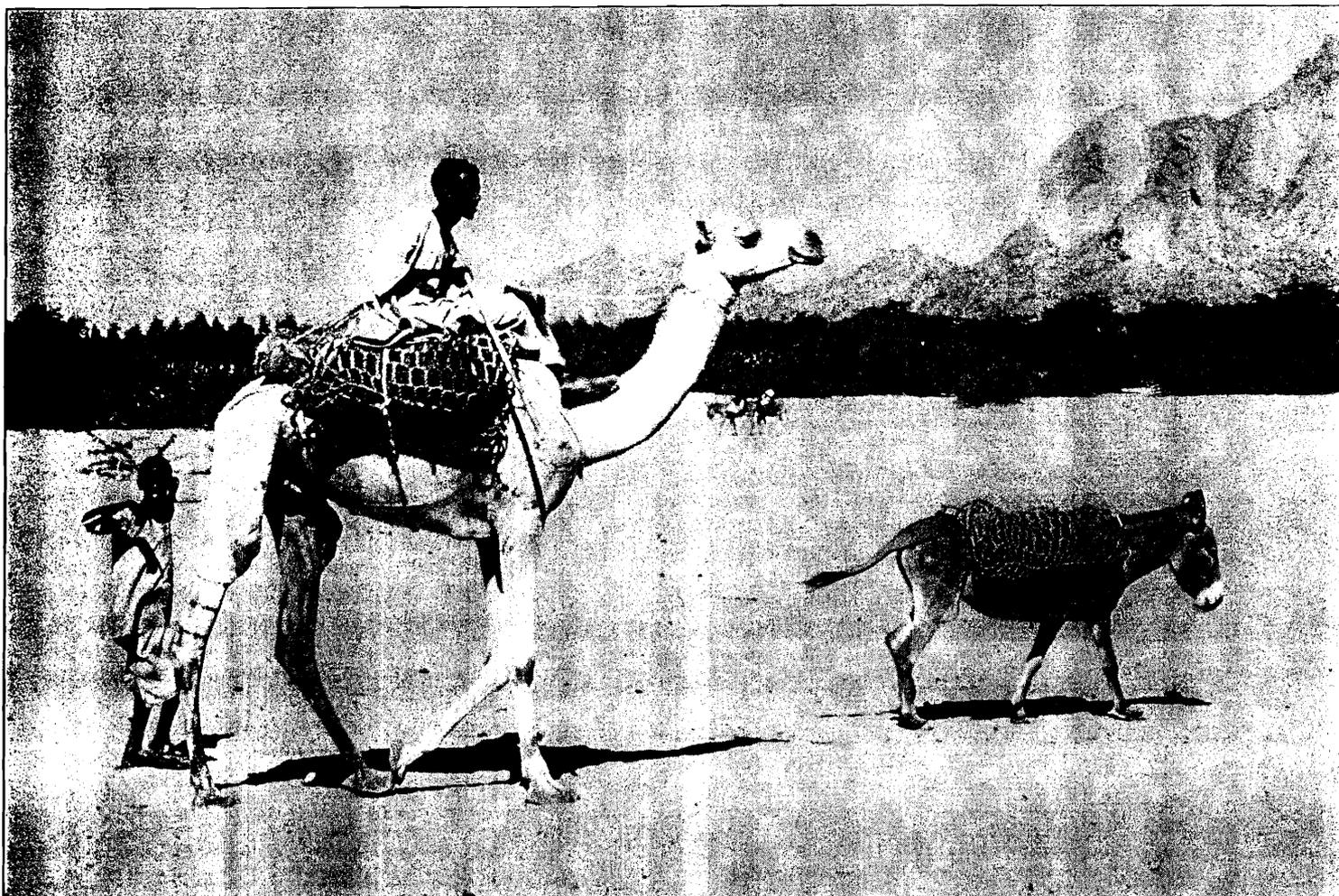
Austria — gave \$11,363.

Belgium — gave \$50,000 through UNICEF, and 14,000 MT of wheat through UNHCR, valued at \$2,585,000 including transport costs.

Canada — gave 11,000 MT of wheat, valued at \$3,820,000; and \$364,964 for refugees in eastern Sudan; donated \$370,370 to the U.N. Office of Emergency Operations for transport and logistics in Darfur and Kordofan; gave \$370,370 through the World University Service of Canada for support of the WFP/UNDP landbridge in western Sudan; also contributed medical supplies.

China, People's Rep. — gave 7,000 MT of grain.

Denmark — donated 15,000 MT of cereal; contributed \$181,181 through LRCS; provided a Hercules transport plane loaded with medical kits, medicines, and 1,500 blankets, to participate in an EEC-coordinated airlift to Darfur, for a total cost of



\$181,181; through Denmark's Save the Children Fund, contributed a nurse for a six-month mission, valued at \$18,181; through UNHCR, provided emergency relief to refugees.

Finland — gave food, blankets, and tents, valued at \$103,768.

Germany, Fed. Rep. — gave 1,000 MT of sorghum for refugees in east Sudan, value not reported, 10,000 blankets, valued at \$20,000, and 13,405 MT wheat flour through UNHCR, value not reported; donated \$74,626 through CARE Germany; \$37,313 through German Agro Action; \$85,740 for emergency operations of Technisches Hilfswerk. Germany also gave pumps, equipment, and technical advisers for refugee camps, at a cost of \$16,130; contributed transport facilities and fuel for the air shuttle supplying the EEC feeding program, valued at \$645,161; and gave 20 four-wheel drive 5-ton trucks for Darfur and Kordofan.

India — gave 100,000 MT of wheat, value not reported.

Ireland — contributed \$147,000 for refugees through UNHCR, and \$9,434 through the Red Cross.

Italy — gave 7,000 MT of wheat flour for drought victims; provided medicines, valued at \$1,904,762, pesticides and insecticides, valued at \$1,904,762; and for refugees, \$1,904,762 for ICARA II follow-up projects. For transport costs, Italy gave \$3,940,890; also provided 53 trucks.

Japan — for the UNHCR emergency program in east Sudan, contributed \$174,000; and provided 100 MT OF high-protein crackers, valued at \$400,000, and \$119,262 for transport costs by sea to Port Sudan.

Kuwait — gave 1,516 MT of relief supplies, valued at \$889,000.

Netherlands — gave \$100,000 through UNICEF for local purchase of food; \$69,444 through UNHCR for a drinking water project; \$1,166,666 for logistical support for food aid operations. Through UNHCR, the Netherlands also gave 1,500 MT of wheat, valued at \$400,000, including overland transport cost; seven storage warehouses, valued at \$120,000; and \$142,857 for the resettlement of refugees. Through WFP, 5,000 MT of wheat was contributed, valued at \$1,657,142, including overland transport; donated 500 MT of wheat and overland transport, valued at \$108,571; through UNICEF, water supply for the Red Sea Hills, val-

ued at \$221,428, food and medicines for 17 existing settlements through the Sudan Council of Churches, valued at \$214,285, and seedlings and tools for the Red Sea Hills, valued at \$211,428.

New Zealand — provided relief supplies and transport costs, valued at \$4,157,240; and 507,000 MT of sorghum, 3,645 MT of CSM, and 12,029 MT of vegoil, including freight, all valued at \$143,528,500.

Norway — contributed \$444,444 through Norwegian Church Aid for the purchase, transport, and distribution of 1,000 MT of sorghum for drought victims in southern Sudan; \$187,555 to Norsk Folkehjelp for the purchase and production of pallets for food storage in Port Sudan; \$222,222 through the Norwegian Red Cross for the purchase and transport of essential drugs for the treatment of tropical diseases; \$333,333 also through the Red Cross for a LRCS drought relief program; \$12,822 to finance a one-year appointment of a specialist; \$228,877 through Norwegian People's Aid to purchase and transport 80 MT of high-energy biscuits; \$182,481 for a WFP road repair project; helicopter services for the transport of relief items, valued at \$486,618; and through Norwegian Church Aid, food, transport, medical and agricultural assistance for the Horn of Africa, value of aid to Sudan not reported.

Saudi Arabia — gave 20,000 MT of wheat.

Spain — gave 4,000 MT of wheat.

Sweden — contributed \$333,333 for refugees in eastern Sudan through a Swedish PVO, EFS.

Switzerland — contributed \$217,391 through Caritas Switzerland; \$760,869 through the Swiss Red Cross for refugees in Kassala and \$176,521 for 500 MT of wheat flour; \$434,782 to UNHCR for refugees in western Sudan; through the Swiss Disaster Relief Unit, \$417,391 for construction supplies; \$82,608 for three logistics experts; and \$2,173,913 to establish a refugee camp in eastern Sudan; through UNHCR, \$217,391 for 130 MT of vegetable fat; through a PVO, 20 MT of biscuits, valued at \$84,347; and through NGOs, 20 MT of dairy products, valued at \$91,304; set up a mechanical workshop in eastern Sudan for the repair and maintenance of vehicles.

United Kingdom — contributed \$1,123,595 to British PVOs working with drought victims; 30,000 MT of food, value not reported; \$544,662 through the Red Cross; through Save the Children Fund, vehicle and aircraft hire, purchase of Bedford and Leyland trucks and one light aircraft, and supplementary food, all valued at \$2,468,750; through CAFOD, 12 Land Rovers worth \$187,500 and \$312,500 for internal food transport; \$27,758 to UNICEF; \$105,000 to UNDR0 to provide logistics support for RICSU.

Vatican — gave \$17,500 for refugees.

Voluntary Agencies and Other Private Groups

Africa Society (Japan) — gave 1 MT of medications, valued at \$56,000.

Association of Christian Resource Organizations Serving Sudan (ACROSS, a U.K. NGO) — provided medical assistance to refugees in Darfur and Equatoria; operated a Chadian Refugee camp at Enjikoti in Darfur.

Association for Sending Blankets to Africa (Japan) — sent 475,000 blankets.

Band Aid (U.K.) — formed an umbrella organization in Sudan composed of various PVOs and other relief agencies to coordinate the use of relief commodities to help drought victims and refugees. Through Oxfam and UNICEF, Band Aid gave supplies for the Red Sea Hills area, including 16 MT of biscuits, 10 MT of DSM, five MT of vegoil, four Land Rovers, and one MT of medical provisions, all valued at \$62,092; provided another shipment of four Land Rovers, three water trailers, five MT of biscuits, 25 MT of full cream milk, all valued at \$54,348; additionally sent four Land Rovers, four Land Cruisers, 20 MT of blankets, 200 MT of DSM, 300 MT of sugar, 100 MT of vegoil, ten MT of medical supplies, and 1,000 MT of grains, all valued at \$617,840.

Cardinal Leger and His Works (Canada) — donated \$152,000.

Caritas Austria — donated \$31,160 in cash.

Caritas Belgium — gave \$27,700 in cash and vegetable oil, quantity and value not reported.

Caritas France — gave \$36,330.

Caritas Germany, Fed. Rep. — gave \$97,050 in cash and relief supplies valued at \$134,061.

Caritas Internationalis — gave \$19,000 in cash.

Caritas Italiana — gave \$10,000.

Caritas Korea — gave \$19,190.

Caritas Netherlands — gave 12,000 MT of food and \$46,000 in cash.

Caritas Switzerland — gave \$851,733 in cash.

Caritas U.K. — gave \$65,000.

Catholic Welfare Service (Singapore) — gave \$20,000.

Commission on Inter-Church Aid, Refugee and World Service — donated \$200,000 in cash.

Danchurch Aid (Denmark) — gave \$109,090 for distribution of emergency food.

Emergency Medical Doctors (FRG) — provided food and medical services to the Darfur region.

German Agro-Action — provided food and medical services to the Darfur region.

Inter-Aid — provided food and medical services.

Islamic African Relief Agency (IARA) — provided medical services and supplies from Kuwait; has 20 relief centers serving 270,000 people and administers a hospital in Southern Sudan; constructed a village for Eritrean refugees.

MSF — worked with other PVOs and Sudanese staff to provide basic medical, supplementary feeding, water, and sanitation services to Khartoum and Omdurman; maintained a staff of 18 medical personnel in Southern Darfur, where it conducted nutritional surveys and operated supplementary feeding centers.

Otsuka Pharmaceutical Company (Japan) — gave five MT of Ringer's Solution through UNHCR, valued at \$16,000.

Oxfam/UK — provided energy biscuits, pumps, piping and other water equipment, and other relief supplies, all valued at \$537,163; food supplies for relief camps, valued at \$863,824; household utensils for refugees, valued at \$239,196; vegoil, Oxfam biscuits, feeding kits, flour, supplementary food, cost of transportation and feeding program, blankets, clothing, medicines, building material, tools, seeds, and local labor costs, all valued at \$362,614; inland transport of 600 MT of wheat for drought victims, valued at \$32,680; inland transport of 400 MT of grain for drought victims in the Red Sea Hills, valued at \$21,786; \$23,175 for operating costs of field relief personnel, feeding kits, weighing scales, beds and mattresses, and transport costs; water and nutrition programs, food and seed distribution, feeding kits, energy biscuits, vehicles, fuel, medicines, construction materials, plastic sheeting, cloth, and soap, all valued at \$1,936,915. Oxfam also conducts nutritional surveys and serves as nutritional advisor to IARA.

Red Cross and Red Crescent Societies:

Australia — cash contribution of \$173,801

Austria — 100 MT of wheat and 60 MT of wheat flour

Belgium — 100 MT of sugar and 75 MT of DSM

Canada — cash contribution of \$7,799

Denmark — 100 MT of DSM, 150 MT of sugar, 100 MT of vegoil, 80 medical kits, 700 MT of wheat flour; and 20 MT of DSM, valued at \$17,563

Finland — cash contribution of \$141,343; 50 MT of wheat flour, 32 MT of DSM, 24 MT of vegoil, all valued at \$57,971

Germany, Fed. Rep. — sent 800 MT of wheat flour; provided personnel for maintenance and repair of a fleet of trucks, valued at \$118,595; also sent additional food aid, four Land Cruisers, a vehicle workshop, and equipment and furniture.

Japan — 640 MT of wheat flour and 1,500 blankets, valued at \$155,000; 90 MT of DSM, 400 MT of sugar, 150 MT of edible oil, 1,000 MT of wheat flour, and four Land Cruisers

Korea, Rep. of — cash contribution of \$88,339 and 12,000 blankets

Libya — 800 MT of rice and flour

Norway — contributed \$111,111 for the LRCS drought relief program.

Saudi Arabia — distributed rice, sorghum, and other grain, sugar, dates, beans, milk, potatoes, biscuits, edible oil, honey, cheese, tomatoes, blankets, clothing and tents; was

active in food distribution, camp management and health services in the Red Sea Hills.

Sweden — cash contribution of \$28,873 Turkey — cash contribution of \$10,000

United Kingdom — cash contribution of \$1,130; 200,000 ORS packets, and four supplementary medical kits

SCF/UK — maintains an on-going program in Sudan. In December 1984, SCF began the distribution of USAID sorghum from 12 distribution points to hundreds of villages in the Darfur region. This program was expanded to a total of 166,000 MT of sorghum plus additional supplementary foods during the course of FY 1985, of which approximately 100,000 MT of sorghum were distributed. During the year, SCF increased its operational capacity through the addition of logisticians to its staff and the acquisition of transport and storage equipment, valued at \$6.65 million. SCF's transport and monitoring operation expanded to include 137 trucks with a combined off-road capacity of 2,000 MT, a fleet of Land Rovers, an HF radio network linking all field officers, a vehicle repair workshop, 12 prefabricated warehouses, back-up support from two light planes and a staff of more than 200 persons, including 60 expatriates. The monitoring staff included all Arabic-speaking field officers, an agriculturalist, and a demographic survey team. In addition to working with USAID to coordinate and distribute food aid in Darfur, SCF provided health services and supplementary feeding for the displaced Beja tribesmen; provided supplementary food and associated supplies for a children's hospital in the Omdurman camp for displaced persons; and worked with UNICEF, Oxfam, and LRCS/SRC, to coordinate surveys of the number and needs of the Red Sea Hills populations in order to conduct on-going feeding programs.

TOTAL \$253,699,923

Civil Strife

Uganda

Date

July 1985

Location

Kampala

No. Dead

Not reported

No. Affected

Not reported

Damage

Not reported

The Disaster

Continued internal strife in Uganda in the post-Amin years has prevented the recovery of the country's social and economic sectors. The disruption of existing medical services and a serious shortage of supplies hampered the treatment of civilian casualties when a military coup toppled the government of President Obote on July 29.

Action Taken by the Government of Uganda (GOU)

The GOU Ministry of Health and Mulago Hospital officials in Kampala coordinated with USAID to draw up a list of urgently needed medical supplies.

Assistance Provided by the United States Government

U.S. Ambassador Allen C. Davis determined on July 30 that a disaster existed in Uganda as a result of civil strife. He authorized the use of his disaster assistance fund to purchase medicines and equipment needed to care for the injured.

The USAID Mission in Kampala drew up a list of priorities and consulted with AID's Regional Economic, Development, and Service Office (REDSO) in Nairobi regarding procurement procedures. The following supplies were subsequently purchased in Kenya and airlifted to Uganda: 40,000 vials of streptomycin sulphate, 300,000 penicillin tablets, and 6,640 tubes of terra-cortril eye/ear suspension. The U.S. Charge presented the pharmaceuticals to GOU Ministry of Health officials on August 17.

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

The list of medical requirements drawn up by USAID was shared with the Kampala offices of UNICEF and ICRC. Any action taken by these or other agencies was not reported.

Asia and the Pacific



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**Cyclone and
Tidal Waves****Bangladesh****Date**

May 25, 1985

Location

Coastal islands in the Bay of Bengal and the coastal belt of Noakhali, Cox's Bazar, Chittagong, Bhola, and Patuakhali districts

No. Dead

10,000 official estimate (4,300 bodies recovered, 6,800 missing as of June 1985)

People Affected

1.3 million

Damage

102,000 homes destroyed; 35,000 homes partially damaged; 133,000 acres of crops damaged; 120,000 cattle killed. In the three districts of Chittagong, Noakhali, and Feni (70% of affected area) damage and losses to houses, embankments, livestock, and standing crops estimated at \$18.5 million.

The Disaster

In the early morning hours of May 25, a cyclone struck the southern coast of Bangladesh from Patuakhali to Chittagong districts. Winds with gusts up to 161 km/hour generated tidal waves ranging from three meters to eight meters high which assaulted the low lying coast. Small islands recently created by silting in the Ganges River Delta were the hardest hit areas. Inhabited primarily by squatters, migratory laborers, and fishermen living in huts or small boats, these shifting islets known as "chars" were devastated by the tidal waves. Dwellings, together with their inhabitants, were swept into the sea by the force of the storm.

Heavy rains accompanying the cyclone caused severe flooding, particularly in the Camilla and Sylhet districts. In these areas, overflowing rivers forced at least 200,000 people to flee their homes and aggravated a severe drinking water shortage. The start of seasonal monsoon rains shortly after the cyclone added to the flooding and impeded relief efforts in the outlying areas.

Accurate records of the number of people inhabiting the affected coastal areas at the time of the storm did not exist, partly because many were transient farmers who were not registered or counted by local authorities. Therefore it is difficult to estimate the number of people who may have perished.

Action Taken by the Government of Bangladesh (BDG)

A satellite weather-alert system financed and built by the USG alerted the BDG to the approaching storm several days before the cyclone struck. Authorities in Dhaka issued warnings and began evacuating the threatened areas 24 hours in advance. Many inhabitants of the hardest hit islands did not respond to the final alert for immediate evacuation because they did not have access to radios or were reluctant to leave their homes and possessions behind.

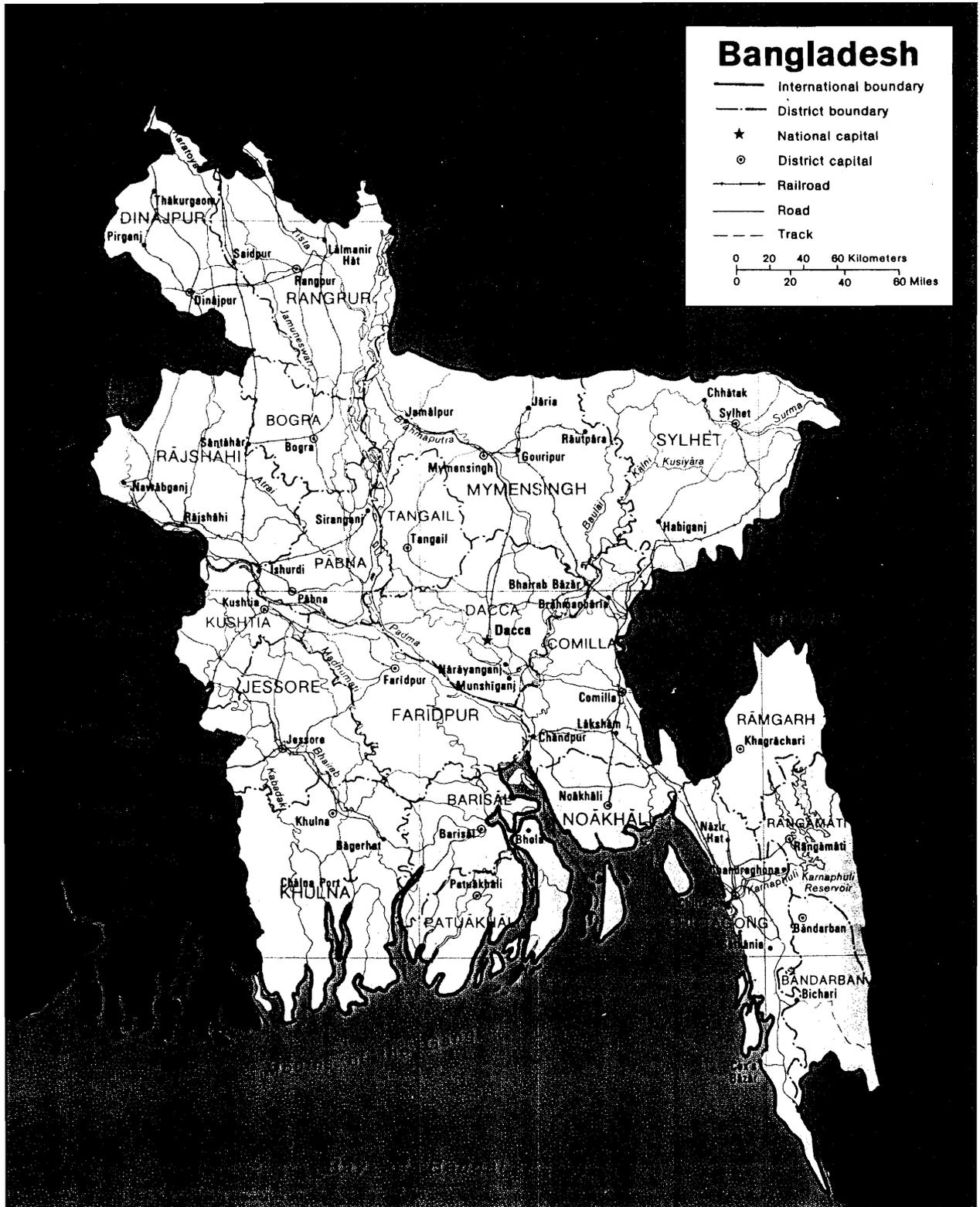
General Ershad, President of Bangladesh, took charge of the relief efforts immediately after the storm. A full-scale search and rescue operation was launched using Navy and Air Force ships and helicopters. The Association of Development Agencies in Bangladesh was appointed to coordinate disaster relief, rehabilitation planning, and information sharing. On a local level, district government authorities assessed damages and needs in affected areas. Fearing a cholera outbreak similar to one that occurred after the devastating 1970 cyclone, medical teams were sent to affected areas to administer cholera inoculations.

On May 28 and May 29 the BDG held a meeting of representatives of nongovernmental agencies and PVOs and indicated that sufficient supplies of food and medicine were available in-country. However, cash donations were accepted by the President's Cyclone Disaster Relief Fund and the BDG External Resources Division. A grant of more than \$300,000 was established by the BDG as initial aid to victims.

During the first weeks following the disaster it became apparent that the devastating cyclone and tidal surge had created a need for emergency food relief for roughly 500,000 people. The BDG announced a plan for responding to the food needs of the survivors and asked the USG to release in-country stocks of wheat controlled by CARE. The food was diverted from development activities to support emergency feeding programs. The most seriously affected victims were provided with 2.7 kg of wheat per family per day, benefiting 17,000 families. A food-for-work program was mounted by the BDG to provide rations of just over 2.7 kg of wheat per laborer per day. For other marginal victims the BDG launched an Emergency Vulnerable Feeding Program (VGF) that distributed a ration of about 7.7 kg of wheat per recipient per week for three to five months. During that period, more than 50,000 families received VGF wheat.

Assistance Provided by the United States Government

On May 27, in response to the BDG request for assistance, Ambassador Howard B. Schaffer issued a disaster declaration and promptly used his disaster assistance authority to obligate \$25,000 to the President's Cyclone Disaster Relief Fund. The donation was used to provide basic needs such as food, water, shelter, and other emergency assistance to cyclone victims.



The acting Director of USAID, Bill Joslin, and several other international representatives toured the most seriously affected areas on May 29. Based on the findings from that trip and a U.N. aerial survey on the previous day, Ambassador Schaffer recommended USAID donate an additional \$300,000.

The funds were made available through the U.S. Mission in Bangladesh to procure needed relief supplies locally and to provide other emergency assistance.

In disasters of this type and magnitude, major health problems due to waterborne disease often result. Over 2,000 new cases of acute diarrhea were reported during the two weeks following the onslaught of the storm. In an effort to prevent the possibility of a serious epidemic of infectious disease in the disaster areas, OFDA approved a grant of \$100,000 to the International Center for Diarrheal Disease Research to be used to improve the availability of its monitoring and treatment services to the cyclone victims.

The USG also recognized a definite need for emergency food distribution to the cyclone victims. In response to an official request from the BDG, the USG authorized CARE to release 10,000 MT of PL-480 Title II in-country wheat originally intended for a development-oriented food-for-work program. Commodities were valued at \$1,580,000 and ocean transport costs were \$700,000.

In response to an appeal by LRCS for \$2.2 million, OFDA authorized the Ambassador of the U.S. Mission in Geneva to execute a grant for \$200,000. Donations were used to provide emergency relief assistance to 240,000 people and to finance an aid rehabilitation program for 4,000 families.

Summary of USG Assistance

Ambassador's Authority donated to the BDG President's Cyclone Disaster Relief Fund	\$25,000
Cash through the U.S. Mission to procure relief supplies and provide other emergency relief assistance	\$300,000
Grant to the International Center for Diarrheal Disease Research for monitoring and treatment of infectious disease	\$100,000
Contribution to LRCS in response to their appeal	\$200,000
Total OFDA assistance	\$625,000

10,000 MT of P.L. 480 Title II commodities	\$1,580,000
Freight cost	\$700,000
Total FFP assistance	\$2,280,000
TOTAL	\$2,905,000

Assistance Provided by U.S. Voluntary Agencies

ADRA — gave a large quantity of clothing, value not reported.

ANRC — contributed \$150,000 to the LRCS appeal.

CARE — made an immediate cash contribution of \$2,500 from local resources to purchase water containers and clothing as well as tools for burials; sent an assessment team to review damages in Cox's Bazar area, Urir Char, and Sandwhip; and administered the distribution of in-country stocks of USG-donated food.

CRS — contributed \$25,000 in cash to Caritas Bangladesh.

CWS — provided \$5,000 in cash and supplied 500,000 water purifying tablets, value not reported.

SCF/US — contributed \$10,000 through its local office and launched an appeal for donations.

WVRO — gave \$50,000 for food, supplies, and shelter.

TOTAL \$242,500

Assistance Provided by the International Community

International Organizations

EEC — contributed \$375,000 in cash for food, medical aid, and clothing through MSF and LRCS.

LRCS — issued an appeal on behalf of the Bangladesh Red Cross for \$2.3 million.

OPEC Fund for International Development — contributed \$100,000 for medicine and other emergency materials.

UNDP — gave an emergency grant of \$30,000.

UNDRO — gave an emergency grant of \$30,000.

UNICEF — sent a representative of the U.N. Inter-Agency Disaster Team for on-site assessment.

WCC — provided \$30,000 in cash through the Christian Commission for Development, Bangladesh.

WFP — provided 2,600 MT of wheat for the Vulnerable Group Feeding Program valued at \$546,000.

WHO — gave an emergency kit and medicine for diarrhea control, valued at \$3,850.

Governments

Australia — contributed \$70,422 to the Bangladesh Red Cross, \$70,422 through Australian NGOs working in Bangladesh, and gave a cash grant of \$64,433 through LRCS.

Belgium — relief items through Freres des Hommes valued at \$16,129.

Canada — contributed \$147,060 in cash through the Canadian Red Cross; \$20,000 through its embassy in Bangladesh; and local personnel support from a CIDA/CARE rural maintenance project.

China, People's Rep. — \$50,000 in cash through the Bangladesh Red Cross

Denmark — \$13,794 in cash through LRCS

Germany, Fed. Rep. — \$132,235 in cash through LRCS, and 20 outboard motors valued at \$16,129

Finland — \$111,176 in cash in response to the LRCS appeal.

France — \$52,632 in cash, and 3 MT of protein biscuits, value not reported

India — contributed food, helicopters, other humanitarian aid, and \$755,857 in cash. Private individuals gave an additional \$1,890.

Ireland — \$10,000 in cash for emergency relief and \$20,000 for rehabilitation

Italy — cash grant and emergency relief supplies valued at \$197,044; 40 MT of medicines, disinfectant and food for children, all valued at \$394,088

Japan — \$1.2 million in cash; and members of the Japan Lower House contributed \$4,000.

Netherlands — \$144,700 in cash

New Zealand — \$25,649 in cash through LRCS

Norway — \$113,725 in cash through LRCS; and \$55,555 through other NGOs

Pakistan — donated relief goods valued at \$632,511 and \$632 in cash.

Saudi Arabia — \$4 million in cash plus 30,000 MT of wheat, 5,000 food parcels, 30 MT of medical supplies, and 12,000 parcels of tents and blankets; value not reported

Singapore — contributed 100,000 bottles of edible oil, value not reported.

Sweden — \$149,588 in cash through LRCS and \$1.1 million through the Swedish International Development Authority

Switzerland — \$768,000 in cash through NGOs

Thailand — contributed 500 MT of rice, value not reported.

United Kingdom — \$62,500 in cash through Oxfam (see Voluntary Organizations below, Oxfam)

Voluntary Organizations

Australia Catholic Relief — donated \$13,160 in cash through Caritas Bangladesh.

Australia Red Cross — \$40,023 in cash through LRCS

Austria Red Cross — \$47,059 in cash through LRCS

Belgium Red Cross — \$1,614 in cash through LRCS

Canada Red Cross — \$118,678 in cash through LRCS

China, People's Rep., Red Cross — \$50,882 in cash through Bangladesh Red Cross

Cardinal Leger and His Works, Canada — \$7,600 in cash

Caritas Australia — \$41,500 in cash	Liechtenstein Red Cross — \$9,137 in cash through LRCS
Caritas Austria — \$10,000 in cash	Malaysia Muslim Missionary Organization — \$20,000 in cash
Caritas Canada — \$770 in cash	Monaco Red Cross — \$2,468 in cash through LRCS
Caritas Belgium — \$10,000 in cash	Muslim Welfare Organization of Malaysia — contributed \$4,040 in cash.
Caritas England — \$23,200 in cash	Netherlands Red Cross — \$80,537 in cash through LRCS
Caritas France — \$51,900 in cash	New Zealand Red Cross — \$6,224 in cash through LRCS
Caritas Germany, Fed. Rep. — \$95,250 in cash	Norway Red Cross — \$27,777 in cash through LRCS
Caritas Italy — \$50,000 in cash	Oxfam/UK — provided relief supplies valued at \$11,227; contributed \$62,500 (donated by the U.K. government) to a joint relief and rehabilitation program with SCF/UK; and provided shelter for 1,000 families valued at \$105,300, in conjunction with SCF/UK.
Caritas Japan — \$19,900 in cash	Qatar Red Crescent — \$4,961 in cash through LRCS
Caritas Netherlands — \$253,170 in cash	SCF/UK — contributed \$62,500 to a joint relief and rehabilitation program with Oxfam/UK and participated in a shelter project in conjunction with Oxfam.
Caritas Spain — \$15,000 in cash	Scottish Catholic International Aid Fund — donated \$10,000 in cash.
Caritas Switzerland — \$38,540 in cash	The Shipbuilding Foundation Ryakhi Sasakana (Japan) — donated \$40,000 in cash.
Catholic Fund For Overseas Development (CAFOD) — \$92,800 in cash	Soviet Union Red Cross — donated 5,000 meters of cloth, 100 tents, and 600 blankets through the Bangladesh Red Cross; value not reported.
Czechoslovakia Red Cross — \$23,669 in cash through LRCS	Spain Red Cross — \$10,176 in cash through LRCS
Developpement et Paix, Canada — \$22,800 in cash	Sweden Red Cross — \$73,633 in cash through LRCS
Denmark Red Cross — \$45,455 in cash through LRCS	Switzerland Red Cross — \$39,216 in cash through LRCS
Finland Red Cross — \$78,431 in cash through LRCS	Thailand Red Cross — \$1,091 in cash through LRCS
France Red Cross — \$52,392 in cash through LRCS	Turkey Red Cross — \$10,176 in cash through Bangladesh Red Cross
Germany, Fed. Rep., Red Cross — \$96,774 in cash through LRCS	United Kingdom Red Cross — \$129,167 in cash
Greece Red Cross — donated one MT of pharmaceutical material, value not reported.	
Hungary Red Cross — medicine valued at \$19,745	
Iceland Red Cross — \$1,961 in cash through LRCS	
India Red Cross — \$45,882 in cash through LRCS	
Indonesia Red Cross — \$1,961 in cash through LRCS	
Ireland Red Cross — \$51,373 in cash	
Italy Red Cross — \$5,180 in cash through LRCS	
Japan Red Cross — gave cash, sheets, and clothing valued at \$257,408.	
Korea, Rep. of, Red Cross — \$5,039 in cash through LRCS	
Kuwait Red Crescent — \$6,809 in cash through LRCS	
	TOTAL \$13,858,576

Fire**Burma****Date**

April 2, 1985

Location

Rangoon

No. Dead

None reported

No. Affected

50 injured, 4,000 homeless

Damage

Total value of destroyed property estimated at \$7.3 million

The Disaster

On the evening of April 2, a fire broke out in a low-income residential neighborhood in Rangoon. Fanned by strong winds, the fire spread quickly through the township of Mayango, destroying over 600 homes and buildings, including two Buddhist monasteries, two cooperative stores, the local People's Council office, and a government central telephone exchange. Although no loss of life was reported, approximately 50 people received injuries requiring medical attention.

While it did not match the Mandalay fire of 1984, this was the worst fire in Rangoon in 1985 and ranks as the second-largest fire in the city during the past ten years. Total damages were estimated at \$7.3 million; private property losses were set at \$350,000, while the value of the telephone exchange was reported as \$6.9 million. Burmese cities and towns are particularly vulnerable to fires during the February to May dry season due to the combination of hot, dry weather, congested urban areas, flammable construction materials for houses (primarily teak and bamboo with thatched roofs), and the widespread use of open fires and kerosene lamps. Often, private hoarding of kerosene and gasoline heightens the danger of fire.

Action Taken by the Socialist Republic and the Union of Burma

Burmese authorities reacted quickly to the fire and to the immediate needs of the victims. Four temporary shelters were set up in nearby government schools and temples. Meals, medical care, and other necessities were provided to the homeless in the shelters. The Mayangon Township Disaster Coordinating Committee directed the relief activities.

Assistance Provided by the United States Government

On April 6, U.S. Ambassador Daniel A. O'Donohue determined that the Rangoon fire disaster warranted USG assistance. The Ambassador exercised his disaster assistance authority and presented the chairman of the Burma Red Cross Society with a check for \$18,371. This money was given to the Mayangon Township Disaster Coordinating Committee and cash contributions were distributed on a household basis for the immediate needs of the victims.

TOTAL \$18,371

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

Cyclones

Fiji

Date

Cyclone Eric — January 17-18, 1985

Cyclone Nigel — January 19-20, 1985

Cyclone Hina — March 17, 1985

Location

Western and Central divisions, especially western and southern Viti Levu

No. Dead

Cyclones Eric and Nigel — 28; Cyclone Hina — 1

No. Affected

Cyclones Eric and Nigel — over 100,000 people affected; an estimated 30,000 homeless. Cyclone Hina — 20,000 evacuated

Damage

Cyclones Eric and Nigel — Widespread damage to housing (21,846 homes totally or partially destroyed), schools, and other public and commercial buildings; power, transport, and communications systems; and crops. Building insurance claims reached \$73 million. Cyclone Hina — extensive damage to subsistence and commercial crops in Sigatoka Valley. Property damage estimated at \$3 million.

The Disaster

Cyclone Eric slammed into the main island of Viti Levu on the evening of January 17, the first of several cyclones to hit Fiji in an exceptionally severe season. The storm followed a southeasterly course, passing over the capital city of Suva before moving on to the country's eastern Lau Group. Described as one of the worst storms ever to hit Fiji, the storm's fury was at its peak as it crossed western Viti Levu. The Nadi and Lautoka areas were hardest hit, but damage was extensive throughout the southern half of the main island.

Before Fiji could begin to recover from Eric's onslaught, a second cyclone named Nigel struck the country on January 19 and January 20, with nearly the same force as Eric and following a similar path. As with Eric, the Lautoka area took the brunt of the storm.

The death toll mounted to 28 in the wake of the twin storms (17 in the Western Division, six in the Central Division, and five in the Eastern Division). With entire villages virtually demolished in some parts of Viti Levu, the number of homeless reached an estimated 30,000. Approximately 80% of the more than 21,000 homes damaged or destroyed were in the Western Division. Extensive damage to the electrical system, estimated at \$1.5 million, left most of Viti Levu without electrical power for several days. Communications between Suva and western Viti Levu were also disrupted, and the international airport at Nadi was forced to close briefly. Crop damage was substantial in both the Western and Central divisions. The year's production of sugar, Fiji's principal export crop, was expected to be down by 10% as a result of storm damage to stored and standing cane.

Just as the cyclone season was nearing its end, two more storms inflicted renewed but less severe damage on the Fiji Island group. On March 5 and 6, Cyclone Gavin passed close to Fiji, affecting many parts of the country with gale force winds and flooding. This storm was followed by Cyclone Hina on March 17. A powerful storm with sustained winds of up to 140 knots in the center and gusts of up to 160 knots, Cyclone Hina fortunately veered in a southerly direction away from Viti Levu as it approached Fiji. Most of the country experienced heavy squalls and gale force winds of up to 50 knots as Hina passed by.

One death was attributed to Cyclone Hina, and crop losses were substantial in the Sigatoka Valley.

Damage to buildings and infrastructure, however, was generally slight. Again, the Western and Central divisions were the most seriously affected, mainly by flooding. Sensitized by the three earlier cyclones, the threatened population responded quickly when the alert was given. Personal and property damage was thus kept to a minimum. Some 20,000 persons sought refuge in evacuation centers until the storm had passed.

Action Taken by the Government of Fiji (GOF) and Non-Governmental Organizations

The GOF began aerial and ground surveys of the cyclone devastated areas in Viti Levu on January 18. The arrival of Cyclone Nigel the following day postponed completion of the damage assessment and added to the task. Ships were also dispatched to the outer islands to make an assessment and deliver relief supplies.

The GOF's Emergency Services Committee (EMSEC) met regularly during the initial phase of the disaster to coordinate relief efforts. Relief centers were set up throughout the affected area to accommodate the homeless and serve as feeding stations. When the evacuation sites were closed toward the end of January, cyclone victims returning to their homes were provided with shelter materials and food supplies as needed.

On January 22, GOF officials outlined to prospective international donors the longer-term rehabilitation needs which the government had identified. These included a six-month food-rationing project for 10,000 households to be supplied, in part, by a faster-yielding vegetable production program mounted by the Directorate of Agriculture; a rehabilitation program for approximately 10,000 shelter units; and improved internal communications, particularly between the national center for weather monitoring and forecasting in Nadi and the capital city of Suva. Administration of the relief and rehabilitation program was transferred from EMSEC to the Prime Minister's Relief and Rehabilitation Committee on January 31.

At the request of the GOF Permanent Secretary for Agriculture, a research fellow with the Disaster Preparedness Project of the Pacific Islands Development Program arrived in Fiji on January 28 to



High winds whipped through villages and towns.

review EMSEC's procedures manual and to assist the GOF in assessing the impact of the cyclones on Fiji's agriculture.

With the arrival of Cyclone Hina on March 17, the evacuation sites designated by EMSEC were again used as a precautionary measure. The GOF officially requested external assistance in coping with the renewed damage.

The Fiji Red Cross (FRC) dispatched teams to the Lautoka and Nadi areas after Cyclones Eric and Nigel to distribute relief items (clothing, blankets, and soap) in the evacuation centers. The FRC also launched a local appeal for cash and clothing.

Other local organizations providing disaster assistance included the following:

Association of Banks of Fiji — \$14,000 in cash.

Fiji Muslim League — \$2,300 in cash.

Fiji Sixes Charity Fund — cash donations totaling \$92,000.

The Fiji Times — \$9,200 in cash.

Hare Krishna Movement — contributed to a feeding program.

Rotary International — unspecified donation.

Shell Oil Company — \$9,200 in cash.

Assistance Provided by the United States Government

Based on reports of the severe damage inflicted by Cyclone Eric, U.S. Ambassador C. Edward Dillery determined on January 18 that a state of disaster existed in Fiji. He authorized the release of \$25,000 from the Disaster Assistance Account to be donated to the Prime Minister's Hurricane Relief Fund.

In view of the urgent need for temporary shelter, and in response to the Mission's request, OFDA arranged with the DOD to airlift 2,000 tents and flies, 20 tent repair kits, and 240 rolls of plastic sheeting from AID's disaster stockpile in Guam. The items arrived in Fiji on January 21 and January 22. In addition, OFDA provided 2,000 five-gallon plastic water containers purchased in Australia and delivered to Fiji over the period of January 24 to January 31. When aerial inspections revealed more severe damage to housing than originally estimated, OFDA released another 460 tents from the Singapore stockpile, along with an additional 200 rolls of plastic sheeting to assist the GOF's school rehabilitation program.

OFDA also supplied equipment requested by the GOF Ministry of Health to help prevent an outbreak of dengue fever and Ross River fever (both endemic in Fiji) and to reduce the public health hazard posed by the increased presence of rats in the cyclone-damaged areas. Two vehicle-mounted sprayers and a supply of rat poison were purchased in the U.S. and airlifted to Fiji on February 2.

U.S. Embassy and USAID personnel closely monitored the disaster situation and the USG-assisted relief effort. Ambassador Dillery and the Mission Disaster Relief Officer (MDRO) made an aerial inspection of Viti Levu by an EMSEC chartered helicopter on January 21. On the same day, an OFDA disaster officer arrived in Fiji to supervise the receipt of USG-donated relief items and work with EMSEC in their distribution. The MDRO joined GOF officials on January 30 in making an extensive aerial surveillance to assess distribution and utilization of USG-donated shelter supplies.

Following Cyclone Hina, Ambassador Dillery made a second disaster determination on March 18. He did not exercise his disaster assistance authority; however, in response to the GOF request for additional rolls of plastic to replace that supplied earlier and damaged during Cyclone Hina, OFDA authorized the release of 200 rolls of sheet-



Cyclone damage to the village of Ravitaki on Kadavu, Fiji

ing from the Guam stockpile. The plastic, which arrived in Fiji on March 25, was required mainly to keep classrooms in the western division serviceable while undergoing rehabilitation.

Summary of USG Assistance

Ambassador's Authority contributed to the Prime Minister's Hurricane Relief Fund	\$25,000
Increase in Ambassador's Authority for local transport of USG relief supplies	\$2,339
Regional purchase of 2,000 water jugs	\$7,316
DOD airlift of tents and plastic from Guam	\$288,505
Additional cost of airlifting relief supplies from stockpiles	\$215,823
Value of tents, plastic sheeting , and tent repair kits	\$258,230
Pesticides, sprayers, and air transport	\$12,504
Travel and administrative expenses of a disaster relief officer	\$1,200
TOTAL	\$810,917

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

Continental Airlines — donated cargo space for the transport of relief supplies.

Salvation Army — gave \$24,000 in cash for food and shelter programs.

TOTAL \$24,000

Assistance Provided by the International Community

International Organizations

EEC — provided grant money totaling \$1,091,000 to assist the GOF's food rationing and home repair programs.

South Pacific Bureau for Economic Cooperation — \$27,000 in cash to the Prime Minister's Relief and Rehabilitation Fund (PMRRF)

South Pacific Commission — \$4,500 in cash to the PMRRF

UNDRO — \$20,000 in cash to the PMRRF

Governments

Australia — airlift of shelter material (1,000 tarpaulins and heavy duty plastic sheeting); army engineering reconnaissance team; transport services; airlift of water containers and other relief supplies donated by Australian non-government organizations; and a cash grant to the PMRRF As of February 19, total assistance valued at \$1.8 million also included three airlifts containing 50 refrigerators (to store vaccines and drugs), 30 outboard motors (to enable nurses to reach isolated areas), 5,000 bedsheets, 2,000 towels, 1,450 liters of malathion, and medical and pharmaceutical supplies.

France — airlifted relief commodities including 2.2 MT of plastic sheeting, four military tents, 60 beds with linens, 4.8 MT of food, three tarpaulins, and 60 meters of rope, value not reported.

India — \$45,500 worth of medical supplies

Japan — \$105,000 in cash to the PMRRF

Malaysia — \$10,100 in cash to the PMRRF

New Zealand — provided Orion aircraft (with an 18-man detachment of the Royal New Zealand Air Force) for aerial surveys; helicopter services for relief work; Wellington weather reporting; donated

clothing; gave cash grants to the PMRRF totaling \$131,450, electrical equipment (24.5 km of power lines and 25 generators), valued at \$29,744, for the Fiji Electricity Authority, and the pledge of additional electrical repair assistance, valued at \$26,607.

Papua New Guinea — \$27,000 in cash to the PMRRF

Sri Lanka — one MT of tea, value not reported

Tahiti — \$30,000 in cash to the PMRRF

Tonga — \$21,100 in cash to the PMRRF

United Kingdom — donated \$55,000 in cash to the PMRRF and lent military tents and four large tents marquees currently stored in Fiji.

Voluntary Agencies and Other Private Groups

Bushell's Tea (Australia) — \$12,000 worth of tea

East Trade Center (China, Rep. of) — \$30,000 in cash to the PMRRF

Fiji Community in Melbourne — \$9,000 in cash

Fiji Community in North America — collected clothing and other supplies which were shipped to Fiji via donated cargo space on Canadian Air Pacific, value not reported.

Qantas Airlines — donated \$9,000 in cash to the PMRRF and cargo space for the transport of relief supplies.

Watties Food Processors of New Zealand — delivered \$4,500 worth of canned food via cargo space donated by the Reef Shipping Company.

TOTAL \$3,488,5011

Accident

India

Date

December 2-3, 1984

Location

Bhopal, Madhya Pradesh State

No. Dead

1,408 (official); 2,500 (unofficial)

No. Injured

70,000 to 100,000 with various types of respiratory, ophthalmological, and neurological complaints

No. Affected

200,000 (Government of India estimate)

Damage

Approximately 2,000 dairy cattle, goats, and buffaloes killed

The Disaster

During the night of December 2, the Union Carbide (India) pesticide plant in the northeastern suburbs of Bhopal became the scene of what is now described as the worst industrial accident ever. Sometime during that evening, temperatures and pressure began to rise to dangerous levels in a storage tank containing methyl isocyanate (MIC), a highly volatile and toxic chemical used in the manufacture of insecticides. What reactions caused the spiraling rise could not be immediately determined, but when safety back-up systems failed, some 40,000 kg of the deadly gas escaped and spread in a fog-like cloud over a large and densely populated area. Because of low surface and air temperatures and the density of the gas (heavier than air), the cloud moved slowly and remained close to the ground. The effect was immediate. Within minutes, hundreds of humans and animals living in the path of the cloud died of acute cardiopulmonary edema (accumulation of fluid in the lungs), and thousands of others suffered varying degrees of respiratory, nervous, and ocular damage depending of their proximity to the vapor. The fog was especially damaging to the inhabitants of several slum colonies located close to the plant.

For hours afterward, people ran through the streets in blind panic in an attempt to escape the spreading cloud. The emergency rooms of the city's hospitals were soon crowded with suffering people. Approximately 25,000 were treated in the three days following the disaster, and treatment continued at the rate of about 500 people per day for nearly a month afterward.

The paucity of toxicological data on MIC hampered the efforts of medical personnel to respond to the emergency and left many unanswered questions about the long-term physiological effects on those exposed to the chemical. By December 10, hospital admissions had dropped to about 50 a day. The superintendent of Bhopal's Hamidia Medical College Hospital was quoted by the *Times of India* as saying, "The worst is over, the rate of death is going down, and the victims are responding to treatment." Although some medical experts feared an increase in the incidence of bacterial and viral pneumonia, deaths from those diseases did not markedly rise above normal levels for that time of year.

In all, some 200,000 people were affected by the disaster, according to government estimates. The death toll quickly mounted as civilian and military personnel, equipped with gas masks, began combing through the affected neighborhoods. The official number (based on death certificates) reached 1,408. However, local medical experts, voluntary agencies on the scene, and the more reliable media put the toll closer to 2,500, based on the sale of coffins and shroud material. The actual number may never be known as many of those who died were transient laborers with or without their families.

Assistance Provided by the Governments of India (GOI) and Madhya Pradesh (GOMP)

By dawn December 3, civil authorities had re-established order and begun a massive rescue operation. All schools, colleges, and other establishments were closed, and teams of doctors and other medical and paramedical personnel were rushed to the scene from all over India. An army hospital in the locality was also opened to the civilian population and military personnel and ambulances were pressed into service. By December 6, 350 doctors, 400 medical students, and hundreds of nurses and paramedics from the military and local voluntary agencies were working in Bhopal's hospitals. Indian Prime Minister Rajiv Gandhi visited Bhopal on the afternoon of December 3 and ordered the GOI Ministry of Health and Ministry of Petroleum and Chemicals to oversee the relief operation and determine the toxic effects of MIC exposure.

The Regional Research Laboratory at Bhopal, meanwhile, sought recommendations from toxicologists throughout India on ways to neutralize the remaining MIC gas in the Union Carbide plant and to measure the residual pollution. Tests made on the drinking water in Bhopal a few days after the accident showed no signs of contamination. The method finally chosen to detoxify the stored MIC was to convert it to pesticides; this procedure was successfully carried out from December 12 through December 17 by Union Carbide workers under the supervision of Indian scientists. Though the neutralization process was not expected to pose a danger to the population in the vicinity of the plant, the state government arranged to evacuate all residents wishing to leave the area and to accommodate them in nine camps established on the outskirts of Bhopal. Approximately 100,000

people were voluntarily evacuated during that period.

During the month following the accident, the GOI authorized the release of approximately ten million Rupees (\$825,082) in ex-gratia payments to about 14,000 victims (Rs. 10,000 for the loss of a breadwinner and Rs. 1,000 to the injured). In-kind relief amounting to Rs. 50 million (\$4,125,413) was provided to approximately 100,000 victims and their families through a relief committee chaired by the state's Chief Minister. A team of legal experts began litigation in a New York Federal Court with representatives of Union Carbide (USA), which holds controlling interest in the Indian company.

Local public and voluntary agencies played a vital role throughout the emergency by providing transportation, cooking and distributing food, setting up tents, and disposing of the dead. At the request of the central and state governments, the Indian Red Cross (IRC) mobilized 100 volunteers and aided 5,000 disaster victims in five relief camps for a period of 30 days. As of December 14, the IRC had distributed 12 MT of high protein biscuits, 6.5 MT of skim milk, some 20,000 blankets, and 46,500 pieces of clothing, and had turned over 200 tents from IRC stockpiles to the GOMP. In addition, 12 mobile medical units of the IRC distributed medical supplies, including antibiotics, ophthalmic ointments, other medicines, and vitamins.

Assistance Provided by the United States Government

In response to the GOI request for USG assistance, the U.S. Charge d'Affaires, Gordon L. Streeb, made a disaster determination on December 6 and authorized the use of \$25,000 from the International Disaster Assistance Account as a contribution to the Prime Minister's relief fund. The following day, the Mission dispatched a four-person Disaster Area Assessment Team to Bhopal for an on-site survey. After conferring with government officials, the team concluded that the GOI and the GOMP had the situation well in hand, but recommended that a team of experts from the U.S. be made available to advise on the toxic effects of

MIC and appropriate treatment, as well as on ways of dealing with the environmental and health aftereffects. The Mission also established a Mission Disaster Relief Working Group to coordinate the USG response. The Working Group, headed by the Mission Director, met frequently throughout the crisis and evaluated the need for U.S. assistance.

With operating expenses funded by OFDA, a four-person team from the Centers for Disease Control arrived in India on December 10. The team, consisting of epidemiologists and a pulmonary physiologist, spent three days in Bhopal consulting with physicians and civil authorities and examining patients still ill from the effects of MIC. Upon returning to Delhi on December 16, the team delivered a report of observations and recommendations to the Ministry of Health.

On December 7, the GOI Ministries of Petroleum and Chemicals and Health circulated a list of needed medical supplies and equipment which had been drawn up by the Hamidia Medical College Hospital and GOMP medical authorities. Though it was ultimately determined that U.S. assistance was not required in procuring medical items, the Mission remained ready to respond to such requests and, with OFDA assistance, coordinated a search for sources of supplies and equipment.

The USG also provided food assistance to the disaster victims. Through the Diocese of Bhopal, CRS diverted 26.5 MT of P.L. 480 Title II foods from its regular program. The commodities, valued at \$10,700 and made available on a non-replacement basis, consisted of 18 MT of wheat, three MT of vegoil, 5.2 MT of corn-soy mixture, and 0.3 MT of NFD. M.

On January 20, OFDA authorized a grant of \$165,000 to LRCS in response to the League's appeal on behalf of the Indian Red Cross.

On January 30, in the aftermath of the Bhopal tragedy, AID Administrator M. Peter McPherson announced a pilot project under which A.I.D. and U.S. private sector corporations would help developing countries prevent and respond to industrial accidents. This project was to include trial services in the Middle East in the spring of 1985 before expanding coverage to the rest of the world. Mr. McPherson, in announcing the venture, said, "The recent lethal gas leak disaster in a pesticide plant in Bhopal tragically underscores the urgent

need for sound environmental management of industrial facilities in developing countries, especially in emergency response management."

Summary of USG Assistance

Ambassador's Authority	\$25,000
Travel and administrative expenses of CDC team	\$18,000
Grant to LRCS	\$165,000
Total OFDA funds	\$208,000
26.5 MT of P.L. 480 Title II commodities	\$10,700
TOTAL	\$218,700

Assistance Provided by U.S. Voluntary Agencies

CARE/Madhya Pradesh — made its office available as a base of operations for the U.S. Mission Disaster Assessment Team and facilitated the team's contacts with local, civil, and medical authorities.

CRS — diverted 26.5 MT of Title II commodities from its regular program for emergency feeding (see USG Assistance).

CWS/LWR — an affiliate, Church Auxiliary for Social Action (CASA), sent several teams to Bhopal, where they remained for ten days distributing food, blankets, and medical supplies; value not reported.

WVRO — provided emergency medicine value at \$16,000

TOTAL \$16,000

Assistance Provided by the International Community

International Organizations

LRCS — appealed to national societies to respond to the relief needs identified by the Indian Red Cross, which included tents, blankets, clothing, medical units (without medicine).

UNICEF — 1,000 oxygen masks with portable cylinders; ten foot-powered and ten electrically powered aspirators; 20,000 disposable syringes; 30,000 hypodermic needles; and 2,000 venesection tubes; all valued at approximately \$22,000.

WFP — 160 MT of NFDM to the GOMP and the Indian Red Cross, with a total value of \$24,600, including ocean freight. The NFDM was reconstituted free of charge by the Indian Dairy Corporation's facility at Bhopal.

Governments

Canada — \$75,820 grant to the PVO Operation Eyesight Universal of Canada for establishing a permanent eye-care center for the victims of eye injuries in partnership with local PVOs; also, \$50,000 in cash through LRCS.

France — a consignment of ophthalmic ointments, value not reported.

Germany, Fed. Rep. — an airshipment of medical supplies delivered to the Hamidia Medical College Hospital and services of a toxicologist for a ten-day period who advised the hospital staff; all valued at approximately \$50,000.

Netherlands — medical equipment to the India Ministry of Health, valued at \$43,662.

Norway — grant to the Indian Red Cross through the Royal Norwegian Red Cross, value not reported.

Switzerland — grant to the Indian Red Cross through LRCS, value not reported.

United Kingdom — medicines valued at \$289,500 in response to the GOI Ministry of Health's list of requirements. The Royal Commonwealth Society for the Blind dispatched two representatives on December 9 to assist the Indian chapter working in Bhopal.

Voluntary Agencies

Switzerland Red Cross — \$19,380 in cash for a supply of medicine.

TOTAL \$574,962

**Typhoon
Agnes**

Philippines

Date
November 3 – 6, 1984

Location
Central Philippines – Capiz,
Leyte, Negros, Panay,
Palawan islands

No. Dead
862; 191 injured, 217
missing

No. Homeless
85,205 families

No. Affected
1,495,738

Damage
Total damage came to
\$96,400,000, with 176,272
houses totally destroyed.
115,296 partially destroyed;
16,299 boats destroyed

Damage Summary:
Public works/government
property – \$10,200,000
Roads and bridges –
\$2,600,000
Private property –
\$6,800,000
Crops/livestock/fishery –
\$76,800,000

The Disaster

A little more than two months after Typhoon Ike spent its fury on the Philippines, another major typhoon, Agnes (Philippine code name “Undang”) headed toward the country. It entered the Philippines on November 3, and followed a northerly course at a speed of 22 km/hour. Center winds were estimated at 205 km/hour. Typhoon Agnes hit land on November 5 in eastern Samar province, causing heavy damage to coconut and banana trees and houses. The typhoon then skirted northern Leyte province, the northern tip of Cebu, northern Panay island, and the Busuanga islands. It finally moved off to the South China Sea on November 6.

Typhoon Agnes’ destructive winds spawned tidal surges, which caused considerable damage, particularly in the province of Capiz. Roads and bridges were made impassable. Power poles and lines in ten provinces were knocked down completely cutting off electric service to 104 municipalities and rural areas. Houses and other buildings were totally ruined and a wide swath of staple crop lands was destroyed. More than 85,000 families were left homeless and casualties numbered more than a thousand.

Action Taken by the Government of Philippines (GOP)

Soon after the typhoon whipped through, President Marcos declared a state of calamity in the affected areas of the central Philippines. The Ministry of Social Services and Development and the Philippine National Red Cross spearheaded national relief operations. They distributed food and clothing and set up temporary housing. The Philippine Armed Forces supplied air, sea, and land transport to bring relief commodities to the victims. The National Food Authority and the Ministry of Health worked with GOP relief agencies in meeting the basic requirements of food and medicine for the emergency. In addition to these government agencies, civic, private, and religious organizations played a vital role in alleviating the plight of disaster victims.

Assistance Provided by the United States Government

On November 8, U.S. Ambassador Stephen W. Bosworth determined that Typhoon Agnes had caused a major disaster; he provided a check for \$25,000 to the Governor of Capiz for immediate disaster relief. In addition, OFDA provided the U.S. Mission \$1,000 to buy and airfreight 400 5-gallon water containers to the province of Capiz on Panay Island from elsewhere in the Philippines.

Assessments of the area revealed that housing and school reconstruction, restoration of electrical power, and distribution of food aid were top priorities. Accordingly, OFDA first made a grant of \$40,000 to the Philippine Business for Social Progress (PBSP) for a housing construction program managed by the Pagtambayayong Foundation (PF) for 700 families in Cebu province. This grant supplemented \$25,000 of PBSP’s own funds. PE, the implementing agency, stresses relief through self-help and, therefore, involved the beneficiaries in the planning, implementation, and accounting phases of the project.

OFDA next provided \$500,000 to help the GOP’s National Electrification Administration re-establish electric services. Almost 10,000 power poles were knocked down by the storm. Of these, more than 5,000 were damaged beyond repair. About 50% of the cost of the project was earmarked for the purchase of new poles and most of the balance went for labor costs. The remainder paid for supplies such as hand tools, vehicle fuel, insulators, and emergency repair of warehouses.

CARE outlined a school repair program similar to the one it had implemented in the wake of Typhoon Ike two months previously. Typhoon Agnes mainly damaged the three-classroom type of primary school building. CARE proposed repairing 1,278 classrooms buildings which had roof damage. The total cost came to \$521,603; \$184,603 remaining from the Typhoon Ike disaster was transferred to help pay for this project, while OFDA provided the additional \$337,000.

Finally, the AID Food for Peace (FFP) Office approved a CRS request for rice and NFDN for a three-month emergency feeding program. A total of 2,500 MT of rice and 525 MT of NFDN was distributed. The cost of the rice was \$775,000. Its ocean transport cost \$362,500. The NFDN came to \$340,900, with ocean freight costs totaling \$76,100.

Summary of USG Assistance

Ambassador's Authority — check to relief fund	\$25,000
Grant to PBSP for housing repair project	\$40,000
400 5-gallon water containers and air freight	\$1,008
Grant to GOP for restoration of electric power	\$500,000
Grant to CARE for school repair project	\$521,603
Total OFDA assistance (includes \$89,500 obligated in FY 1984)	\$1,087,611
Total FFP assistance	\$1,554,500
TOTAL	\$2,642,111

Assistance Provided by U.S. Private Voluntary Organizations

CARE — donated \$12,300 for water tanks and repair of schools, and implemented a school repair project with OFDA-donated funds.

CRS — provided \$65,000 for shelter, food, and medicine, and distributed 3,025 MT of U.S. Title II food.

TOTAL **\$77,300**

Assistance Provided by the International Community

Norway — donated \$79,096 in cash to UNICEF for nutrition, water supply, and health services.

UNDP — provided \$30,000 through UNICEF

UNICEF — provided \$50,000 in cash for medicine.

TOTAL **\$159,096**

Cyclone

Solomon Islands

Date

March 14-16, 1985

LocationUtupua, Vanikolo, and
Tikopia Islands**No. Dead**

None reported

No. AffectedApproximately 650 persons
homeless.**Damage**131 houses, one clinic, and
12 classrooms were
destroyed; numerous other
structures sustained severe
damage.**The Disaster**

The small islands of Utupua, Vanikolo, and Tikopia in the southeastern Solomon Islands were seriously affected by the strong winds and rains of Cyclone Hina from March 14 through March 16. Because of the remoteness of the islands and poor communications, the government did not receive a damage assessment until April 9. Although no casualties were reported, there was considerable damage to dwellings, health clinics, and schools.

Action Taken by the Government of the Solomon Islands (SIG)

As a result of a damage survey conducted by the National Disaster Council, the SIG declared the islands a disaster area and appealed to the diplomatic community to provide financial and material assistance. The aid requested was used to obtain vital supplies for the islands' inhabitants until gardens and distribution systems could be re-established.

Assistance Provided by the United States Government

U.S. Ambassador Paul F. Gardner (resident in Papua New Guinea) determined on April 15 that the cyclone disaster in the Solomon Islands was beyond the ability of the SIG to address adequately and, therefore, warranted USG assistance. Under his disaster assistance authority, Ambassador Gardner obligated a total of \$2,220 to the SIG emergency relief fund.

TOTAL \$2,220

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

Australia — provided a grant of \$2,152 in addition to unspecified material support.

China, Rep. of — gave \$2,152 in cash.

Japan — donated unspecified assistance.

United Kingdom — provided \$2,152 in cash.

TOTAL \$6,456

Cyclones

Vanuatu

Date

January 16-21, 1985

Location

The northern part of the archipelago, including the islands of Santo, Ambrym, Malekula, Pentecost, Ambae, and Malo, in the Republic of Vanuatu

No. Dead

Nine

No. Affected

20-25% of the total population (approximately 117,500)

Damage

75% of the copra crop destroyed or damaged; most homes, schools, clinics, and other structures destroyed; many fishing and transport boats damaged

The Disaster

The Republic of Vanuatu was hard hit by a series of three cyclones during the period of January 16 through January 21: Cyclone Eric, Cyclone Nigel, and finally, Cyclone Odette. Heavy-to-moderate rains from Cyclone Eric broke a drought on Vanuatu, and the storm drifted eastward toward Fiji, where its destructive force was more strongly felt. The combined force of the three cyclones, however, extensively damaged communities on several of Vanuatu's islands and disrupted inter-island transport.

Casualties were relatively low. A boat was sunk, with eight people drowned, and one person was killed on Ambae, where few structures were left standing. Approximately 2,000 people were reported homeless on Santo, where many village bush dwellings were flattened, and communications were disrupted due to flooding of the telephone exchange.

Loss of a major portion of the copra production was expected to severely hurt export earnings and the economy in general.

Action Taken by the Government of Vanuatu (GOV)

After assessing the damage on the major islands in the northern part of Vanuatu and finding thousands homeless, the GOV established a disaster relief and reconstruction fund, and coordinated international donations.

Assistance Provided by the United States Government

On January 23, the Chief of Mission at Port Moresby, Papua New Guinea, determined that a state of emergency existed in Vanuatu and donated \$25,000 to the GOV disaster relief and reconstruction fund. (There are no formal relations between the U.S. and Vanuatu, although the country is friendly to the U.S. and informal diplomatic contact is maintained.)

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

ADRA/Australia — provided a tractor, valued at \$12,131, and 75 bales of clothing, value not reported.

Australia — flew in four survey teams by helicopter to the island of Santo; also sent six C-130 planeloads of tarpaulins, plastic sheeting, ropes, medical supplies, three MT of clothing, and 15 MT of rice; value not reported.

France — donated a planeload of food, flown in from Noumea, New Caledonia; value not reported.

New Zealand — pledged an unknown amount.

Papua New Guinea — pledged approximately \$11,000.

UNDRO — made a cash grant of \$10,000.

United Kingdom — donated \$50,000 for immediate food purchases.

TOTAL \$83,131

Europe



Fire

United Kingdom

Date

May 11, 1985

Location

The city of Bradford, in Yorkshire County

No. Dead

52

No. Affected

211 severely burned or injured

The Disaster

On May 11, a fire swept through the 77-year old wooden stadium in Bradford, a mid-sized city in north-central England. In four minutes, the flash fire, driven by strong winds, engulfed the main grandstand, where 3,000 of the 10,000 spectators of a soccer match were seated. Within seconds of seeing the flames and smoke, spectators found themselves in a furnace of intense heat and falling debris.

The fans, panic-stricken, their clothes and hair on fire, stampeded for exits or streamed onto the field. Those who tried to escape to the field had to scale a chest-high wall in front of the bleachers. Others, who headed for the rear of the grandstand, found the gates there padlocked. Millions of television viewers watched the tragedy as flames and thick black smoke trapped the victims.

The fire department had identified the stadium as a "firetrap" six months earlier. There were no fire extinguishers, and the seats were made of flammable polypropylene plastic, which gave off dense fumes and burned rapidly.

A government-appointed investigative panel determined that a cigarette dropped onto accumulated garbage under the grandstand was the probable cause of the fire. Evidence ruled out arson or smoke bombs.

Action Taken by the Government of the United Kingdom and Local Organizations

Policemen and spectators rushed to assist the fans caught in the fire. They tried to smother the victims' burning clothes and hair with coats and scarves; they grabbed elderly fans and children who could not climb the wall to the field and threw them over to be caught by other rescuers.

A fleet of 14 ambulances arrived as the rescue continued. Firemen had the blaze under control in 30 minutes and worked into the night searching for bodies.

A disaster relief fund was established to help the victims, their families, and the community of Bradford.

Assistance Provided by the United States Government

On May 15, U.S. Ambassador Charles Price II contributed \$10,000 to the Bradford Disaster Relief Fund.

TOTAL \$10,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

Latin America



Argentina Earthquake	111	Mexico Accident	123
Bolivia Accident	113	Mexico Earthquake	125
Chile Earthquake	114	Panama Floods	134
Ecuador Bushfire	120	Peru Landslide	134
Honduras Displaced Persons	122		



Earthquake

Argentina

Date

January 26, 1985

Location

Mendoza Province

No. Dead

Six

No. Affected

238 injured, 45,000 displaced

Damage

11,800 houses destroyed beyond repair

The Disaster

An earthquake measuring 5.9 on the Richter scale caused extensive damage to the city of Mendoza and its suburbs on January 26. Electricity, gas, water, and telephone services were temporarily disrupted. The most seriously affected areas were the densely populated and poorer suburbs, where adobe construction was prevalent, while modern seismic-resistant structures withstood the shocks.

Provincial officials estimated that approximately 45,000 people were made homeless by the quake. Of these, 33,000 were housed in schools, tents, and other shelters or sought refuge with friends or relatives (Government of Argentina estimated as many as 30,000 "self-evacuated" to the homes of friends and relatives). The most serious problem was providing temporary shelter and sanitary facilities for the remaining 10,000 to 15,000 people, most of whom insisted on staying at the site of their destroyed homes for fear of losing their possessions or the right to use their land. In these instances, government strategy was to provide tents or other temporary shelter and assist with rebuilding.

Action Taken by the Government of Argentina (GOA) and Local Voluntary Agencies

The GOA immediately provided temporary shelter in schools and military quarters for 3,300 of the homeless. For the approximately 10,000 people left without shelter, local officials of Mendoza concluded there were sufficient supplies of food and medicine, but requested U.S. assistance in procuring tents, portable toilets, disinfectants, blankets, and clothing.

The city and province of Mendoza was assisted in its relief efforts by the Argentine National Civil Defense, the Argentine Red Cross, the Salvation Army, and Caritas. The Red Cross distributed

food, clothing, blankets, medicine, sanitary facilities, and plastic sheeting (which had been provided by the U.S. in response to a flood disaster in the northeastern provinces in 1983); the Salvation Army provided food and clothing and sent a team to assist local authorities with disaster recovery; and Caritas solicited donations of food, blankets, and clothing. The Social Action Department of the provincial government coordinated these operations and arranged all necessary clearances for a U.S. airlift into Mendoza, providing ground transport to move U.S. supplied tents to the disaster area and distributing them to disaster victims. Argentine Air Force personnel subsequently helped with off-loading at the airport and distribution.

The provincial government cleared land in 12 affected areas to prepare for the erection of approximately 40 U.S.-donated tents at each site. These camp sites were planned to attract people away from their damaged homes so that the structures could be demolished. In addition, the camps provided sanitary facilities.

Following the arrival of the U.S. tents and others provided by the GOA, Mendoza Emergency Committee officials reported that their temporary shelter needs had been met. They also had sufficient supplies of food, blankets, and medicines, but they requested help in providing sanitary facilities and rain gear.

A reconstruction committee was created which, in a meeting with Mendoza Governor Santiago Felipe Llaver, discussed provision of emergency housing. Province officials hoped to implement a program before winter began. President Alfonsín promised to ensure special lines of credit for repair of damaged homes and reconstruction. The Minister of Education delivered 47 million pesos (U.S. \$150,000) to Mendoza Province to repair ten damaged schools.

Additional help for the earthquake victims arrived from diverse sources. Workers belonging to the Argentine General Confederation of Labor donated one hour's wages to help homeless families; other donations included 9.6 tons of food, clothing, medicine, and blankets delivered in ten shipments free of charge by the Argentine airline, Austral. Hundreds of volunteers helped distribute relief materials. Other contributions from Argentinian government and private organizations amounted to approximately \$627,000.

Assistance Provided by the United States Government

On January 31, the Deputy Chief of Mission determined that the disaster was of sufficient magnitude to warrant U.S. Government assistance. The Mission Disaster Relief Officer (MDRO) and the Consular Officer visited the disaster zone the next day to determine how the disaster assistance authority could best be used and whether additional funds would be necessary. They identified immediate temporary shelter as the most urgent need. Based on their recommendations, the U.S. Mission requested that tents be airlifted directly from the OFDA Stockpile in Panama to the Mendoza Airport.

Subsequently, on February 3, the DOD, with manpower and transportation provided by the U.S. Army, airlifted 424 tents and flies from the stockpile in Panama. (The cost of this assistance was \$63,705.) The tents, which could accommodate approximately 4,000 people, were unloaded by the Argentine Air Force and transported to Mendoza stadium for distribution to the disaster zone. An encampment was set up in an open field in the municipality of Godoy Cruz, where 117 of the tents housing 107 families were erected. Additional tents were set up in small groups, scattered in several locations, or temporarily stored until site work was completed for larger encampments.

The MDRO participated in Mendoza Emergency Committee meetings with provincial and city officials and representatives from the local and International Red Cross. The U.S. Ambassador, accompanied by the Economic Counselor and the Commercial Attache, visited Mendoza February 6 and 7 to survey the earthquake damage and to discuss the U.S. relief effort with local officials. While there, he presented a check for \$10,000 (2.6 million pesos) to the Emergency Committee to help resolve the sanitation problem. U.S. Mission officials also solicited support from the American community and business associations in Mendoza and Buenos Aires.

TOTAL \$73,605

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

The American Chamber of Commerce — issued a call for U.S. businesses to assist in the disaster relief effort.

The American Society of the River Plate — donated \$2,000 to the Mendoza Emergency Committee to be used to purchase rain gear and other supplies for disaster victims.

Citizenservice — donated one ton of powdered milk and three tons of sugar valued at \$5,000 to the local Red Cross.

Union Oil — contributed \$2,000 to the Mendoza Emergency Committee.

TOTAL \$9,000

Assistance Provided by the International Community

International Organizations

LRCS — a representative met with the Mendoza Emergency Committee and reported on the sanitation situation.

WHO — with Mendoza Province engineers, prepared a report assessing sanitation problems in the earthquake zone, including the need for sanitary services, trash collection, and control of disease and insect vectors. WHO donated \$9,231.

Governments

Chile — airlifted 5 MT of emergency relief supplies to Mendoza.

France — presented \$10,000 to Mendoza Governor Llover for the earthquake victims; delivered 350 prefab houses for the reconstruction effort, value unknown.

Germany, Fed. Rep. — gave a donation to the victims, value unknown.

Voluntary Agencies

China, People's Rep., Red Cross — donated \$50,000 to the Emergency Committee.

TOTAL \$69,231

Accident**Bolivia****Date**

January 1, 1985

Location

Mount Illimani, southeast of La Paz

No. Dead

29

No. Affected

None reported

Damage

Boeing 727 airplane destroyed

The Disaster

On the evening of January 1, 1985 an Eastern Airlines Boeing 727 approaching La Paz's El Alto airport slammed into Illimani mountain, killing everyone aboard. El Alto, the world's highest airport, is built on a plateau amid the Andes at an elevation of 4,100 m. It is also considered one of the most treacherous airports; pilots approaching the airport must skirt the imposing Mt. Illimani before descending to the runway below. Eastern flight 980 was embarked on a routine flight from Asuncion, Paraguay, when, for reasons still unknown, the plane failed to bypass the 6,463-m mountain. The wreckage of the plane was found buried in the snow where it crashed at 5,975 m.

Among the 29 people (19 passengers and 10 crew members) aboard the aircraft were eight U.S. citizens, including the wife of the U.S. Ambassador to Paraguay and the Director of the U.S. Peace Corps in Paraguay. When rescue workers reached the crash site, they found no survivors.

Action Taken by the Government of Bolivia (GOB) and Non-Governmental Organizations

When flight 980 failed to regain contact with the control tower and was presumed downed, the GOB promptly organized search planes, both military and private, to find the missing Boeing 727. The crash site was spotted late in the day on January 2. Once the crash site was located, the GOB deployed two Lama helicopters to assist in the rescue effort. It was soon discovered, however, that these helicopters lacked the capability to work at altitudes exceeding 4,575 m (15,000 ft.).

The local Red Cross and the Bolivian Alpine Club assembled a team of 19 expert climbers to ascend Mt. Illimani and investigate the crash site. The threat of avalanche, high altitude conditions, and inclement weather complicated the rescue effort. Three climbers eventually reached the downed aircraft and confirmed that there were no survivors.

Assistance Provided by the United States Government

The U.S. Embassy, through its Defense Attache Office, joined the air search mounted by the GOB. When it became evident that the GOB did not possess the resources needed to reach the crashed plane, the Deputy Chief of Mission declared on January 4 that the situation constituted a disaster warranting U.S. assistance. The GOB requested help in procuring the use of a helicopter capable of working at 6,907 m (20,000 ft.). OFDA sought DOD support in airlifting an S-70 experimental helicopter (Blackhawk), capable of high-altitude hovering, and a crew of eight to assist in the rescue operation. The cost of the DOD C-141 used to transport the helicopter was \$76,668. United Technologies of Hartford, Connecticut, loaned the helicopter and support personnel. After the Bolivian climbing team established that there were no survivors, deployment of the high-altitude helicopter to the crash site was cancelled.

At the request of the GOB, the Federal Aviation Administration sent a five-person team to assist in the search for the aircraft and investigation of the cause of the crash. In addition, the National Transportation Safety Board dispatched a nine-member team to participate in the accident investigation.

Summary of USG Assistance

Ambassador's Authority used for logistics and local costs	\$25,000
DOD airlift support	\$76,668
TOTAL	\$101,668

Assistance Provided by U.S. Voluntary Agencies and Other Private Organizations

Eastern Airlines — When flight 980 was reported overdue, Eastern Airlines conducted a land search of the populated areas along the plane's approach path to determine if anyone had sighted the aircraft. At the request of the Foreign Minister, an eight-member air crash team was flown in by company jet to assist the GOB in the search for the missing airplane and in the subsequent aircraft investigation.

Assistance Provided by the International Community

None reported

Earthquake**Chile****Date**

March 3, 1985

Location

Central zone, including the Metropolitan region of Santiago

No. Dead

180

No. Affected

979,792

No. Homeless

500,000

Damage

The earthquake caused extensive damage to roads and bridges, ports, railroads, water supply and sewerage, hospitals, schools, and housing. A total of 75,724 houses were destroyed and 142,480 were damaged. In some of the smaller rural communities within the most seriously affected zone, 80% to 90% of all homes were either completely destroyed or severely damaged. The Government of Chile (GOC) estimated total damage at between \$1.5 and \$1.8 billion. The World Bank reported an estimated \$500 million in damages, including the following itemization of damage to public property: ports, \$80 million; roads and bridges, \$15 million; railroads, \$24 million; and water and sewerage, \$10 million.

The Disaster

In the early evening of March 3, a devastating earthquake registering 7.8 on the Richter scale jolted the heavily populated central zone of Chile. The quake's epicenter was located in the Pacific Ocean, 40 km west of the coastal town of Algarrobo. The ground shook for nearly two full minutes and reverberations were felt as far away as Buenos Aires, Argentina (1,280 km to the east). Although the tremor generated a small tsunami (1.1 m), no adverse effects resulted. The affected area, from La Serena to Concepcion, measures about 78,700 sq. km and contains 67% of the country's population. Damage was heaviest in the port towns of San Antonio, Valparaiso, and Vina del Mar, while less extensive damage occurred in Santiago, Rancagua, San Fernando, and other smaller communities. A series of less forceful aftershocks kept the Chilean people in a state of anxiety for the next few days, although no attendant damages were reported. However, smaller aftershocks continued to plague Chile for weeks; one of the strongest (7.2 on the Richter scale) occurred on April 8 and caused some damage.

The low death toll (180 dead) is misleading because it does not reflect the magnitude of the earthquake's destructive force. The relatively minimal loss of life can be ascribed to two factors: first, because of the area's marked seismic activity, Chileans are frequently exposed to earthquakes and know how to react. Second, the earthquake struck on a warm Sunday afternoon when many people were outdoors, away from the hazards posed by buckling buildings. Nevertheless, the injured numbered approximately 2,500 and the homeless over 500,000.

Water systems in the affected areas were heavily damaged. The telephone system provided erratic service and electricity was out for several hours, even days in some cases. The housing sector sustained extensive losses. Older structures, particularly those of adobe and brick, suffered the worst damage.

Tents, schools, and other improvised temporary shelters housed the growing number of homeless. As a result, school openings, following the summer holidays, were delayed for 30 days. In Santiago, thousands of families, disquieted by the fear



Distribution of shelter material to earthquake victims

of aftershocks, camped out in the streets amid the rubble of wrecked buildings. The GOC reported that 26 regional hospitals were damaged, 12 beyond repair with the remaining 14 rendered 50% operational.

The port town of San Antonio sustained the worst damage. More than 70% of San Antonio's homes and businesses were destroyed or damaged. On March 6, the town had no water except what was delivered by firetrucks. The port itself suffered crucial losses, reducing its working capacity to 45%. Three out of seven piers were completely destroyed while two were seriously affected, leaving only two piers partially operative.

In Valparaiso, potable water was scarce due to broken water mains. In some high-lying areas water was unavailable for almost a week. Up to 30% of Valparaiso's housing was damaged or destroyed. At the port, the quake left only one of ten piers fully operational. In addition, toppled cranes and ruined storage facilities reduced the port's working capacity to 77%.

Action Taken by the Government of Chile (GOC) and the Local Red Cross

The Chilean Government coordinated its relief effort through an interministerial emergency commission established by President Pinochet. A General Emergency Headquarters for the relief effort was created in the Ministry of the Interior. On March 5, the President declared the Fifth, Sixth, and Metropolitan regions catastrophe zones, thus making these areas eligible for up to 2% of government budget expenditures, as provided for in the Chilean constitution. As a preventive health measure, a large-scale typhoid vaccination campaign was initiated in the affected areas on March 6. On March 7, the province of Curico in Region VII was also declared a catastrophe zone. The Chilean Red Cross participated in the relief effort, with more than 1,000 volunteers involved in rescue and relief operations such as firefighting, transporting the injured to hospitals, conducting needs assessments, and distributing tents and blankets from a LRCS regional warehouse in Santiago.

Despite the ad hoc creation of the General Emergency Headquarters, the National Emergency Office (ONEMI) of the Ministry of the Interior continued to carry out its mandated disaster relief responsibilities. These included data collection and analysis, damage and needs assessment, as

well as the receipt, inventory, transfer, and delivery of all relief supplies from both national and international sources.

Given the overwhelming number of homeless, the provision of shelter was a top priority. Many lacked the resources to resolve their housing problems and required assistance from the GOC. The onset of inclement winter weather added to the urgency of the situation. To address shelter needs, the GOC implemented several emergency measures, one of the most notable being the construction and distribution of 28,000 to 30,000 wooden shelters (known as *mediaguas*) targeted for the neediest of the earthquake victims. A combined effort of the Ministry of Housing, Chilean sawmill companies, and municipal governments carried this project to its successful completion. The Ministry of Housing adjusted its 1985 Housing and Subsidy Programs to focus on the earthquake victims; of 24,000 units to be constructed for low-income families, 7,600 were to be built in earthquake affected areas. Further concessions to the plight of the homeless included granting 19,000 housing subsidies to families buying or building homes for under \$6,500. Also, the GOC launched a program to evaluate and repair damaged dwellings in housing projects constructed before the earthquake.

In addition to these steps, other emergency shelter efforts included the Santiago Municipal Government's voluntary contribution program, which amassed funds for over 20,000 roofing sheets for housing repairs. The State Bank of Chile instituted a low-cost loan program for home repair. INDAP, the GOC's small farmer development organization, started a construction materials delivery program aimed at getting wood, nails, and roofing material to 12,000 rural families.

Assistance Provided by the United States Government

On March 5, U.S. Ambassador James Theberge declared that the earthquake constituted a disaster of sufficient magnitude to warrant U.S. Government assistance. Exercising his disaster relief authority, Ambassador Theberge donated \$25,000 to



Port damage in Chile

the Barros Luco Hospital for repairs to the children's ward. OFDA immediately dispatched its regional disaster preparedness advisor, Paul Bell, to assist the GOC in a damage and needs assessment, to make recommendations on the appropriate USG response, and to coordinate the USG relief effort with Chilean authorities. Three additional specialists were sent to Chile from neighboring USAID Missions to supplement Bell's expertise. The OFDA team met with GOC officials and private voluntary agency officials to determine the most effective relief strategy. The team concluded that the USG response should concentrate on the urgent requirements for shelter, water, and the replacement of essential medical supplies.

OFDA authorized a \$50,000 contribution to the Ministry of Health (MOH) for immediate needs in the health sector. In response to the request for potable water and temporary shelter, a chartered commercial Lockheed Electra transported 5,999 5-gallon plastic water containers, 28 3,000-gallon portable water tanks, 3 100-lb. containers of HTH chloride for water purification, and 125 rolls of plastic sheeting to benefit about 1,200 families. These supplies totaled \$110,414 and transport amounted to \$96,653. Two ONEMI trucks delivered the relief supplies to the port of San Antonio. Paul Bell and Salvatore Pinzino, the OFDA team's logistics expert, accompanied the supplies to San

Antonio and trained local personnel in the efficient use of the plastic sheeting. Chileans used it for repairing roofs, shoring up sagging walls, and rebuilding destroyed rooms. A second shipment of 1,000 rolls for 12,000 to 15,000 temporary shelters was sent to Chile aboard a U.S. Air Force C-5A. The plastic sheeting was worth \$281,584 and the airlift cost \$175,843.

Responding to the urgent need to replace hospitals destroyed in the earthquake, OFDA contributed \$120,000 for a provisional, locally produced pre-fab hospital with an 80-bed capacity for the city of Rengo. Other donors provided funds for additional hospital units.

OFDA allotted additional funds to further help remedy water and shelter deficiencies. Tarps and plastic water jugs valued at \$30,000 and plastic sheeting worth \$33,930 were procured on the local market. Other efforts to provide temporary shelter included the disbursement of \$1,100,000 in grants to four indigenous PVOs (Caritas Chile, the Private Development Corporation of Curico, the In-

stitute for Agricultural Promotion, and the Institute for Housing and Savings Cooperatives) to benefit 5,760 families, or about 26,000 homeless Chileans.

The OFDA team recommended the purchase of a portable communications package capable of long-range coverage. This would enable effective coordination and distribution of relief supplies. The communications system consisted of eight hand-held radios and accessories such as chargers, antennas, a VHF monitor receiver, and one mobile transceiver. OFDA obligated a total of \$5,605 for the communications ensemble. Much of this radio equipment can be used in future disasters in the region.

In response to a request from the GOC's Secretariat of Development and Social Assistance, an Earthquake Emergency Program, designed to benefit 200,000 low-income earthquake victims, was carried out in two stages. Through USAID's Food for Peace office (FFP), the USG provided a total of 5,980 MT of Section 416 dairy products. These were distributed to participants in projects to construct emergency shelter and sanitation facilities in the designated catastrophe zones. The first stage, of three months' duration, entailed the reallocation of 1,980 MT of dairy products from the Ministry of the Interior's Flood Emergency Program. Stage two amounted to a total of 4,000 MT of dairy commodities: 1,440 MT of cheese and 2,560 MT of NFDM (including 400 MT from the Ministry of Education's School Feeding Program). Ocean transport for the new commodities was covered by the USG on an exceptional basis due to GOC monetary constraints.

Summary of USG Assistance

FY 85 Expenditures

Ambassador's Authority — donated to Barros Luco Hospital, Santiago, for repair of children's ward	\$25,000
Grant to GOC Ministry of Health for immediate health sector needs	\$50,000
Relief supplies	\$99,814
Commercial airlift	\$96,653
Plastic sheeting (1,000 rolls)	\$281,584
DOD C-5A airlift	\$175,843
Local purchase of 80-bed temporary hospital	\$120,000

Local purchase of tarps, water jugs, and plastic sheeting	\$63,930
Communications equipment	\$5,605
Grants to four local PVOs for shelter programs	\$1,100,000
Temporary duty assignments of disaster relief specialists	\$5,593
Expenses of OFDA disaster relief officers (from OFDA travel budget)	\$20,109
Total OFDA Assistance (FY 85)	\$2,044,131
Section 416 commodities	\$5,000,000
Ocean transport	\$78,000
Total FFP Assistance	\$5,078,000

FY 86 Expenditures

Replacement costs for 5,999 5-gal. water containers	\$10,600
Temporary duty assignment of disaster specialist	\$8,558
Total OFDA Assistance (FY 86)	\$19,158
TOTAL	\$7,141,289

Assistance Provided by U.S. Voluntary Agencies and Other Private Groups

ADRA — 25,000 pieces of clothing, 50 large tents, 3,000 blankets, 1,000 bed sheets, 50 kg medicine, and an unspecified amount of flour and edible oil; value not reported

American Chamber of Commerce — \$25,000 for the rehabilitation of a private school in Llo-Lleo

ANRC — \$43,000 in cash to the Chile Red Cross

CITIBANK/CITICORP — \$100,000 for construction of a 12-bed hospital in Casablanca

CRS — \$70,000 to Caritas Internationalis

LWR — \$22,000 in cash

WVRO — blankets, food, medicine, medical aid, and construction materials; valued at \$100,000

TOTAL **\$360,000**

Assistance Provided by the International Community

International Organizations

Economic Commission for Latin America (ECLA) — \$20,000 toward reconstruction of the village of Pomaire

EEC — emergency aid including medicine, tents, and mattresses, valued at \$210,000; 250 MT of cereal at a cost of \$34,825; and \$212,745 in cash

ICRC — 2.5 MT of powdered milk, value not reported

PAHO — \$300,000 for medical supplies

UNDP — \$30,000 in cash

UNESCO — \$5,000 to CERESIS (South American Regional Seismologic Center) to support a reconnaissance team

UNICEF — \$125,000 for medical equipment, medicine, and vaccines

Governments

Argentina — 1,000 blankets, 250 mattresses, 200 tents, and 1,000 12-kg boxes of non-perishable food; value not reported

Australia — \$14,493 in cash

Belgium — \$45,454 in cash

Canada — \$29,200 through PAHO for medical supplies

Colombia — 1,000 blankets, 1,000 sheets of roofing material, an unknown number of mattresses, and unspecified amounts of food and sanitary equipment; value not reported

Dominican Republic — 2,221 kg of powdered milk, 1,818 kg of refined sugar, 1,025 kg of clothing, and 18,014 kg of medicine; value not reported

Ecuador — \$10,000 cash from Civil Defense and unspecified amounts of food, blankets, and medications; value not reported

Germany, Fed. Rep. — cash grant of \$29,850 through Caritas Germany

Japan — cash grant of \$192,344

Nicaragua — \$10,000 in cash through the Chile Red Cross

Norway — cash grant of \$26,260 through Norsk Folkehjelp in cooperation with Caritas Chile

Paraguay — blankets, clothing, medicine, and sugar, value not reported

Peru — one field hospital with a contingent of 14 doctors and medicine for maternity patients and children, 100,000 envelopes of hydrating salts, 3,000 bottles (20 doses each) of DPT vaccine, 5,000 bottles (20 doses each) of tetanus vaccine, 240 25-kg packages of rice, 65 77-kg packages of beans, 140 boxes of tinned fish, 2.5 MT of powdered milk, 10 boxes of evaporated milk, 4 MT of clothing, 100 blankets, 200 plastic jerrycans, 167 boxes of dextrose, and one industrial kitchen; value not reported

Sweden — \$26,595 in cash through the Chile Red Cross

Switzerland — \$200,000 in cash for reconstruction of some schools in rural areas and \$100,000 designated for temporary shelter

United Kingdom — \$262,500 in cash through PVOs and \$43,572 through Caritas Chile and the Chile Red Cross

Uruguay — unspecified amounts of food, principally meat, rice, and flour; value not reported

Vatican — \$20,000 in cash through Caritas Internationalis

Venezuela — in cooperation with the International Civil Defense Organization, dispatched six teams of rescue experts, medicine, and other supplies; value unknown.

Voluntary Agencies and Other Private Groups

Action d'Urgence Internationale — two teams of volunteers, value not reported

Australia Catholic Relief — \$7,500 through Caritas Internationalis

Bolivia Red Cross — unspecified quantity of medicine, value not reported

Brazil Red Cross — \$3,144 in cash to the Chile Red Cross and 6,000 water purification tablets valued at \$748



Earthquake victims obtain potable water from AID's portable water tanks and plastic jugs

Caritas Belgium — \$10,000 through Caritas Internationalis

Caritas Brazil — \$1,000 through Caritas Internationalis

Caritas Ecuador — \$1,000 through Caritas Internationalis

Caritas Germany, Fed Rep. — \$102,000 through Caritas Internationalis

Caritas Italy — \$25,000 through Caritas Internationalis

Caritas Netherlands — \$14,000 through Caritas Internationalis

Caritas Spain — \$26,500 through Caritas Internationalis

Caritas Switzerland — relief supplies, clothing, and vaccines, valued at \$36,324

China, People's Rep., Red Cross — \$40,000 in cash through LRCS

Collaboration Sante Internationale — \$36,764 in cash for emergency medicine and basic medical supplies

Colombia Red Cross — 750 kg coffee, 500 kg sugar, 500 kg rice, 2,000 blankets, 1,320 camping mattresses, 100 bed sheets, and 115 kg bandages; total contribution valued at \$25,000

Denmark Red Cross — \$8,403 in cash through LRCS

Developpement et Paix — \$17,843 through Caritas Internationalis

Ecuador Episcopal Conference — \$8,190 through Caritas Internationalis

Ecuador Munera Lenten Campaign — \$10,000 through Caritas Internationalis

Ecuador Red Cross — blood plasma and blankets, valued at \$3,038

Japan-Chile Association — \$10,385 in cash

Japan Parliament Members — \$3,846 in cash

Japan Shipbuilding Industry Foundation — \$11,538 in cash

Latin American Women's Association, Tokyo — \$769 in cash

Norwegian Salvation Army — cash grant of \$10,504

Oxfam/UK — \$10,000 in cash to the relief fund of the Vicaria de la Solidaridad of Santiago, \$2,000 to the Vicaria Pastoral Juvenil in San Antonio for emergency work

Peru Red Cross — 2.5 MT of powdered milk, 100 blankets, and clothing; valued at \$2,533

Secours Catholique (France) — \$11,000 through Caritas Internationalis

Secretariat of Latin America Caritas (SELAC) — \$1,000 through Caritas Internationalis

Spain Red Cross — 2,000 kg of powdered milk, 1,000 liters of edible oil, baby food, 20 tents, 2,000 blankets, 2,000 trousers, six 2,000-liter water tanks, 75 camp beds, 50 box mattresses, medicine, and medical material; total value \$63,953

Sweden Red Cross — 370 tents, 3,000 blankets, and 20 MT of clothing and rubber boots; valued at \$32,819

Swiss Institute for Serotherapy and Vaccination — 10,000 boxes of vaccines, value not reported

Uruguay Red Cross — 10 bales of clothing, value not reported

TOTAL \$2,484,639

Bushfire**Ecuador****Date**

February 28 — April 9, 1985

Location

Isabela Island, the largest island of the Galapagos Archipelago

No. Dead

None reported

No. Affected

Entire island population of 800

Damage

The small villages of Loja and Esperanza, including 20 buildings, were destroyed; about 4,500 ha. of grassland and 800 ha. of coffee farms, or roughly one quarter of the island's arable land, were burned. Loss of habitat affected many endangered species of flora and fauna.

The Disaster

All of the Galapagos Islands were suffering from a prolonged drought in early 1985, which produced an acute fire hazard. Isabela Island had had no substantial rain for eight months when two major fires broke out. On February 28 in Santo Tomas, a small wilderness community of about 150 located southeast of the Cerro Negro Volcano, a farmer lost control of a fire set to clear the undergrowth in one of his fields. The blaze spread quickly over a 40-ha. area, fueled by humus and roots up to two meters deep, but was attacked by local residents and contained within 24 hours. Fires continued to spread underground, however, and erupt in "hot spots," especially when wind gusts arose.

A second fire, probably caused by a careless hunter, erupted a few days later on the southern slopes of the Cerro Negro Volcano, just north of the town of Puerto Villamil. It spread northward, fanning out to cover an 8-kilometer front and burning dry grass, ferns, and low bush in a 4,000-ha. zone within the National Park.

The nature of the terrain, a combination of porous lava rock and dry organic matter interweaving among the lava boulders 60 cm or more below the surface, made it difficult to determine if the fire was completely extinguished. A spot extinguished superficially could continue to burn under the surface and the "extinguished" fire could rise again hours or even days later. Thus, constant patrolling of the fire lines was necessary. New outbreaks of fire occurred on the southern slopes of the Cerro Negro Volcano; it was not possible to determine if they were related to the earlier fire believed to have been extinguished. At their height, the fires formed a "J" shape running south from the volcano's highlands and then west, paralleling the coast at a distance of several kilometers; total length was about 30 km. At each of the two locations, six to seven separate fires were burning.

The most famous species of animal affected by the fire was the *Geochelone elephantopsis*, the giant Galapagos tortoise. Isolated colonies of subspecies of these tortoises populate the island, and those living in the fire's path were reduced in number or denied food. By consuming grass lands, the fire also attacked Isabela's reptiles and birds directly and indirectly, as nesting areas were burned out and grazing areas destroyed. Some unique plant varieties were also casualties and others will be threatened in the future as area wildlife search for alternate food sources.

Action Taken by the Government of Ecuador (GOE) and Non-Governmental Organizations

The Governor of Galapagos went to Isabela to take charge and declared a state of emergency for the province. Among the actions he took were the prohibition of liquor sales on Isabela; the conscription of all able-bodied males over 18 on the island, about 200 men, who were subsequently organized into nine crews working nine hours a day to fight the fires; and the evacuation of women and children from the fire zone. He also called on IN-GALA (the Instituto Nacional de Galapagos), Civil Defense, and the National Park Service for help. However, the GOE lacked one cohesive organization to conduct a large-scale firefighting campaign, and reconnaissance and logistical support was insufficient. Officials underestimated the size and seriousness of the fire, and the Governor lifted the state of emergency prematurely. Firefighting ceased after a brief rainfall on March 4. Unfortunately, the rain did not extinguish the fires but instead lulled people into believing the danger was over.

Radio communication between the fire camp on Isabela and the Darwin Station on Santa Cruz Island, used as a relay base to Quito, was not always possible, and misunderstandings between the different groups involved in the firefighting caused delays and confusion in logistics and transportation of equipment and personnel.

On March 2, the GOE declared a state of disaster and requested assistance, but the next day, the Ecuadorian Civil Defense miscalculated the fire's behavior and declared that no emergency existed. After the rains on March 4, all firefighting personnel went home without completing the fireline. Three days later, the fires rekindled and blazed out of control and once again the GOE requested outside assistance and renewed the efforts of its own resources, including the National Park Service, Army Special Forces, PRONAF (the National Forestry Service), and Civil Defense. On March 16, the GOE formally requested UNDR0 to launch an appeal to the international community.

Assistance Provided by the United States Government

On March 3, based on reports received from the chief of the joint command of the Ecuadoran Armed Forces, and a request for assistance from Ecuador's president and Foreign Ministry, the U.S. Ambassador declared that a state of disaster existed. Reports indicated that locally available resources were inadequate to control a raging bush fire. Funds were immediately allocated by OFDA: the Ambassador's authority of \$25,000 and additional funds for a U.S. Forest Service (USFS) fire-fighting mission.

Later that same day, however, the GOE withdrew its request for assistance, stating that the fire was under control. This assessment was faulty due to a number of factors including a sudden rainfall that appeared to put out the fire and a lack of coordination and communication among the various groups involved in the firefighting (see description of disaster above). The \$25,000 was cancelled, but \$20,000 had already been spent to mobilize USFS services, which included 87 firefighters and 4.5 MT of gear which were to be flown to the Galapagos from the U.S.

Several days later it was evident once again that several fires were burning out of control. Reports from two AID forestry specialists sent to Isabela Island to assess the situation, as well as another request from the GOE, prompted the U.S. Ambassador to renew his disaster declaration on March 12.

To evaluate the fire situation, recommend appropriate relief supplies, and assure proper firefighting techniques and training in the use of firefighting equipment, two USFS experts were sent to the Galapagos, along with equipment, to serve as technical advisors. USFS personnel, GOE agency personnel, and local volunteers worked together to construct firelines. A Peace Corps volunteer trained local conscripts in firefighting techniques and worked with them in containing the fires. Logistical problems plagued the relief effort, partially because Isabela Island has no airstrip and all supplies and personnel to combat the fires had to be airlifted from Quito to Baltra Island and then conveyed by boat to Isabela.

To assess USG response to the fires and to review with the USAID Mission preparedness activities proposed with the GOE Civil Defense, OFDA's Assistant Director for Latin America and the Caribbean flew to Ecuador and took part in an aerial

reconnaissance of the fire. A videotape was made by an AID cameraman.

In April, two fire caches, one on Isabela and one on Santa Cruz, were established using the surplus tools provided by OFDA. Both were under the jurisdiction of the National Park Service.

Summary of USG Assistance

Cost of initial mobilization by USFS	\$20,000
Communications equipment	\$2,922
Firefighting tools and equipment, including SSB radios (which were returned to OFDA), chainsaws, fire swatters, shovels and rakes, axes, backpack pumps, lanterns, and first aid kits were flown in to Quito in two shipments, each accompanied by a USFS Fire Officer. Cost of this USFS support, including equipment and personnel	\$91,650
Debriefing trips to Washington for two USFS personnel	\$1,200
TOTAL	\$115,792

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

International Organizations

UNESCO — provided the GOE \$10,000 from the World Heritage Fund for the repair of installations damaged in the National Park.

UNDRO — gave a cash grant of \$20,000 which was used to purchase fuel and materials and provide lodging for firefighting crews.

Governments

Canada — sent a technician to assess the situation and two planes adapted for water bombing, value not reported.

TOTAL **\$30,000**

**Displaced
Persons**

Honduras

Date

May 10, 1985

LocationEl Paraiso department,
along the Nicaraguan
border**No. Dead**

One reported

No. Affected

1,141 persons displaced

The Disaster

After Nicaragua's two-year civil war ended in July of 1979 with a Sandinista victory, anti-Sandinista forces known as "contras" fled the country and set up bases in Honduras close to the Nicaraguan border. Continued fighting between the counter-revolutionaries and the Nicaraguan government intensified during 1984 and early 1985. On May 10, 1985, Sandinista soldiers responded to the contras' repeated incursions into Nicaragua with a major attack against contra bases in the El Paraiso department of Honduras. One Honduran was reported killed and four wounded in Boca de Arenales near the Las Vegas contra base. These were reported to be the first Honduran casualties in any such action. Following numerous clashes between the Sandinistas and the Honduran army, more than one thousand residents of border villages fled the area.

Action Taken by the Government of Honduras (GOH) and Local Voluntary Agencies

The GOH declared an emergency situation in the eastern border area on May 10 and established an "emergency military zone" in the 145-km stretch of land between Boca de Arenales and Cifuentes. On May 15, the GOH ordered Nicaraguan contras to abandon three bases along the border.

The GOH Coordinator for Refugees made an official request for assistance from international organizations working in the area. Government agencies were asked to use available funds to help victims re-establish themselves in areas near their villages.

The Honduran Red Cross, in conjunction with the ICRC, visited the affected areas and provided assistance to 800 displaced persons. Caritas, with a donation from OFDA, assisted people much nearer the area of conflict, including many who had fled to the mountains.

Assistance Provided by the United States Government

In response to the population displacement resulting from strife along the Honduras-Nicaragua border, U.S. Ambassador to Honduras, John D. Negroponete, declared on May 26 that emergency relief was warranted. A grant of \$25,000 was given to Caritas, located in Danli, a small town near the affected area. The grant was used to provide emergency food, clothing, and medical supplies to displaced victims of the conflict.

TOTAL \$25,000

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

ICRC — visited affected areas with the Honduran Red Cross to assess the situation. The two organizations provided assistance to 800 displaced persons.

Accident**Mexico****Date**

November 19, 1984

Location

Ten km north of Mexico City

No. Dead

452

No. Affected

31,000 homeless, 4,248 injured

Damage

65 acres of residential buildings razed, electricity to the capital city threatened, gas storage facilities destroyed

The Disaster

A series of violent explosions and subsequent fires claimed 452 lives, injured 4,248 residents, and razed almost 24 hectares of slum dwellings outside of Mexico City on November 19 in the worst industrial accident in Mexico's history.

The first explosion occurred at about 5:30 a.m. near the natural gas holding tanks of PEMEX, the state oil monopoly, and several private gas distribution companies. This was quickly followed by a string of at least ten subsequent explosions as storage tanks and distribution facilities ignited one after another, shaking the earth more than a kilometer away. As many as 31,000 residents of the surrounding area were left homeless. At least 1,000 houses were destroyed and many others damaged by the ensuing fire; over 100,000 people were evacuated from the area. In all, four storage tanks containing more than 11.4 million liters of liquified gas erupted. Two additional million liter tanks caught fire and burned but did not explode. By mid-afternoon, the fire was brought under control and workers began the task of recovering bodies from the rubble.

Action Taken by the Government of Mexico (GOM)

The GOM and the Mexican Red Cross were on the scene immediately following the explosions. Ambulances shuttled the wounded and injured to seven area hospitals, while the Red Cross issued calls for blood, plasma, and medical supplies. Hundreds of people responded to appeals for blankets, clothing, food, and other supplies for the homeless.

A national commission composed of representatives of the Health Ministry, the Secretaries of National Defense and Urban and Ecological Development, and the Governor of the State of Mexico established an account at the National Bank for the relief of disaster victims. Contributions totaling \$1,697,416 were received, of which \$1,428,571 was from the federal government, \$238,095 was from the state, and \$78,370 from private donations.

The prompt response of the Mexican government at the local, state and national levels, along with the outpouring of public generosity and the on-site efforts of Red Cross and relief workers, provided rapid relief to victims of the explosions and fires.

Assistance Provided by the United States Government

Upon learning of the early morning explosion which claimed so many lives, U.S. Ambassador John Gavin contacted the Mexican Foreign Minister, the Interior Ministry, and the Office of the President to offer U.S. assistance. Although the Mexican government did not require any direct assistance, the Ambassador announced that the United States was ready to help in any way possible.

On November 21, Ambassador Gavin declared that a state of disaster existed in Mexico. As an expression of solidarity of the people of the United States with the Mexican people, the Ambassador presented a check in the amount of 5,250,000 pesos (\$25,000) to the president of the National System for Family Development Affairs for relief programs for victims of the fires.

TOTAL \$25,000**Assistance Provided by U.S. Voluntary Agencies**

Offers of relief assistance were received from many U.S. cities, organizations, and individuals. All were encouraged to make cash contributions to the Mexican relief effort through the account established at the National Bank.

Assistance Provided by the International Community

None reported



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Earthquakes

Mexico

Date

September 19, 1985 —
September 20, 1985

Location

The southwestern coast and inland areas, including the states of Colima, Guerrero, Jalisco, Mexico, Michoacan, Morelos, Oaxaca, and Puebla

No. Dead

8,776, according to the GOM National Emergency Commission; 10,000, unofficial estimate

No. Affected

100,000 homeless; 30,204 injured

Damage

Concentrated in the central portion of Mexico City, affecting hospitals, schools, housing, and telecommunications; damage estimated at \$4 billion

The Disaster

At 7:17 on the morning of September 19, a cataclysmic earthquake rumbled through Mexico, leaving thousands dead and inflicting tremendous damage to the central section of Mexico City. With its epicenter located about 40 km off the Pacific coast, some 400 km to the south of Mexico City, the earthquake jolted the southwestern coast and an extensive area of the interior. The quake registered 8.1 on the Richter scale, a magnitude which classifies this earthquake as one of the "great" earthquakes to strike in this century. A second major quake (of Richter magnitude 7.5) rocked Mexico on September 20 at 7:40 in the evening. The source of this tremor (considered an aftershock of the previous day's quake) was situated about 100 km southeast of the main shock. In addition, a total of 74 aftershocks above Richter magnitude 3 were recorded between September 19 and October 2. Although no damage was reported from these shocks, they were felt on the coast and in Mexico City.

Mexico City, with approximately 18,000,000 residents, suffered the most severe damage, especially in the central metropolitan zone, which is built on a dried lake bed. This basin of sediment magnified the ground-shaking and resulted in widespread structural damage. In the devastated area, buildings crashed down on the residents, killing thousands immediately and trapping many more under the wreckage. Rubble — broken windows, chunks of plaster, twisted girders, and splintered wood — littered the streets. A total of 5,728 structures were damaged, of which 954 collapsed, 2,177 suffered varying degrees of structural damage, and the remainder sustained minor damage. Sixty-five percent of all the damaged or destroyed buildings were residential housing structures. Reinforced concrete structures, from five to twenty stories in height, suffered the greatest damage.

All communications were disrupted: domestic telephone service was only partially operative and international service in thirteen states was interrupted. Electric, gas, and water services were temporarily cut. Large fires broke out and ruptured gas mains posed further threats to the populace.

The central office of the city's water utility was destroyed, including all records and computer programming. The metropolitan water supply experienced problems due to breaks in both primary and secondary distribution systems. Insufficient water flow and a loss of water pressure affected between four and six million residents. The sewage system also suffered breaks in its primary, secondary, and tertiary pipe networks.

The three largest government hospitals had to be closed because of structural failures. A thirteen-story building in the Juarez Hospital complex collapsed, killing several hundred people. Some 200 people perished when the General Hospital's obstetrics building and medical intern dormitory caved in. The Social Security Hospital was also severely damaged, although there were not many casualties. The closure of these three hospitals constituted a loss of 5,000 beds, but the system managed to absorb the surplus of patients created by the emergency. Patients were evacuated to nearby hospitals and earthquake victims were directed to other facilities. The injured numbered 30,204, of whom 6,000 were seriously hurt. A total of 15,936 persons were treated at 281 on-site first aid stations, while the injuries of the remaining 14,268 people were attended to at 131 other facilities. An additional 22,669 persons reportedly suffered fatigue, shock, and hysteria.

The exact number of dead may never be known. The GOM's figures account only for recovered corpses. It is thought that many more bodies lie entombed in the ruins.

Damage to areas outside Mexico City, though less than initially feared, was extensive. Ciudad Guzman, 120 km south of Guadalajara, reported 36 persons dead and 738 injured as well as major structural damage. At least 3,000 people lost their homes and the city's 115-bed hospital was destroyed. The seaport of Lazaro Cardenas, population 60,000, suffered substantial damage and over 300 persons were injured. Three people died in the coastal resort of Zihuatanejo where 25 buildings incurred major damage. Acapulco, Colima, Cuernavaca, Ixtapa, Manzanillo, and Michoacan all reported only minor structural damage.

Action Taken by the Government of Mexico (GOM) and the Local Red Cross

In response to the situation, the National Emergency Commission (Comision Nacional de Emergencia) was created to coordinate the efforts of the entire government, in both Mexico City and other affected areas. Falling under the direction of the Secretariat of Government, this commission comprised representatives of the various secretariats. President Miguel de la Madrid declared the Federal District a disaster zone and appointed Mayor Ramon Aguirre Velazquez head of the Metropolitan Emergency Commission (Comision Metropolitana de Emergencia), subordinate to the National Emergency Commission. These two commissions spawned a series of working groups as different segments of the government convened regular meetings to marshal the country's resources for the relief effort as well as to plan for

Rescue workers try to reach trapped victims



the enormous task of reconstruction. The GOM ruled that individual states would be responsible for relief and rescue operations in their jurisdictions; federal endeavors would serve to complement state ventures.

The GOM decreed that the rescue of survivors took priority over all other action. President de la Madrid requested the services of experts in detecting bodies in rubble and building demolition specialists. However, he subsequently prohibited the use of explosives until mid-October, to allow maximum opportunity for the rescue of survivors. While never officially requesting international aid, the GOM indicated the need for external assistance and announced the establishment of a national reconstruction fund (Fondo de Reconstrucción) to receive donations, both domestic and foreign. The fund was administered by NAFINSA, the Mexican development bank. As of October 3, 1985, the fund registered \$2,500,000 in deposits.

In the first days of the disaster, the Mexican military and police cordoned off the affected portions of the city in order to protect people from possible injury from falling debris, as well as to discourage looting. Military personnel and fire, police, and medical services operated at full capacity to meet the needs of the situation.

The Mexican Red Cross had 22 permanent medical posts throughout the disaster zones. Doctors and paramedical personnel worked out of 50 ambulances in operation 24 hours a day. More than 100 additional Red Cross ambulances transported the injured to hospitals. More than 3,000 volunteers worked full-time at the disaster sites and at Red Cross headquarters. About 400 Red Cross volunteers offered their homes as shelter for homeless victims. In addition, the Red Cross coordinated the distribution of food, clothing, and medical supplies to 65 shelters.

An estimated 100,000 people were left homeless by the earthquake. Of this figure, 95% lived in Mexico City. Schools, churches, and community centers served as emergency shelters where approximately 23,000 persons took refuge. Many people, reluctant to leave the immediate vicinity of their former homes, lived in tent cities which sprang up throughout the damaged zones. The balance of the homeless found shelter among relatives and friends. Outside the capital city, an estimated 3,600 people lost their homes and the homes of some 5,000 were badly damaged.



Search dog locates survivors

In a unified effort, members of the community mobilized to help one another. An estimated 50,000 Mexican troops, police, and volunteers worked tirelessly to extricate survivors trapped beneath the wreckage. In an atmosphere fraught with horror and grief, Federal District residents — oftentimes using only their bare hands — scrabbled through the remains of collapsed buildings trying to locate family members and friends. Citizens also responded by directing traffic to ease congestion around disaster sites and providing non-emergency transport for people. Groups of students cooked and delivered meals to rescue workers. Local community centers collected food, clothing, and medicines, and subsequently channeled these supplies to hospitals and shelters.

Assistance Provided by the United States Government

In response to a September 19 televised request for assistance, the U.S. Embassy provided bandages, blankets, pillows, flashlights, and batteries to the Mexican disaster relief authorities. On September 20, U.S. Ambassador to Mexico, John Gavin, declared that a state of disaster existed in Mexico. Funds from OFDA's International Disaster Assistance account were made available for emergency assistance to the earthquake victims.

The USG relief effort was large-scale and required complicated logistical coordination among OFDA, other federal agencies, voluntary organizations, state and local governments, and private companies. Over two hundred USG-sponsored personnel assisted the GOM in the earthquake relief effort. OFDA convened a 24-hour emergency working group to monitor the situation and coordinate the USG response from Washington, D.C. Another task force on the Mexican earthquake was established in the State Department to respond to inquiries on the well-being of U.S. citizens in Mexico.

Immediately following the disaster, OFDA dispatched an eight-member multi-disciplinary team to assist the U.S. Embassy assess damage, determine the appropriate USG response, and coordinate USG relief response with other donors. In close consultation with U.S. Mission officials and local authorities, the OFDA team determined that the USG response would concentrate on assisting the GOM in two areas: search and rescue activities and the development of a system of emergency water distribution. Since the rescue of survivors was the first order of business, and in response to the GOM's request, the USG sent a five-member search and rescue team to assist GOM authorities in locating people buried in the wreckage. Team members came from the Bureau of Mines, the Mine Safety and Health Administration, and Westinghouse Corporation. The team arrived on Saturday, September 21 aboard a U.S. military C-141 aircraft. Also transported aboard this aircraft was a contingent of National Association for Search and Rescue (NASAR) members and their specially trained dogs. A total of thirteen dogs and seventeen NASAR volunteer handlers travelled to Mexico and provided invaluable assistance in locating survivors, as well as victims, of the earthquake. In addition, demolition experts from the Bureau of Mines and private companies were sent to assist the GOM with the demolition

of unsafe buildings. As mentioned above, the demolition of buildings was held in abeyance until mid-October on orders from President de la Madrid.

The second focus of the USG response entailed assisting the GOM establish an emergency potable water supply system. The OFDA water team developed a two-pronged plan of action. The first objective was to help develop and implement a portable tank watering-point system. This required trucking potable water to remote portable tank sites throughout the affected metropolitan areas. In support of this effort, OFDA dispatched water tanks, water pumps, HTH for water purification, and related items. OFDA experts developed a model to demonstrate the technical organization of the emergency water plan and further assisted in developing a management plan of the logistics incidental to such a plan. After initial USG assistance, implementation of the emergency water plan was carried out by Mexican authorities. The second objective was to provide technical assistance to the GOM in repairing the water distribution system. The USG furnished such assistance to evaluate various pipeline repairs. In addition, OFDA provided leak detection equipment to aid GOM engineers in their endeavors.

A series of OFDA-funded DOD airlifts rushed U.S. experts and equipment to the disaster site to support the relief effort. In Mexico City, an A.I.D. Command Center was established to coordinate the various relief personnel. It also supervised a 24-hour operation providing for the receipt, warehousing, and distribution of relief supplies and equipment. The U.S. Embassy set up an Airport Coordination Office and dealt closely with the Mexican civil and military authorities. The DOD deployed an Airlift Control Element (ALCE) to help buttress airport operations. The ALCE consisted of forklifts and seventeen personnel to assist in offloading emergency relief supplies arriving in Mexico City.

Several days into the disaster, Ambassador Gavin met with the Governor of the Federal District of Mexico and representatives of the Foreign Relations Secretariat to discuss how the U.S. could better define needs as rescue operations continued. Throughout the crisis, the U.S. Embassy also convened regular meetings of private voluntary agencies active in Mexico and representatives of the private sector in order to coordinate resources and programs.

The First Lady travelled to Mexico City on Monday, September 23, with the A.I.D. Administrator, M. Peter McPherson, and the Assistant Secretary of State for Inter-American Affairs, Elliott Abrams. Mrs. Reagan personally conveyed the sympathy and solidarity which the people of the U.S. felt for Mexico and the victims of the disaster. On behalf of the U.S., Mrs. Reagan contributed \$1,000,000 to the National Finance Bank (NAFINSA) for the Mexican disaster relief effort.

Summary of USG Assistance

FY 85

Ambassador's Authority, used for local support costs	\$25,000
DOD airlift of dog teams, AID personnel, Bureau of Mines personnel, and seismic equipment	\$30,000
DOD transport of three U.S. Forest Service helicopters, support vehicles, and 27 personnel	\$900,000
DOD airlift of OFDA assessment team, FEMA assessment team, 1,000 respirators, and ten 1.5-kW generators	\$31,000
DOD airlift of radios, respirators, and generators	\$42,000
DOD airlift of construction equipment (purchased commercially)	\$12,507 74
3,000-gal. stove water storage tanks from DOD stocks and airlift	\$197,832
DOD airlift of 81 3,000-gal. water tanks and 80 drums of HTH	\$64,750
DOD radio equipment (35 PRC-77 radios with batteries and carrying accessories) and airlift	\$60,000
Logistics support for relief operation (lease of warehouse, trucks, personnel)	\$60,000
Commercial airlift of 20,000 2.5-gal. water jugs	\$18,125

DOD airlift of dog rescue teams from Mexico \$19,000

Ten-day TDY of DOD ALCE \$30,000

DOD airlift of 1,200 cots, 5,000 wool blankets, and 11 water tanks from OFDA's Panama stockpile \$67,060

Equipment (24 water tanks and 120 rolls of plastic sheeting from New Windsor stockpile; 2,000 respirators, 20 oxygen tanks, 20 acetylene tanks, and 120 pairs of welding gloves from DOD stocks) and DOD airlift \$57,872

DOD equipment (eight portable light sets and six 3-kW generators), personnel, and airlift . \$56,000

DOD procurement and airlift of 100 5-gal. plastic water containers, six portable water pumps, 12 power saws, 200 pairs of leather work gloves, 600 sleeping bags, six 60-kW generators, 600 field jackets, and 300 cots. Also transported 20 50-ft. ropes, two 100-ft. ropes with remote hooks, and 12 cargo nets for the U.S. Forest Service and ten search and rescue dog teams \$265,630

DOD procurement and airlift of four water trailers, two HF radio systems with eight operators, four base stations, two repeaters, 52 hand-held radios, and 5,000 body bags . \$164,000

DOD airlift of water pumps, hose, two OFDA water purification units, and support personnel \$117,008

USG cash contribution to GOM's relief fund \$1,000,000

Temporary duty assignments of disaster specialists, DOD civil engineers, sanitary engineers, special equipment operators, DOD medical expert, DOD relief expert \$41,322

Temporary duty assignments of OFDA and other A.I.D disaster specialists (from OFDA travel budget) \$9,026

FY 86

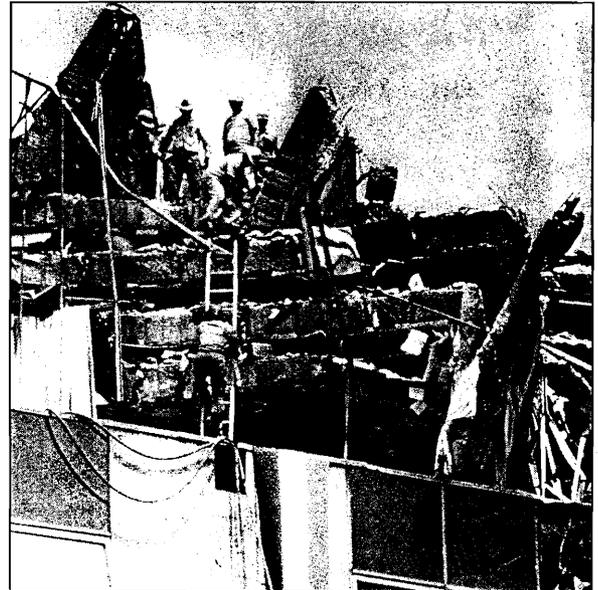
Return of DOD HF radio base station, radios, and personnel \$10,250

Local support costs for personnel and equipment \$375,000

240 hand-held water purification units . . . \$4,788

80 75-lb. drums of HTH \$6,996

Two distilled water stills (four liter/hour capacity) \$4,112



Local transport of HTH to Dover AFB \$400

Replacement cost for 5,000 wool blankets taken from Panama stockpile \$20,000

AID handclasp labels for USG-donated equipment \$1,301

Replacement cost for 91 3,000-gal. water tanks \$188,825

47 three-inch water pumps, 24 four-inch water pumps, hose, clamps, and personnel . . \$192,417

Rescue equipment (jackhammers, portable generators, bolt cutters) \$99,174

Replacement cost for 120 rolls of plastic sheeting from New Windsor, Maryland stockpile . \$35,500

Six-month PVO coordination, salary for staff person \$21,900

20 leak detectors with meter modules and rechargeable batteries \$28,944

Ocean freight costs to return 5,000 wool blankets to Panama stockpile \$4,000



Collapsed buildings in downtown Mexico City

20,000 2.5-gal. water containers	\$29,000
Return of Bureau of Mines equipment, local costs	\$300
Temporary duty assignments of U.S. Bureau of Mines personnel	\$5,300
Temporary duty assignments of OFDA and other A.I.D. personnel (from OFDA travel budget)	\$3,145
Total FY 85	\$3,268,132
Total FY 86	\$1,031,352
TOTAL	\$4,299,484

U.S. Private Voluntary Agencies and Other Private Groups

As the scope of the disaster became known, U.S. private voluntary organizations and other private groups joined a worldwide effort to send every type of relief resource available. The following contributions had been reported to OFDA as of October, 1985.

ADRA — provided 5,000 wool blankets and a shipment of food, with a combined value of \$50,000. ADRA also donated \$125,000 for food and shelter supplies to be purchased locally. Total \$175,000.

American Chamber of Commerce — collected \$74,338.

American Friends Service Committee — mounted an appeal and pledged \$25,000, and also sent a team to the disaster site.

ANRC — provided \$2,250,000 to the GOM for earthquake relief and \$600,000 through LRCS for the construction of a prosthetics hospital. In addition, the ANRC sent nine technical delegates to assist the Mexican Red Cross and to serve as liaison. The ANRC also sent 300 tents and tarps for the earthquake victims, value not reported.

Americares — sent 29 MT of antibiotics, blankets, and hand tools; estimated value \$750,000.

Bechtel Corporation — a three-person engineering team assessed earthquake damage to bridges, dams, and tunnels in the outlying earthquake impact area. The team arrived in Acapulco and travelled by car to Mexico City during which they evaluated any tsunami effects on the region. Total \$10,000.

Biolabs Inc. — donated 100 chlorine test kits and 70,000 DPT #1 free chlorine test tablets for use in water purification. Transport was provided through the Continental Cargo Development Group.

California Office of Emergency Services — dispatched 20 firefighters with power saws to help rescue trapped survivors, for a cost of \$250,000.

CARE — sent a three-member team with \$100,000 for short-term emergency relief, launched an appeal for donations on September 20, and established a water supply system in rural areas.

Catholic Archbishop of Los Angeles — donated \$100,000 to church officials in Mexico City.

CRS — sent an assessment team, made an initial \$50,000 allocation, and established the CRS Mexico Earthquake Fund which had amassed \$1,000,000 as of late October. These contributions were used for immediate housing needs and rehabilitation for earthquake victims.

CWS — dispatched a representative to make an on-site assessment and also launched an appeal. CWS planned to focus on the longer-term effort at the request of Mexican churches. Raised \$10,000.

Continental Cargo Development Group — volunteered to deliver relief supplies on a space available basis. Total \$175,000.

Feed the Children — sent a 27-member medical team at the invitation of Juarez Hospital, and two truckloads of food; valued at \$200,000.

Food for the Hungry International — provided \$700,000 worth of medical supplies and medicine and operated three medical and food distribution centers close to the disaster area. Total \$720,000.

Ford Motor Company — sent two planeloads of medical supplies (1.6 MT) at an estimated value of \$50,000.

Friends of the Americas — sent 10,000 relief boxes containing personal toiletry items valued at \$300,000. Transportation provided through the Continental Cargo Development Group.

General Motors Corporation — donated \$100,000 to the ANRC.

City and County of Los Angeles — responded to a request from their Sister Cities' counterpart in Mexico City for an array of tools and emergency rescue supplies, including extension cords, concrete saws, plastic water bags, and a water-purifying system. These materials were transported to Mexico via Mexicana Airlines. Estimated value \$590,500.

LWR — gave a grant of \$200,000.

Map International — airlifted \$1,000,000 worth of medical supplies.

Mennonite Central Committee — dispatched an investigative team to evaluate the situation; value not reported.

Mercy Sky Lift — provided a light aircraft from Los Angeles to carry relief supplies; value not reported.

National Academy of Sciences — in conjunction with the Earthquake Engineering Research Institute, dispatched a seven-member team to coordinate with local experts on possible follow-up rehabilitation planning; valued at \$20,000.

National Bureau of Standards — in cooperation with the U.S. Geological Survey, a team provided technical engineering assistance to the GOM and inspected damaged buildings and evaluated performance of engineered structures; valued at \$15,000.

Olin Matheson Company — donated 91 MT of HTH tablets for water purification. Transport provided by Union Pacific Railroad.

Pan American Development Foundation — sent \$1,000,000 worth of medical supplies and assorted tools.

Partners of the Americas — established a Mexican Reconstruction Fund to be used for construction and rehabilitation projects at the community level. Partners also sent an international disaster expert as part of OFDA's multi-disciplinary disaster assessment team. Value not reported.

Sacramento Fire Department — donated equipment valued at \$10,000.

Salvation Army — provided 500 people to assist in the rescue effort. Salvation Army crews assisted with the removal of rubble and provided tools, picks, and shovels. A special medical team equipped with bandages, splints, and casting materials was sent to Mexico. The Salvation Army's program resources — consisting of 14 feeding stations, 14 housing stations, and counseling services — were fully engaged in the relief endeavor. Approximate value \$250,000.

San Bernadino County — sent a seven-person bilingual team to assess possible assistance from the county. The team included a building inspector, an operations specialist, a public works specialist, and others; value not reported.

SCF — sent \$100,000 to Mexico City to develop a community-based shelter and health project.

Texas — San Antonio Mayor Henry Cisneros flew to Mexico City to determine what kind of assistance Texas could provide. The city of San Antonio provided a planeload of supplies, including pick axes, shovels, and small tools. The Texas Governor's Office sent a private plane to Mexico City carrying 16 MT of hardware supplies, medical equipment, blankets, sheets, water in plastic bottles, and torches and goggles. Total \$85,000. Texas Rep. Kika de la Garza arrived in Mexico on September 23 with medicine; value not reported.

Union Pacific Railroad — provided free rail transportation to Mexico of required commodities. In addition, Union Pacific contributed two trailer-loads of potable water in containers and continued these deliveries daily through the end of September. Cost estimated at \$60,000.

Washington State Department of Emergency Management — donated 120,000 surplus face masks at a cost of \$90,000.

World Concern — sent antibiotics; value unknown.

World Relief International — sent personnel to assess the damage; assisted the Mexican Evangelical Committee for Emergencies and Development (CEMPED) through a three-phase program of relief, rehabilitation, and reconstruction. Response program contributions by World Relief and partner agencies totaled \$138,128.

World Society for the Protection of Animals — provided veterinarians and medicine to combat rabies and animal-related problems; value unknown.

WVRO — sent a four-person team and donated picks and sledge hammers; value not reported.

TOTAL \$10,497,966

Assistance Provided by the International Community

World response to Mexico's misfortune was spontaneous, swift, and generous. Many international organizations and associations as well as over 50 countries contributed donations. Almost 200 flights from 43 countries, carrying 900 MT of relief supplies, arrived in Mexico during the first two weeks of the crisis. The heads of state from Brazil, Peru, and Venezuela, the head of the government of Spain, and other important dignitaries arrived to convey their personal condolences to President de la Madrid, as well as to confirm offers of assistance. As of October 2, the following contributions had been recorded by OFDA.

International Organizations

EEC — \$379,500 in cash.

LRCS — dispatched an assessment team to Mexico. Cash donations from national member societies exceeded \$1,000,000.

UNDRO — M'Hamed Essaafi, Under-Secretary General and U.N. Disaster Relief Coordinator, traveled to Mexico as the special representative of



Removing rubble after the earthquake

the U.N. Secretary General. The UNDRO Coordinator donated \$50,000, the maximum grant authorized under the U.N. General Assembly's mandate. Although the GOM never requested that UNDRO launch an appeal for international assistance, the GOM did ask UNDRO to coordinate international donations.

UNICEF — contributed \$50,000 for needs assessment and for the expansion of their on-going program of support to mothers and children.

Governments

Algeria — sent four C-130s loaded with food, blood, and a team of search and rescue experts; value not reported.

Argentina — dispatched a special charter carrying 16 doctors and 25 MT of relief supplies, including 3,500 blankets, 100 tents, medicines, plasma, and cots, value not reported.

Australia — donated \$210,000.

Canada — allocated \$700,000 for earthquake relief.

Cuba — sent a planeload of sanitation materials, medicine, and vaccines; value not reported.

Denmark — gave \$99,009 to the GOM.

Finland — contributed \$339,000.

Germany, Fed. Rep. — sent two planes with 18 relief personnel and search dogs as well as relief goods and medicine, value not reported.

Israel — dispatched a "Haga," a civil defense unit of five officers, to Mexico. Additionally, an Israeli Air Force plane delivered 35 rescue workers and special rescue equipment, value not reported.

Italy — sent a plane with 72 MT of relief supplies, including medicine, 40 tents, 1,000 blankets, and six vehicles, value not reported.

Japan — donated a cash grant of \$2,500,000.

New Zealand — gave \$135,135 in cash.

Venezuela — through its Office of Civil Protection (OIPC), sent three search and rescue teams with a total of 35 personnel.

Voluntary Agencies

Action d'Urgence International — sent a six-member relief team with two search dogs; value not reported.

Australian PVOs contributed \$45,773.

Austria Red Cross — \$114,000 in cash, in conjunction with People's Aid

Canada Red Cross — \$14,815 in cash

Caritas Austria — \$135,600 in cash

Caritas Belgium — \$15,800 in cash

Caritas Germany, Fed. Rep. — \$31,700 in cash

Caritas Hong Kong — \$5,000 in cash

Caritas Italy — \$50,000 in cash

Caritas Macau — \$12,500 in cash

Caritas Netherlands — \$28,130 in cash

Caritas Spain — \$55,000 in cash

Caritas Switzerland — \$38,540 in cash

Caritas United Kingdom — \$29,000 in cash

Caritas Canada — \$22,800 in cash

Finland Red Cross — \$338,983 in cash

Germany, Fed. Rep., Red Cross — \$126,353 in cash

Honduras Red Cross — \$500 in cash

Iceland Red Cross — \$2,174 in cash

Italy Red Cross — \$10,526 in cash

Japan Red Cross — 2,000 units of blood for transfusions

MSF — sent an eight-person medical team with 2.5 MT of plaster bandages, five MT of IV fluid, ten hospital tents, and other medical supplies; value not reported.

Netherlands Red Cross — \$31,746 in cash

New Zealand Red Cross — \$2,702 in cash

Norway Red Cross — \$91,240 in cash

Sweden Red Cross — \$241,545 in cash

Swiss Disaster Relief Unit — sent a team of rescue specialists with search dogs, blood plasma, tents, sleeping bags, radio equipment, and kitchen utensils.

Switzerland Red Cross — sent a team accompanied by dogs trained to find bodies in the rubble.

TOTAL \$6,907,071

Floods**Panama****Date**

October 30, 1984

Location

Panama City

No. Dead

one

No. Affected

1,000

Damage

Approximately 500 homes flooded.

The Disaster

During the last week of October, torrential rains fell in the Panama City area, causing extensive flooding in several low-income neighborhoods. On October 30, the Tapia, Abajo, Juan Diaz, and Curundu rivers overflowed their banks, inundating sections of the surrounding communities of Villa Catalina, La Rosita, Panama Viejo, Parque Lefevre, Nueva Barriada, Progreso, El Triangulo, Vista Alegre, Pueblo Nuevo, and Curundu. Most people stayed in their flooded homes, however, in order to guard their belongings.

Action Taken by the Government of Panama (GOP) and Local Voluntary Agencies

The GOP Ministry of Housing, the Municipal Office, and the Panama Red Cross surveyed the stricken area and worked with community groups to assess damage and distribute food, medicine, clothing and mattresses. After assessing the damage, the GOP requested disaster assistance, specifically mattresses, as GOP stockpiles were low.

Assistance Provided by the United States Government

Based on an assessment conducted by USAID officials and the GOP request for assistance, U.S. Ambassador Everett Briggs determined on November 2, 1984 that a disaster situation existed. A check in the amount of \$9,190 was presented by the Ambassador to the GOP to purchase 430 mattresses. These were subsequently distributed by the Ministry of Housing to residents of the affected neighborhoods.

TOTAL \$9,190

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

Landslide**Peru****Date**

April 8, 1985

Location

The town of Colcabamba, in the Department of Huancavelica

No. Dead

58

No. Affected

1,400 homeless

Damage

190 houses destroyed or damaged

The Disaster

On April 8, a massive landslide fell onto the town of Colcabamba, in the south-central highlands of Peru. The landslide buried 50 houses and damaged 140 others, leaving residents without shelter or household goods.

Action Taken by the Government of the Peru (GOP) and Local Voluntary Agencies

The Peruvian Civil Defense coordinated relief efforts, while the government food distribution organization, ONAA, and the Ministry of Health collaborated with the local organizations of Caritas, SEPAS, OFASA (Seventh Day Adventists), and the Red Cross to provide 24 MT of food, medicine, and clothing to the disaster victims. The Civil Defense requested financial assistance to purchase tents and blankets, which were available locally.

Assistance Provided by the United States Government

On April 12, 1985, U.S. Ambassador David Jordan declared that a disaster existed and contributed funds from the International Disaster Assistance account for the local purchase of supplies and equipment.

TOTAL \$9,993

Assistance Provided by the U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

The British Embassy collaborated with the GOP and local voluntary agencies in their relief effort.

Non-Declared Disasters

In addition to the disasters which occurred during FY 1985, OFDA administered IDA and Supplemental funds in response to the following non-declared disaster situations:

Cameroon — OFDA dispatched a team of scientists to conduct an ecological assessment of Lake Monoun, Cameroon. A chemical imbalance in the lake generated a cloud of poisonous gas that killed at least 37 people. The cost of the assessment was valued at \$15,487 from the IDA Account.

Cape Verde — An emergency road and bridge repair project valued at \$700,000 was funded in drought-stricken Cape Verde, from the African Famine Relief Supplemental.

Colombia — In September 1985, OFDA sent a USGS volcanologist to provide technical assistance to the Colombia Geological Service and perform an assessment of volcano Nevado del Ruiz. The cost of the assignment was \$1,780, from the IDA account.

Costa Rica — OFDA sent a team of forest fire experts and equipment to Costa Rica for a pre-disaster assessment. The cost of the assignment and equipment was \$10,000 from the IDA account.

Guinea — A team of CDC epidemiologists performed a nutritional assessment of malnourished children in Guinea. The cost of the TDY was \$15,746, out of the African Famine Relief Supplemental.

Zambia — Grain bags, valued at \$2,000,000, were purchased to hold maize destined for famine-stricken countries. The purchase was funded from the African Famine Relief Supplemental.

U.S. Foreign Disaster Assistance FY 85*

COUNTRY	DATE	DISASTER	DEAD	AFFECTED
Afghanistan ¹		Displaced Persons	—	—
Africa Region ¹		Drought	—	—
Antigua ²	04/13/84	Drought	—	—
Argentina	01/31/85	Earthquake	6	45,000
Bangladesh	05/27/85	Cyclone	10,000	1,300,000
Benin	05/14/85	Expelled Persons	3	350,000
Bolivia	01/04/85	Accident	29	—
Botswana	08/12/85	Drought	—	880,000
Burkina Faso	11/27/84	Drought	—	2,500,000
Burma	04/06/85	Fire	0	4,000
Cameroon ¹		Lake Explosion	—	—
Cape Verde Is.	10/20/84	Storm	29	5,500
Cape Verde Is. ¹		Drought	—	—
Chad	11/05/84	Drought	3,000	1,500,000
Chile	03/05/85	Earthquake	180	979,792
Colombia ¹		Volcano	—	—
Comoros	03/01/85	Cyclone	2	35,000
Costa Rica ¹		Fire	—	—
Ecuador ²	12/30/82	Flood	—	—
Ecuador	03/03/85	Fire	0	800
Ethiopia	10/14/84	Drought	300,000 ⁵	7,750,000
Fiji ²	03/01/83	Cyclone	—	—
Fiji	01/18/85	Cyclone	28	100,000
Fiji	03/18/85	Cyclone	1	20,000
Grenada ²	10/27/83	Emergency	—	—
Guinea ¹		Drought	—	—
Honduras	05/26/85	Displaced Persons	—	1,141
Honduras ¹		Refugees	—	—
India	12/05/84	Accident	1,408	200,000
Laos	09/18/85	Epidemic	—	—
Lesotho	02/15/85	Flood	0	80,000
Madagascar ²	04/13/84	Cyclone	—	—
Mali ²	09/13/84	Drought	—	—
Mali	11/03/84	Epidemic	1,022	4,502
Mauritania	12/05/84	Drought	—	1,600,000
Mexico	11/21/84	Accident	452	31,000
Mexico	09/20/85	Earthquake	8,776	100,000
Mozambique	01/08/85	Drought	100,000 ⁵	2,466,000
Mozambique	02/22/85	Floods	8	500,000
Mozambique	03/29/85	Storm	—	—
Niger ²	09/21/84	Drought	—	—

Footnotes

*Preliminary figures subject to revision

¹Undeclared

²Carried over from previous year(s)

³Includes funds from an A.I.D. Development Assistance Account or a Supplemental Appropriation administered by OFDA

⁴Includes obligations for both Fiji FY 1985 cyclone disasters

⁵Cumulative figures

NOTE:

The numbers of dead and affected for disasters carried over from previous year(s) have been previously counted and are not included in this report; otherwise, a dash (—) indicates that information is currently unavailable.

Totals

57 Disasters

38 New Disasters

9 Undeclared

10 Carried over from previous year(s)

AMOUNT (\$)	TYPE OF ASSISTANCE
3,368,776 ³	Medical supplies; cash for food program
10,425,156 ³	Water-related TA; crop monitoring; grants to WFP; reimb. volags
53,610	Replace water containers to stockpile
73,605	Airlift of tents; donation to Mendoza Emerg. Comm.
625,000 ³	Amb. auth. to GOB Disaster Relief Fund; local purch. relief supplies; grant to LRCS
10,000	Amb. auth. used for local support for food and shelter
101,668	Amb. auth., DOD airlift of high altitude helicopter
25,000 ³	Amb. auth. contributed to GOB drought relief prog.
576,475 ³	Grants to UNICEF, CARE & Africare; water projs.; med. supps.; emerg. road repair
18,371	Amb. auth. donated to Burma Red Cross
15,487	Post-disaster assessment
275,000	Amb. auth. used for local relief; grant to GOCV for housing repair
700,000 ³	Emerg. road and bridge repair
4,024,717 ³	Vehicles; med. teams; airlift of rice seed; grants to IHAP, CARE; well, rehab. proj.
2,024,022	Airlift of relief supps.; local purch. temp hosps.; grant for emerg. shelter
1,780	Pre-disaster assessment
25,000	Amb. auth. donated to GOC for hospital repairs
10,000	Forest fire experts & equip.; pre-disaster assessment
7,815	Rehab. water purification unit
115,792	USFS support; communications equip.
39,296,807 ³	Transport of food and med.; grants to WVRO, CRS, CARE, ADRA, U.N. orgs. and others
2,280	Replace water jugs
809,717 ⁴	Amb. auth.; water jugs; airlift of tents, plastic, sprayers
19,916	Replace water containers
15,746	Pre-disaster nutrition assessment
25,000	Amb. auth.
7,500,000 ³	Med. & educ. progs.; infrastructure repair; food distrib.
208,000	Amb. auth. to Prime Minister's Relief Fund; CDC team; grant to LRCS
5,000 ³	Amb. auth. donated to Save the Children
25,000	Amb. auth. donated to GOL for bridge repairs
15,637	Increase in housing rehab. project
3,093,203 ³	Assessments; DOD airlifts of food, med. supps. & Gao raft; CARE grant
136,948 ³	Amb. auth. used for med. supplies & expenses of CDC team; cholera control prog.
753,000 ³	Grant to WHO; purchase & rehab. of well-drilling & water-tank trucks
25,000	Amb. auth. donated to local agency for relief prog.
3,259,106 ³	Contrib. to GOM relief fund; experts, dog teams, blankets, cots, water & communications equip.; USFS support
4,060,205 ³	Airlift of blankets; grants to CARE, CWS, & UNICEF for logistical support & relief progs.
25,000	Amb. auth. donated to GPRM for road repair
267,321	Purchase of coal for generating plant; TDY of electrical engineer
1,800,504 ³	Local relief prog.; grants to UNICEF, CARE, Africare, & A.I.D. relief proj.

U.S. Foreign Disaster Assistance FY 85*

COUNTRY	DATE	DISASTER	DEAD	AFFECTED
Niger	04/29/85	Drought	—	—
Nigeria	05/03/85	Emergency	200	500
Panama	11/02/84	Flood	1	1,000
Peru	04/12/85	Landslide	58	1,400
Philippines ²	09/17/84	Volcano	—	—
Philippines	11/08/84	Typhoon	862	1,495,738
Solomon Is.	04/15/85	Cyclone	—	650
Somalia	03/31/85	Epidemic	1,262	4,815
Somalia	09/26/85	Accident	0	—
Sri Lanka ²	08/30/83	Civil Strife	—	—
Sudan	11/29/84	Drought	—	8,400,000
Turkey ²	10/31/83	Earthquake	—	—
Uganda	07/30/85	Civil Strife	—	—
United Kingdom	05/15/85	Fire	52	211
Vanuatu	01/23/85	Cyclone	9	117,500
Zambia ¹		Drought	—	—
			427,388	30,474,549

AMOUNT (\$)	TYPE OF ASSISTANCE
25,000	Amb. auth. donated to GON for const. of water storage structure on Niger River
6,852	Medical supplies
9,190	Amb. auth. donated to GOP for purchase of mattresses
9,993	Amb. auth. used for local purchase of relief supplies
25,393	Volcano monitoring equipment
998,111	Amb. auth.; grants to GOP & CARE for housing, school, and electrical system repair
2,220	Amb. auth. donated to SIG emerg. relief fund
147,376 ³	Amb. auth.; water containers; med. teams & supplies
25,000	Amb. auth. used for assessment & protective clothing
14,316	Replace tents & water jugs to stockpile
38,938,798 ³	Med. teams & supplies; water proj.; grants for food & transp.; locomotive parts (includes Ethiopian refugees)
109,296	Replace water containers and blankets; rehab. water purif. units
25,000	Amb. auth. for medical supplies
10,000	Amb. auth. given to Bradford Relief Fund
25,000	Amb. auth. donated to GOV relief and reconst. fund
2,000,000 ³	To GOZ for purchase of grain bags for maize harvest
\$126,192,209³	

U.S. Foreign Disaster Assistance Summary by Fiscal Year

FISCAL YEAR	NO. OF NEW DIS-ASTERS	NO. OF COUN-TRIES	NO. KILLED	NO. AFFECTED	CONTINGENCY IDA FUNDS	OTHER USG ASSISTANCE
FY 64	29	23	3,112	3,922,241	\$ 2,928,499	\$ 3,305,661
FY 65	46	32	46,643	14,504,499	\$ 2,438,871	\$ 18,722,703
FY 66	46	35	7,044	4,672,245	\$ 652,458	\$ 1,038,740
FY 67	57	40	17,441	106,415,973	\$ 6,168,051	\$ 6,142,586
FY 68	48	36	3,844	5,521,382	\$ 1,356,068	\$ 9,509,711
FY 69	37	32	1,018,534	31,311,680	\$ 4,446,757	\$ 24,822,542
FY 70	50	36	72,915	8,518,309	\$ 6,257,386	\$ 11,858,973
FY 71	51	40	522,183	74,289,081	\$ 15,822,511	\$ 21,932,750
FY 72	29	27	115,381	13,435,589	\$ 1,452,783	\$ 210,289,507
FY 73	30	27	111,614	217,756,063	\$ 14,062,254	\$ 158,631,843
FY 74	20	19	101,608	12,819,240	\$ 2,542,979	\$ 31,827,590**
FY 75	25	23	61,233	46,310,336	\$ 7,731,525	\$ 120,540,500
FY 76	24	22	77,842	38,360,279	\$ 12,056,098	\$ 99,233,131**
TQ	7	5	7,009	723,700	\$ 5,479,245	\$ 277,108
FY 77	25	22	8,568	7,932,836	\$ 21,445,529	\$ 13,394,451
FY 78	32	27	28,269	52,134,391	\$ 24,498,867	\$ 1,720,101
FY 79	41	33	34,514	11,049,072	\$ 24,554,441	\$ 24,559,600
FY 80	32	27	1,635	7,760,985	\$ 12,898,071	\$ 68,312,206**
FY 81	22	19	11,527	4,607,227	\$ 6,567,224	\$ 51,752,000**
FY 82	35	29	43,352	40,463,621	\$ 10,742,757	\$ 51,032,086
FY 83	45	36	4,775	43,980,670	\$ 7,858,390	\$ 83,358,147**
FY 84	47	39	3,463	34,233,123	\$ 15,098,027	\$ 51,378,416**
FY 85*	47	39	427,388	30,474,549	\$ 19,863,848	\$ 106,886,686**
TOTAL	825		2,730,199	811,287,091	\$226,922,639	\$1,170,554,038

Footnotes

- *Preliminary figures
- **Includes funds from other A.I.D. accounts and/or supplemental appropriations administered by OFDA.

PL 480	TOTAL USG ASSISTANCE	US VOLAGS	INTL COMM	SELF HELP
\$ 5,410,940	\$ 11,645,100	\$ 805,317	\$ 533,790	—
\$ 25,213,459	\$ 46,375,033	\$ 3,627,301	\$ 3,518,733	—
\$ 23,729,904	\$ 25,421,102	\$ 1,567,990	\$ 9,476,353	\$ 16,157,100
\$ 69,044,931	\$ 81,355,568	\$ 12,220,053	\$ 172,860,511	\$ 2,964,667,000
\$ 21,634,945	\$ 32,500,724	\$ 7,719,299	\$ 15,943,626	\$ 606,865,000
\$ 73,350,178	\$ 102,619,477	\$ 12,971,207	\$ 95,496,828	\$ 130,974,000
\$ 30,609,073	\$ 48,725,432	\$ 12,191,711	\$ 59,515,671	\$ 96,595,000
\$ 119,836,982	\$ 157,592,243	\$ 16,676,273	\$ 266,635,252	\$ 744,839,000
\$ 147,802,110	\$ 359,544,400	\$ 13,178,379	\$ 610,660,963	\$ 107,320,000
\$ 114,230,970	\$ 286,925,067	\$ 29,251,411	\$ 200,892,728	\$ 631,705,000
\$ 134,477,940	\$ 168,848,509	\$ 3,216,263	\$ 90,252,901	\$ 36,173,000
\$ 86,808,619	\$ 215,080,644	\$ 16,079,881	\$ 263,430,083	\$ 39,043,100
\$ 39,215,454	\$ 150,504,683	\$ 49,093,875	\$ 338,424,828	\$ 970,510,327
\$ 602,876	\$ 6,359,229	\$ 1,139,554	\$ 2,085,331	\$ 198,900,000
\$ 11,909,226	\$ 46,749,206	\$ 14,390,669	\$ 59,541,298	\$ 6,040,094
\$ 42,021,193	\$ 68,240,161	\$ 6,224,223	\$ 186,136,632	\$ 276,946,722
\$ 15,318,512	\$ 64,432,553	\$ 39,420,510	\$ 661,374,390	\$ 477,844,108
\$ 57,814,655	\$ 139,024,932	\$ 1,533,448	\$ 35,810,102	\$ 11,847,900
\$ 12,100,000	\$ 70,419,224	\$ 23,890,844	\$ 211,844,949	\$ 6,022,007,896
\$ 29,000,100	\$ 90,774,943	\$ 27,258,957	\$ 237,092,847	\$ 141,901,880
\$ 87,333,943	\$ 178,577,480	\$ 2,452,734	\$ 203,946,587	\$ 119,800,332
\$ 102,891,700	\$ 169,368,143	\$ 5,999,463	\$ 238,707,189	\$ 198,095,040
\$ 674,159,700	\$ 800,910,234	\$ 80,634,275	\$ 961,557,220	\$ 87,906,439
\$1,924,517,410	\$3,321,994,087	\$381,543,637	\$4,925,738,852	\$13,886,138,936

