FY 1989 ANNUAL REPORT

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OFDA Annual Report FY 1989

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ACRONYM LIST

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

ADRA	Adventist Development and Relief Agency
ARC	American Red Cross
CARE	Cooperation for American Relief Everywhere
CCF	Christian Children's Fund
CRS	Catholic Relief Services
CWS	Church World Service
FHI	Food for the Hungry International
HKI	Helen Keller International
IRC	International Rescue Committee
LWR	Lutheran World Relief (U.S.)
MAP	Medical Assistance Programs, International
MCI	Mercy Corps International
PADF	Pan American Development Fund
PVO	Private voluntary agency
SCF/US	Save the Children Federation/U.S.
WVRD	World Vision Relief & Development
YMCA	Young Men's Christian Association

International Non-Governmental Organizations

CAFOD	Catholic Agencies for Overseas Development (U.K.)
SCF/UK	Save the Children Fund/U.K.
MSF	Medecins sans frontieres (Doctors Without Borders)
NGO	Non-governmental organization

International Organizations

CARICOM	Caribbean Community
EC	European Community
FAO	U.N. Food and Agriculture Organization
ICRC	International Committee of the Red Cross
IDNDR	International Decade for Natural Disaster Reduction
LRCS	League of Red Cross and Red Crescent Societies
LWF	Lutheran World Federation
PAHO	Pan American Health Organization
PCDPPP	Pan Caribbean Disaster Preparedness Project
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
WCC	World Council of Churches
WFP	World Food Program
WHO	World Health Organization

U.S. Organizations

AELGA	African Emergency Locust/Grasshopper Assistance Project (A.I.D.)
AFB	Air Force Base
A.I.D.	Agency for International Development
CDC	Centers for Disease Control (Depart. of Health & Human Services)
CINCPAC	Commander-in-Chief Pacific (DOD)
DART	Disaster Assistance Response Team
DLTF	Desert Locust Task Force
DOD	Department of Defense
FFP	Food for Peace Office (A.I.D.)
FFW	Food-for-work, aid program
FEWS	A.I.D.-sponsored Famine Early Warning System
FY	Fiscal year
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
OFDA	Office of U.S. Foreign Disaster Assistance (A.I.D.)
PHS	Public Health Service
RP	Refugee Programs (U.S. Department of State)
Southcom	U.S. Southern Command (DOD)
USAID	A.I.D. overseas Missions
USFS	U.S. Forest Service
USG	United States Government
USGS	U.S. Geological Survey (U.S. Department of the Interior)

Food Acronyms

CSB	corn-soya blend
CSM	corn-soya milk
DSM	dry skim milk

Other

DP	displaced persons
ORS	oral rehydration salts (a sugar-salt combination for diarrheal diseases)
TDY	temporary duty (assignment)
SADCC	Southern Africa Development Coordination Committee

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MESSAGE FROM THE DIRECTOR

There can be little doubt that disaster preparedness saves lives. Before noon on Dec. 7, 1988, an earthquake measuring 6.9 on the Richter Scale struck Soviet Armenia, killing at least 25,000 people according to official Soviet estimates. Less than one year later, an earthquake of similar magnitude jolted San Francisco, California, shortly before rush hour. However, this earthquake claimed fewer than 70 lives. In Armenia, most of the victims died when their multi-story apartment buildings crumbled and collapsed on them. These dwellings were not built in accordance with standard earthquake engineering techniques and used substandard building materials. In contrast, in San Francisco most high rise buildings sustained relatively minor structural damage. This can be attributed to the adherence to strict building codes that require seismic-resistant design measures. Furthermore, the citizens of San Francisco were better prepared for the disaster and knew what to do when the earthquake struck. Nothing can be done to prevent earthquakes from hitting populated areas, but the implementation of various mitigation and preparedness measures can significantly reduce the impact of these disasters.

Since becoming Director of the Office of U.S. Foreign Disaster Assistance, I have tried to reinforce the two primary goals of OFDA: 1) to save lives and 2) to reduce the economic impact of disasters. Following an independent evaluation of OFDA's past disaster preparedness portfolio, we have developed a new three-pronged Prevention, Mitigation and Preparedness (PMP) strategy. An increased portion of our budget will be devoted to funding projects that implement this strategy. Prevention activities are defined as actions that prevent a hazard from becoming a disaster, such as flood control projects. Mitigation programs reduce the potential damage that a disaster may inflict. An example is the use of seismic or wind resistant building techniques in constructing low cost housing. Finally, preparedness activities include disaster planning, public information, training, and pre-positioning of relief resources.

These PMP activities will not be effective unless there is a public and/or an institutional commitment to ensure their success. In less developed countries, the challenge will be to encourage governments and private enterprises to invest scarce resources in long term programs that may not show short term benefits. Innovative strategies will have to be devised to promote interventions that are cost-effective and not capital intensive, or utilize market incentives to encourage their implementation. The establishment of the International Disaster Advisory Committee is an effort to promote the involvement of the private sector around the world in disaster prevention, mitigation, and preparedness activities.

In recent years an increasingly large proportion of OFDA's time and funds has been allocated to respond to victims of civil strife. These situations involve a wide range of constraints and frustrations that are not

OFDA staff with Director Natsios, seated center (right)
Photo by Clyde McNeil, AID\XA

associated with natural calamities. Civil strife disasters can result in widespread food shortages, displacement of thousands of people, and deterioration of general health conditions. Furthermore, civil strife also tends to complicate relief efforts during a natural disaster, such as drought. The international donor community must apply political pressure to combatants to negotiate recognition of relief corridors that can be used to transport desperately needed food and supplies to affected populations. This strategy led to the success of Operation Lifeline Sudan, which saved the lives of thousands of Sudanese in 1989.

In recent large-scale disasters, OFDA found it necessary to dispatch a team of specialists to the disaster site to manage the U.S. government's response, perform assessments on the ground, and monitor the distribution of U.S.-donated relief supplies. In 1989, OFDA developed a team approach, known as the Disaster Assistance Response Team, or DART. Teams were sent in response to the Armenia earthquake and Hurricane Hugo in the Caribbean. The team can be mobilized quickly and is designed to be self-sufficient, with well-defined position descriptions and command structure. The DART can be expanded to include various components, such as a search and rescue team or medical personnel. OFDA will continue to deploy DARTs whenever a disaster situation warrants their assistance.

As many of you know, working in the field of disaster relief and preparedness is both personally gratifying and challenging. It is extremely gratifying to see our contributions go toward saving lives; providing food, shelter and medical care to survivors; and assisting other countries become better prepared for disasters. The challenge involves developing new strategies and approaches to attain these goals. It is our hope that our increased investment in PMP activities will save lives and lessen the economic impact of disasters. This annual report highlights the major accomplishments and activities of fiscal year 1989. We are proud to share this record of our achievements with you.

Andrew S. Natsios
Director
Office of U.S. Foreign Disaster Assistance

U.S. FOREIGN DISASTER ASSISTANCE SUMMARY BY FISCAL YEAR

FY	NO. OF NEW DIS-ASTERS	NO. OF COUNTRIES	NO. KILLED	NO. AFFECTED	CONTINGENCY IDA FUNDS	OTHER USG ASSISTANCE
1964	29	23	3,112	3,992,241	$2,928,499	$3,305,661
1965	46	32	46,943	14,504,499	$2,438,872	$18,722,703
1966	46	35	7,044	4,672,245	$652,458	$1,038,740
1967	57	40	17,441	106,415,973	$3,743,051	$8,567,586
1968	48	36	3,844	5,521,382	$1,355,888	$9,509,891
1969	36	32	1,018,534	31,311,680	$4,446,757	$24,822,542
1970	50	36	72,915	8,518,309	$6,263,804	$11,859,373
1971	51	40	522,183	74,289,081	$15,822,511	$21,930,000
1972	29	27	115,381	13,435,589	$1,452,783	$210,289,507
1973	30	27	111,619	217,776,063	$14,062,254	$158,631,843*
1974	20	19	101,608	12,819,240	$2,542,979	$31,827,590*
1975	25	23	61,233	46,310,336	$7,006,385	$121,265,640*
1976	25	23	78,262	38,375,279	$12,056,098	$123,410,000*
TQ	6	5	6,589	708,700	$5,479,245	$277,108
1977	25	22	8,568	7,932,836	$21,445,529	$13,394,451
1978	33	27	28,269	52,134,391	$24,452,367	$1,720,101
1979	41	33	34,514	11,049,072	$24,548,448	$24,559,600
1980	32	27	1,635	7,760,985	$12,898,071	$68,312,206*
1981	22	19	11,527	4,607,227	$6,613,724	$51,752,000*
1982	35	29	43,352	40,463,621	$10,742,757	$51,040,086
1983	45	36	4,775	43,980,670	$8,016,403	$83,219,912*
1984	47	39	3,463	34,233,123	$15,097,749	$51,378,416*
1985	47	39	427,388	30,474,549	$19,863,848	$105,002,195*
1986	47	38	26,311	8,313,429	$9,480,105	$79,218,769*
1987	56	45	94,171	48,585,076	$24,991,031	$132,666,233*
1988	66	46	379,538	137,355,138	$20,511,211	$76,463,691*
1989	58	42	40,693	127,521,207	$22,926,142	$127,303,347*
TOTAL	**1,052**		**3,270,912**	**1,133,061,941**	**$301,838,969**	**$1,611,489,191**

* 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	$46,375,034	$3,627,301	$3,518,773	-
$23,729,904	$25,421,102	$1,567,990	$9,476,353	$16,157,100
$69,045,881	$81,356,518	$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
$73,349,178	$102,618,477	$12,971,207	$95,496,828	$130,974,000
$30,608,673	$48,731,850	$12,191,711	$59,515,671	$96,595,000
$119,839,732	$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	$174,681,552	$49,093,875	$338,820,728	$970,510,327
$602,876	$6,359,229	$1,139,554	$1,689,431	$198,900,000
$11,909,226	$46,749,206	$14,390,669	$59,541,298	$6,040,094
$42,021,193	$68,193,661	$6,224,223	$186,136,632	$276,946,722
$15,318,512	$64,426,560	$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	$70,465,724	$23,890,844	$211,844,949	$6,022,007,896
$29,000,100	$90,782,943	$27,258,957	$237,092,847	$141,901,880
$87,333,943	$178,570,258	$2,452,734	$203,946,587	$119,800,332
$102,891,700	$169,367,865	$5,999,463	$238,707,189	$198,095,040
$678,622,015	$803,488,058	$80,634,275	$961,557,220	$87,906,439
$209,052,740	$297,751,614	$6,541,512	$80,703,029	$105,376,068
$108,804,370	$266,461,634	$14,179,095	$526,447,730	$80,589,960
$204,450,008	$301,424,910	$18,725,223	$443,033,500	$73,821,584
$146,902,760	$297,132,249	$59,716,474	$653,086,042	$3,954,621,465
$2,598,191,903	**$4,511,520,063**	**$480,705,941**	**$6,629,009,153**	**$18,100,548,015**

25 Years of U.S. Foreign Disaster Assistance

The generosity of the American people is appreciated throughout the world. As a result, assistance to disaster-stricken people in other nations has a long and illustrious history. Until late in the 19th century, however, most American foreign disaster assistance was provided by private voluntary agencies. After the Spanish American War, the U.S. government began to take a more active role in overseas relief, providing assistance after several major disasters. The adoption of the Marshall Plan in 1947 heralded the founding of a formalized federal system of foreign aid. But, foreign disaster assistance continued to be implemented in an *ad hoc* manner until the mid-1960s, when a formalized system of distributing U.S. government-provided relief was established.

The Office of U.S. Foreign Disaster Assistance, an office within the Agency for International Development, has its roots in the Skopje, Yugoslavia, earthquake of 1963. Realizing the need for a central authority to coordinate disaster assistance, the U.S. Government established the Foreign Disaster Relief Coordinator's Office (FDRC) within A.I.D. in 1964. The present name, the Office of U.S. Foreign Disaster Assistance (OFDA), was adopted in 1976 and has been retained ever since. OFDA is organized into three geographic divisions—Latin America and the Caribbean, Africa and Europe, and Asia and the Pacific—which are augmented by an Operations Support division. The OFDA Director reports directly to the A.I.D. Administrator who is the President's special coordinator for international disaster assistance.

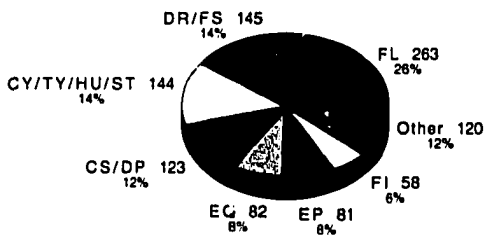
In carrying out its mission to provide humanitarian assistance to the victims of foreign disasters, OFDA rushes relief supplies from any of its five stockpiles in strategic locations around the globe or procures needed commodities from companies in the United States or in the affected country. OFDA also provides communications support, search and rescue, medical assistance, emergency shelter, and other services. As coordinator of the U.S. government response, OFDA can call upon the expertise and resources of other USG agencies such as the Departments of Defense, Agriculture, Transportation, and Health and Human Services, and the U.S. Geological Survey, the U.S. Forest Service, and the Environmental Protection Agency. In addition, OFDA works closely with U.S. private voluntary agencies, international organizations, and other donors. While responding to the critical needs of disaster victims, OFDA also works with host country institutions to build national and local community preparedness and to develop the capacity of the host country to assist its own affected population. Over the past 10 years, the office has embarked on many prevention, mitigation, and preparedness (PMP) projects in an attempt to lessen the impact of disasters on vulnerable populations.

Relief

The decision to provide U.S. government disaster assistance rests in most cases with U.S. diplomatic missions overseas. A disaster declaration by a Chief of Mission in an affected country triggers OFDA's response. During the 25-year period between 1964 and 1989, OFDA responded to over 1,000 "declared" disasters in 139 countries. Of the 1,016 declared disasters, the largest number was for floods (263), followed by drought/food shortage (145), cyclonic and other storms (144), and civil strife/displaced persons (123).

Disaster Types 1964-1989

No. of Declared Disasters



Key

CS - Civil Strife
CY - Cyclone
DP - Displaced Persons
DR - Drought
EP - Epidemic
EQ - Earthquake
FI - Fire
FL - Flood
FS - Food Shortage
HU - Hurricane
ST - Storm
TY - Typhoon
Other
Infestation
Accident
Volcano
Landslide
Power Shortage
Unusual Phenomenon

In the 25 years since OFDA's inception, the U.S. government has been in the forefront among international donors in providing assistance after major calamities around the world. Spending from the International Disaster Assistance Account (OFDA's annual

Congressional appropriation) for relief amounted to nearly $302 million over the 25-year period. Total USG relief assistance, including the emergency provision of P.L. 480 Title II food by A.I.D.'s Office of Food for Peace (FFP), came to $4.5 billion. The following are examples of the USG response after some of the worst natural and man-made disasters of the quarter century.

• NIGERIA - Civil Strife (FY 1969). Prolonged fighting in eastern Nigeria beginning in July 1967 with a declaration of war by the Federal Military Government of Nigeria against Biafran secession led to widespread famine. Possibly as many as 1 million people died between July 1967 and November 1968, and the cost of the war was estimated at over $1.4 billion. A.I.D.'s Office of the Foreign Disaster Relief Coordinator (FDRC) played an important role in coordinating relief activities for Nigeria/Biafra. Total USG assistance amounted to over $65 million, of which $3.6 million was from the FDRC's contingency funds.

• PERU - Earthquake (FY 1970). One of the most destructive earthquakes ever to strike the Western Hemisphere occurred in Peru on May 31, 1970. The 7.7 magnitude temblor left 66,794 dead, 143,331 injured, and 500,000 homeless. The greatest loss of life was from the Huascaran debris avalanche triggered by the quake. AID/FDRC sent a disaster operations officer and two consultants to help with field operations, and the FDRC coordinated the delivery of 44 planeloads of relief supplies. USG assistance, including rehabilitation projects and P.L. 480 food, totaled $16.4 million.

• EAST PAKISTAN (BANGLADESH) - Cyclone (FY 1971). A powerful cyclone, accompanied by a storm surge that reached 6 to 7.6 meters (20 to 25 feet), ravaged low-lying coastal areas and islands of Bangladesh on Nov. 12-13, 1970. Between 300,000 and 1 million people drowned, and hundreds of thousands of others were left homeless. The USG provided over $2.6 million in relief supplies and $12.7 million in food aid. A.I.D. financed a total of 23 U.S. military and commercial relief flights from the United States to Bangladesh between Nov. 14 and Dec. 13.

• SAHEL - Drought (FY 1972 to 1975). Beginning in the late 1960s, prolonged drought conditions affected some 23 million people in Chad, Mali, Mauritania, Niger, Senegal, and Upper Volta (Burkina Faso). An estimated 100,000 people died of starvation or related causes in those countries, 7 million cattle perished, and crop losses were in excess of $183 million. The primary USG relief contribution was the provision and transport of 590,000 MT of grain valued at $127.3 million. Additionally, relief and rehabilitation activities financed from A.I.D. contingency (IDA) funds and special Congressional appropriations boosted the total value of USG assistance to $228.15 million.

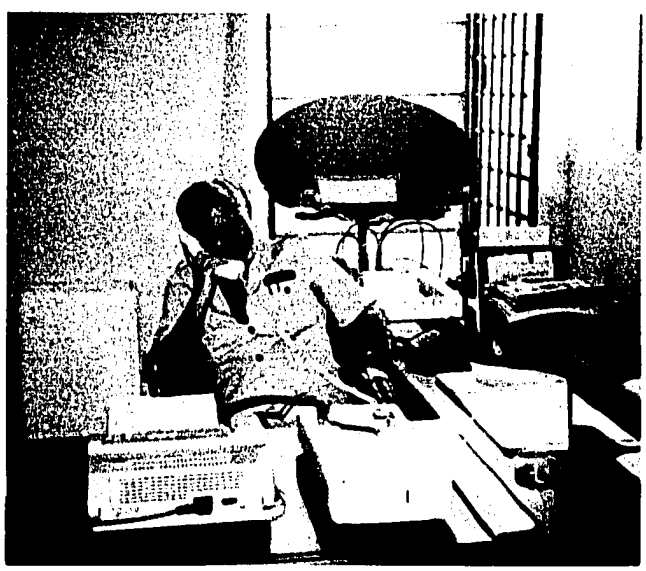
• GUATEMALA - Earthquake (FY 1976). A violent earthquake registering 7.5 on the Richter scale shook Guatemala on Feb. 4, 1976, spreading destruction across the southern part of the country. The human toll was close to 23,000; over 77,000 were injured, and over 1 million people lost their homes. OFDA and U.S. military personnel were quickly dispatched to the scene to help with the relief effort and to assess needs. OFDA administered over $19.6 million of the $25 million appropriated by Congress for emergency assistance and rehabilitation. FFP provided $17 million worth of P.L. 480 Title II commodities.

• AFRICA - Drought/Famine (FY 1984 to 1986). Drought and famine once again ravaged the African continent in the mid-1980s, resulting in disaster declarations in nine countries. In the four most critically affected countries—Ethiopia, Sudan, Chad, and Mozambique—civil strife compounded the problem by inhibiting food production and hampering the delivery of emergency food. Hundreds of thousands of people are estimated to have died from starvation or disease. Throughout the region, over 30 million people were displaced or suffered from food shortages. The crisis prompted a massive international response in which the USG was a major contributor. OFDA's Director headed an interagency task force which coordinated USG assistance. During FY 1985-1986, OFDA administered a total of $174.5 million. FFP provided food and logistical support from a $400 million supplemental appropriation.

• COLOMBIA - Volcanic Eruption (FY 1986). An eruption of the Nevado del Ruiz volcano on Nov. 13, 1985, melted part of the summit ice cap and triggered catastrophic mudflows that overran the town of Armero and surrounding rural areas. The disaster claimed 21,800 lives. OFDA funded the cost of sending 12 U.S. military helicopters and support personnel to assist evacuation and rescue operations and fielded a team of experts from the

U.S. Geological Survey to help the Colombian government build a permanent volcano monitoring center. USG assistance was valued at $2.9 million.

To enhance its operational response capabilities, OFDA has arranged for the services of a number of technical specialists. The aftermath of the devastating earthquakes in Mexico City in 1985 and San Salvador the following year, convinced the office of the need for a rapidly deployed team of search and rescue technical specialists. A grant to the National Association of Search and Rescue (NASAR) has enabled OFDA to finalize the development of a search and rescue technical assistance capacity. An agreement with the USGS has resulted in a Volcano Disaster Assistance Program, through which a Volcano Crisis Action Team (VCAT) can be accessed to monitor volcanic activity and to propose possible evacuation plans, as needed. A Resources Support Services Agreement (RSSA) with the USDA/USFS provides training and operational support to strengthen disaster planning. The RSSA also identifies technical experts for a disaster response.



OFDA regional advisor, Paul Bell, in Antigua after Hurricane Hugo
Photo by John Carroll, Metro-Dade Fire Department

Contracts with other specialists have enabled OFDA to expand its information management capabilities and to place regional advisers in such strategically located sites as San Jose (Costa Rica), Lima (Peru), Addis Ababa (Ethiopia), and Suva (Fiji). The decentralized approach to on-site, disaster management has greatly enhanced efficiency and reduced the critical response time. A contract was also awarded to Volunteers in Technical Assistance to develop a Disaster Information System to log offers of assistance which come to OFDA during a large disaster response operation.

Prevention, Mitigation and Preparedness (PMP) Activities

Although the primary focus during OFDA's first 25 years was on providing relief and rehabilitation assistance, the office also recognized the importance of promoting self-sufficiency in disaster-prone developing countries to enable them to better anticipate, mitigate, and manage their disasters. By 1976, the Congressional charter had been amended to include a preparedness element, and a portion of OFDA's annual appropriation for the past decade has been budgeted for the training of host government officials and technical personnel and for early warning, mitigation, and preparedness projects. In March 1979, OFDA developed a Central Program Strategy Statement (CPSS) to guide OFDA's preparedness portfolio. The strategy statement has been used in each successive program cycle for the Annual Budget Submission to the A.I.D. Administrator and for the Congressional Presentation. The strategy included the following three elements: (1) effective emergency relief and rehabilitation; (2) host country disaster preparedness; and (3) early warning systems.

This past year, OFDA contracted independent consultants to evaluate preparedness projects from FY 1979 to 1988. The results of the study aided OFDA in revising the CPSS to reflect officewide changes. OFDA now defines preparedness as a three-pronged approach: Prevention, Mitigation, and Preparedness (PMP). This strategy, still being refined and subject to final approval, tentatively consists of **Prevention** activities to include implementing regulatory controls, land-use zoning, building codes, legislation, and economic/market driven incentives to curtail development in disaster-prone areas such as flood plains; **Mitigation** programs to reduce the potential damage from a disaster which cannot be prevented, such as earthquake engineering techniques and early warning systems; and **Preparedness** activities to prepare a host country for an anticipated disaster through training, pre-positioning relief supplies, the provision of communications equipment, search and rescue coordination, evacuation planning, and early warning systems.

The following include the major projects completed through OFDA funding:

EARLY WARNING PROGRAMS: Including the seismic networks established in the Dominican Republic, Peru, Fiji, and Costa Rica, OFDA has funded some of the more technologically advanced detection and warning systems in the world. These included the development of a South Pacific Severe Storm Detection and Warning System in conjunction with NOAA/NASA; a Bangladesh Cyclone Warning System; a Volcano Seismic and Tsunami Hazards Preparedness Program in Ecuador; a Volcano Monitoring and Research Program in Indonesia; and a Tsunami Hazard Reduction Utilizing System Technology (THRUST) warning system in Chile, which was handed over to the Chilean Civil Defense system, ONEMI. From FY 1977 to 1985, OFDA supported the Global Agro-Climatic Early Warning Program carried out by NOAA/NASA. The program, which evolved into the Famine Early Warning System (FEWS) now managed by A.I.D.'s Africa Bureau, used remotely sensed weather satellite data to give early warning of droughts and food shortages.

HAZARD MAPPING AND RISK EVALUATIONS: Cornell University performed an evaluation of seismic risk in the Southwest Pacific from 1978 to 1986; the Organization of American States' Natural Hazards Project developed analytical techniques to determine the conditional probability for the recurrence of large or great earthquakes over the next 20 years in the Circum-Pacific region; the Peruvian Institute CERESIS performed an extensive study on Earthquake Hazards Mitigation and Risk Analysis in the Andean region; the Southeast Asia Association of Seismology and Earthquake Engineering (SEASEE), created under ASEAN (Association of Southeast Asian Nations) auspices, received technical assistance from USGS to conduct an earthquake hazards analysis for the region; and a Costa Rican Earthquake and Hazards Mitigation Program established a hazards reduction program that included an analysis of seismic and volcanic risks in the country and the installation of a modern seismic network.

MITIGATION: OFDA provided funding to the USGS Office of International Geology to improve and implement seismic zoning and an earthquake resistant building design program in Chile; INTERTECT, under contract to OFDA, performed housing vulnerability assessments and training in the South Pacific, Asia, South America, and the Caribbean; and regional workshops on earthen housing were held in Peru and Turkey to train local builders in the use of adobe and earthquake-resistant construction.

Containers of pesticide ready for pilot disposal project
Photo by Gudrun Huden, AID/OFDA

ENVIRONMENTAL DISASTER PREVENTION: In 1989, OFDA responded to initial reports that the New World screwworm fly, considered to be the most dangerous pest to livestock and wildlife in the Americas, was accidentally introduced to Libya on animal shipments from South America and was threatening to spread throughout Africa, southern Europe, the Middle East, and beyond. OFDA coordinated the USG response and was instrumental in the passage of U.S. legislation to allow the transfer of eradication technology, using sterile male screwworm flies, for use outside the Western Hemisphere. The United States was thus able to make an internationally applauded contribution to screwworm control in North Africa. OFDA, with cooperation from Pacific Environmental Services, Inc., the U.S. Environmental Protection Agency, USAID/Pakistan, and the Pakistani government modified a cement kiln in

northern Pakistan for the clean incineration of outmoded and hazardous pesticides. The demonstration burn set a new precedent for pesticide disposal and can be adapted for use in any country. OFDA also supported a study of pesticide waste sites in Thailand and Western Samoa that assessed the degree of hazard and proposed programs to address management issues.

INSTITUTION BUILDING AND TRAINING: Many of the programs supported by OFDA have had a training component to improve the disaster management capabilities of disaster-prone countries. The Dade County Fire and Rescue Department provides emergency management training and operational support in Latin America and the Caribbean as well as international search and rescue services in support of OFDA's relief operations; the National Fire Protection Association, in a cost-sharing grant, provides in-country training programs in fire prevention and emergency response; the emergency preparedness programs of the Pan American Health Organization, Partners of the Americas, and the Pan Caribbean Disaster Preparedness and Prevention Project, all supported by OFDA grants, have helped to build local and regional disaster management skills; the Asian Disaster Preparedness Center at the Asian Institute of Technology in Bangkok, established in 1986 with OFDA funding, offers regionally appropriate training programs to disaster specialists from Asian and Pacific countries; the Indonesia Disaster Management Center, established also in 1986 as part of a UNDP/OFDA preparedness project, focuses on training Indonesians in monitoring and managing the country's disasters; the University of Wisconsin's Extension Correspondence Course trains host country disaster managers in effective management techniques and strategies; and the OFDA regional advisors in San Jose, with assistance through the USDA/USFS RSSA, are developing an extensive train-the-trainer program.

OFDA's Future Direction

As OFDA begins the decade of the '90s, the International Decade for Natural Disaster Reduction (IDNDR), more emphasis will be placed on PMP activities in accordance with the approach that disasters are best managed with careful planning and preparation prior to the event. A larger share of OFDA's overall budget and staff resources will be earmarked exclusively for prevention, mitigation and preparedness activities.

Future PMP activities will be weighed against the principal criteria used to judge the validity of relief programs: the protection and saving of human life. PMP projects will also be ranked according to the impact that the activity will have on protecting economic assets. In this regard, OFDA will attempt to integrate disaster prevention into existing or new development programs implemented by the development community, including host country investment programs, U.S. private voluntary organizations working in country, international donors such as the World Bank, and A.I.D. Missions.

One of the more important new PMP initiatives is a proposed famine mitigation project which will identify the most effective interventions at the local level in famine emergencies and refine them for use by OFDA's cooperating partners. The mitigation interventions will be designed for implementation in conflict and non-conflict situations and will include seeds and hand tool programs, livestock preservation activities, water conservation techniques, and cash for work and cash transfer activities. The project will expand OFDA's satellite early warning capabilities and improve ground assessment techniques.

OFDA will also support the newly established International Disaster Advisory Committee (IDAC) which is exploring ways to stimulate interest among governments and corporations in instituting disaster mitigation and prevention measures in their development and business activities.

In the 25 years since OFDA was created, the world has witnessed significant progress in dealing with man's age-old struggle against the destructive forces of nature. New technologies have improved hazard identification, prediction, and warning systems, and the disaster management capability of many vulnerable populations has been considerably enhanced. The 1990s IDNDR under U.N. auspices is evidence of the growing interest worldwide in finding ways to prevent disasters or lessen the impact of hazards that cannot be prevented. At the same time, the world has become a more dangerous place as the world's population expands and industrial and technological disasters become more common. Developing strategies to prevent, mitigate, and prepare for disasters will, therefore, become an increasingly critical need. That is the challenge for OFDA and other disaster specialists in the next 25 years and the years that lie beyond.

OFDA Emergency Response Prior-Year and Non-Declared Disasters

Activities initiated in response to a disaster declaration often require additional funding for completion in subsequent fiscal years. OFDA contributed a total of $4,485,950 from FY 1989 accounts to continue assistance to several countries in which disasters had been declared in previous years or to fund activities in countries or regions in which disasters were occurring or threatening but had not been officially declared. Other A.I.D. offices also provided continuing assistance in some disasters. For the fourth consecutive year locust/grasshopper infestation disasters were declared in several African countries in FY 1989. While responding to the new insect disaster declarations (described in this volume under "FY 1989 Disasters"), OFDA continued to provide assistance for some of the control and monitoring activities begun in the previous fiscal year and to fund activities in the FY 1989 campaign that were not country specific. These and all other funding obligations for prior-year or non-declared disasters are summarized below.

Africa Regional - Insect Infestation (Non-Declared FY 1989)

OFDA amended an agreement with USDA/USFS for technical assistance ($300,000); contracted for three air tractors for a one-year spray program ($905,833 excludes share for Senegal and Jordan); contracted for four Turbo Thrushes for a one-year spray program ($1,336,000 excludes share for Mauritania); contracted for the installation of an Omega radio navigational system for the Turbo Thrushes ($23,470); paid for assessment missions in Sudan, Morocco, Algeria, Tunisia, Yemen, and Saudi Arabia ($16,325); funded costs of participants at an FAO meeting on dieldrin ($8,910) and travel expenses of an aerial logistics expert to go to Jordan, Sudan, and Senegal ($4,720) and of a contractor to attend meetings in Rome and Senegal ($4,695); paid additional air freight for safety equipment ($908); provided technical services to FAO ($5,536); arranged inspection of Brazilian malathion prior to shipment ($7,613); purchased and shipped 1,000 A.I.D. decals for the malathion ($384); and paid travel costs of a radio technician to assist several African countries ($15,611).

A.I.D.'s Africa Bureau provided a grant for $1.5 million to assist FAO's continuing survey/surveillance program; funded an environmental assessment ($24,600), technical assistance ($9,700), and research and development ($73,900); paid for training programs through USDA/OICD (U.S. Department of Agriculture/Office of International Cooperation and Development) ($913,700) (interdepartmental agreement) and a program evaluation ($65,100); and funded a biological control research program ($972,400) and a rodent control program ($262,000).

Total OFDA *$2,630,005*
Total Other USG *$3,821,400*

TOTAL **$6,451,405**

Algeria - Insect Infestation (FY 1988)

Continuing the assistance to Algeria begun in FY 1988 to combat locust infestations, OFDA paid the expenses of an entomologist ($7,155), in-country expenses of a technical assistance team ($1,293); and air freight of truck spare parts ($803).

TOTAL **$9,251**

Bangladesh - Floods (FY 1988)

OFDA replaced stockpile items used in the Bangladesh flood disaster: 26 3,000-gallon water tanks ($53,194) and support kits for the response teams ($1,311); paid ocean freight for 5,840 replacement blankets to the Panama stockpile ($10,775) and the cost of trucking plastic sheeting from the manufacturer to the air base for shipment to Bangladesh ($5,659); funded a CDC debriefing ($575); and provided funds to USAID/Dhaka to continue emergency relief activities ($576,695—adjusted from the original $800,000).

Food for Peace commodities (46,575 MT of P.L. 480 Title II wheat and 120,000 MT of Title III wheat) provided in FY 1989 in response to the flood disaster had a total value of $33,129,300. A.I.D.'s Asia Near East Bureau approved funding totaling $16,065,646 from FY 1989 accounts for the reconstruction and preparedness program in Bangladesh.

Total OFDA *$648,209*
Total FFP *$33,129,300*
Total Other USG *$16,065,646*

TOTAL **$49,843,155**

Burkina Faso - Insect Infestation (FY 1987)
A.I.D.'s Africa Bureau paid participant travel expenses for a workshop ($4,000).

Total Other USG *$4,000*

TOTAL **$4,000**

Burma - Civil Strife (FY 1988)
In FY 1989, OFDA obligated additional funds to cover the cost of airlifting medical supplies from Thailand to Burma.

TOTAL **$325**

Chad - Insect Infestation (FY 1988)
Participant travel expenses to a workshop were paid with Africa Bureau funds ($5,700).

Total Other USG *$5,700*

TOTAL **$5,700**

Chad - Rat Infestation (FY 1987)
A.I.D.'s Africa Bureau funded a rodent control program ($353,000) and rodent research ($38,500).

Total Other USG *$391,500*

TOTAL **$391,500**

Costa Rica - Floods (FY 1988)
The six 3,000-gallon water tanks used in this disaster were replaced in the OFDA stockpile in FY 1989.

TOTAL **$12,734**

Ethiopia - Insect Infestation (FY 1988)
To complete the FY 1988 control campaign, OFDA funded the cost of helicopter survey time.

TOTAL **$15,405**

Ethiopia - Drought (FY 1987)
Because this disaster was declared late in FY 1987, most USG assistance was provided in FY 1988 (see "Prior-Year and Non-Declared Disasters" in the *OFDA FY 1988 Annual Report*). To give continuing support, OFDA funded the following activities from FY 1989 accounts:

Bags of U.S. food at the RRC facility in Massawa port
Photo by Renee Bafalis, AID/OFDA

contract for a Famine Early Warning System (FEWS) monitor ($81,370) and ocean freight costs to replace 8,550 wool blankets ($3,800) and 750 rolls of plastic sheeting ($15,000) to the Leghorn stockpile. Funds from an A.I.D. Congress-designated earmark for children orphaned by the drought or civil strife were also obligated for Ethiopia in FY 1989: to the Consolata Orphan Home ($13,250) and Child Reunification (II) program ($177,474), to the Christian Relief and Development (8 sub-projects) and SCF/US (2 projects) ($225,308), and to Hope Enterprises ($15,062).

TOTAL **$531,264**

Guinea-Bissau - Insect Infestation (FY 1987)
The Africa Bureau paid for participant travel to a workshop ($600).

Total Other USG *$600*

TOTAL **$600**

Guyana - Power Shortage (Non-Declared FY 1989)
Responding to an electric power emergency in Guyana, OFDA funded the expenses of an assessment team.

TOTAL **$2,790**

Jamaica - Hurricane (FY 1988)
Continuing the assistance to Jamaica after the devastating hurricane (Gilbert) of September 1988, OFDA funded the following activities from FY 1989 accounts: the cost of a DOD airlift of electric power equipment ($110,000) and the expenses of a power expert for two additional days ($250); the expenses of a team to assist USAID/Kingston in a review of private sector donations ($4,080); an increase in air freight costs of zinc sheeting ($9,982); shipping costs to return radio equipment to OFDA ($1,800); replacement and transport costs of 18 3,000-gallon water tanks ($38,202); replacement costs of support kits used by the OFDA response teams ($1,049); and shipping costs to replace plastic sheeting to the OFDA stockpiles ($4,260). Additionally, the U.S. Congress earmarked $35 million in FY 1989 monies for rehabilitation assistance.

Total OFDA *$169,623*
Total Other USG *$35,000,000*

TOTAL **$35,169,623**

Malawi - Food Shortage (FY 1988)
OFDA purchased a vehicle for the use of the disaster coordination officer stationed in Malawi in FY 1988.

TOTAL **$4,700**

Mali - Insect Infestation (FY 1988)
The Africa Bureau funded the use of plant seed having a natural insect repellant ($24,500) and a pesticide health impact conference ($19,300). USAID/Bamako's buy-in to AELGA amounted to $200,000.

Total Other USG *$243,800*

TOTAL **$243,800**

Mexico - Fire (Non-Declared FY 1989)
To help Mexico fight border fires, OFDA arranged with the USFS to provide an aircraft and technical assistance.

TOTAL **$20,000**

Nepal - Earthquake (FY 1988)
OFDA paid shipping costs to replace 300 rolls of plastic sheeting to the Singapore stockpile.

TOTAL **$10,000**

Niger - Insect Infestation (FY 1988)
OFDA provided funds for the rental of two spray planes ($166,000). The Africa Bureau funded a pesticide awareness conference ($54,000) and a training workshop ($7,900). A USAID/Niamey buy-in to AELGA amounted to $687,400.

Total OFDA *$166,000*
Total Other USG *$749,300*

TOTAL **$915,300**

Paraguay - Floods (FY 1988)
OFDA paid replacement and shipping costs for 134 rolls of plastic sheeting.

TOTAL **$40,768**

Puerto Rico - Hurricane Hugo (Non-Declared FY 1989)
OFDA replaced to the Panama stockpile 1,000 rolls of plastic sheeting used by the Federal Emergency Management Agency (FEMA) for emergency shelter. The cost ($294,150) was completely reimbursed by FEMA.

TOTAL **$0.0**

Somalia - Civil Strife (FY 1988)
The expenses of a CDC epidemiologist conducting a health assessment over a four- to five-week period amounted to $6,600. OFDA also paid freight costs for a shipment of radio antennas and cables ($595).

TOTAL **$7,195**

Soviet Union - Earthquake (Non-Declared FY 1989)
In anticipation of a possible need for USG assistance after an earthquake and landslide in Tadzhikistan, Soviet Union, OFDA pre-positioned in Washington a communications team, communications equipment, and a physician. (The U.S. Ambassador declared a disaster, which was subsequently cancelled when it was determined that U.S. assistance was not required.)

TOTAL **$21,765**

Sri Lanka - Civil Strife (FY 1987)
The AID/ANE Bureau continued funding a three-year reconstruction program. In FY 1989, $10 million was provided in development assistance and $10 million in P.L. 480 Title I commodities.

Total FFP *$10,000,000*
Total Other USG *$10,000,000*

TOTAL **$20,000,000**

Sudan - Civil Strife/Drought (FY 1988)
The Sudan civil strife disaster was redeclared in FY 1989 (see "Sudan - Civil Strife" in this volume). One small expenditure to cover car rental for a field assessment remained from the FY 1988 declaration.

TOTAL **$51**

Sudan - Floods (FY 1988)
OFDA obligated funds from FY 1989 accounts to airlift 385 rolls of plastic sheeting from the manufacturer ($89,643), replace support kits used by the OFDA response team ($1,705), and pay local freight charges to move the plastic sheeting ($10,430).

TOTAL **$101,778**

Sudan - Insect Infestation (FY 1988)
OFDA amended the agreement with the USGS for greenness mapping ($49,531) and hired an aircraft for a DLTF assessment team ($8,304).

TOTAL **$57,835**

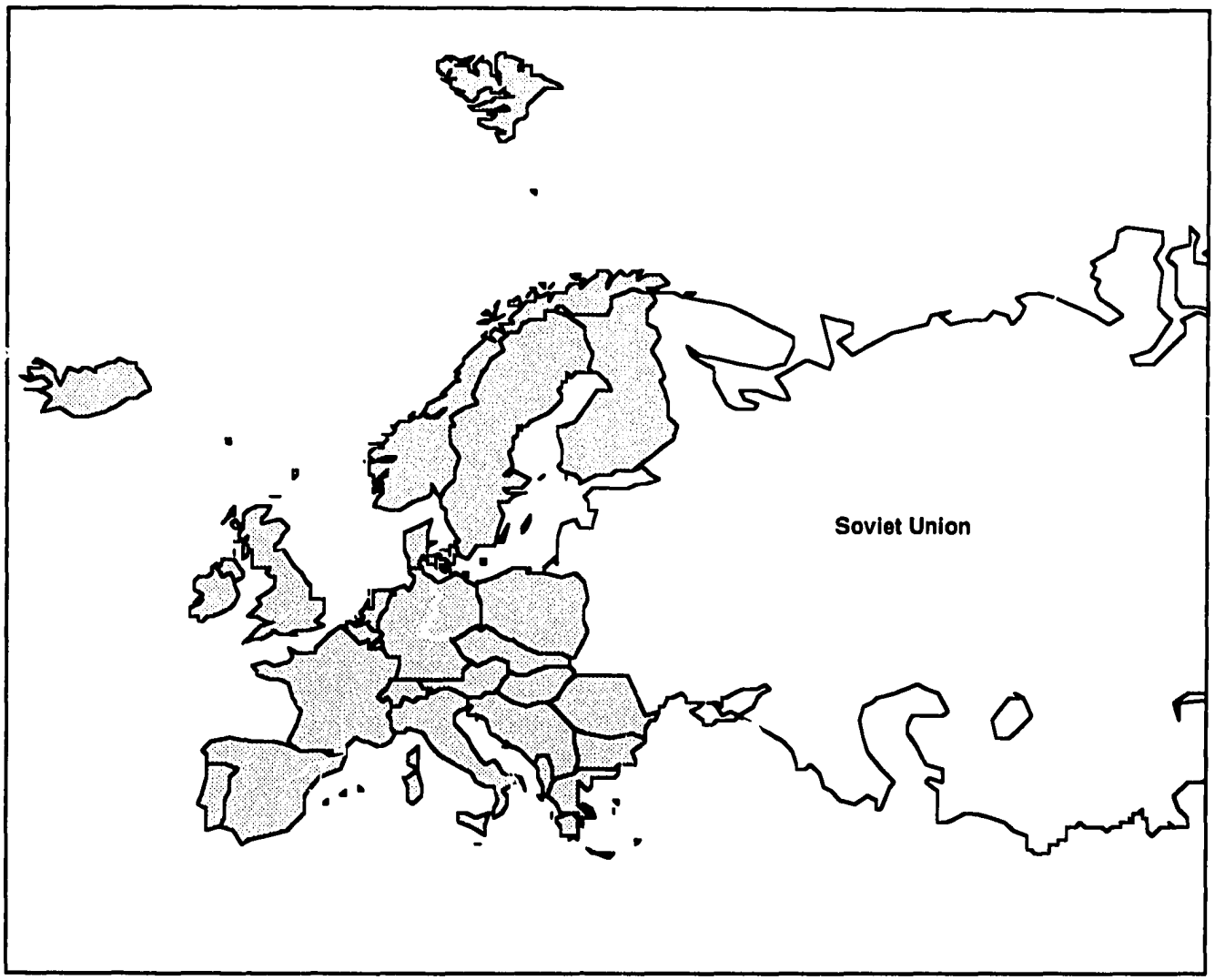
Tunisia - Insect Infestation (FY 1988)
To continue control activities begun in FY 1988, OFDA paid the expenses of two entomologists to assist the Tunisian Crop Protection Service ($32,992) and of an environmental expert and an entomologist to assess the planned control program ($3,260).

USAID/Tunis purchased three air tractors at a cost of $1.3 million to assist the control campaign.

Total OFDA *$36,252*
Total Other USG *$1,300,000*

TOTAL **$1,336,252**

Europe



SOVIET UNION - Accident

Date: June 3, 1989

Location: Between Ufa and Asha (near Chelyabinsk) in the Ural Mountains

No. Dead: 607, including 379 found and 228 missing who were declared dead (official Soviet figures)

No. Affected: 757 hospitalized, of which more than 700 suffered from severe burns

Summary of Assistance:

USG	$126,243
U.S. Voluntary Agencies	None reported
International Community	$250,000
TOTAL	**$376,243**

The Disaster

One of the worst transportation accidents in Soviet history occurred on June 3 on a stretch of tracks between the cities of Ufa and Asha in the Ural Mountains. A spark from a passing train set off an explosion which caused one train to derail and crash into a second. A leak in a liquified natural gas pipeline running alongside the Trans-Siberian Railroad exploded and engulfed the locomotives in flames. Both trains were traveling between the Siberian city of Novosibirsk and the Russian city of Adler, near the Black Sea resort of Sochi. Trains using this route normally carry large numbers of vacationers at this time of the year.

Soviet authorities estimated that of the passengers aboard the two trains, at least 600 perished. Many of the passengers were school children bound for a holiday outing at a Black Sea camp. As such, the number of passengers riding the trains will never be known since children under age eight do not require tickets.

About 762 passengers were hospitalized. Most suffered from burns, while other injuries included fractures and shrapnel wounds. The victims were taken to hospitals in Moscow, Ufa, Sverdlovsk, Kuibyshev, Gorky and Chelyabinsk. The blast, which could be heard for miles, sent shockwaves that destroyed the roofs and upper levels of buildings in the nearby village.

Action Taken by the Government of the Soviet Union (GOSU) and Non-Governmental Organizations

Within hours of the explosion, Soviet President Mikhail Gorbachev and other top Soviet officials visited the disaster site and the hospitals in Baskir. President Gorbachev, struck by the tragedy, declared June 5, 1989, a national day of mourning for the victims.

Military units and medical teams were mobilized immediately to search for survivors and to ferry burn patients to several nearby cities for treatment. At the site, a field hospital was pitched to provide triage and immediate care. Medical personnel initiated fluid therapy to the burn patients at the disaster site. After transporting the victims to local city hospitals and stabilizing them, Soviet officials moved the more critically ill patients to Gorky, Moscow, and Leningrad by Aeroflot jet. On June 10, the Ministry of Health (MOH) decided to move the seriously injured from Ufa to Moscow. Those children with burns covering 50% or more over their bodies were treated at Children's Hospital #9 in Moscow.

The MOH identified specialized medicine and medical equipment in short supply and released the list to selected countries; among these was the United States. Since gravely burned victims often suffer from acute renal failure, the list emphasized dialysis machines and equipment. The MOH also managed a mass campaign to collect blood for the victims. Finally, the MOH provided two interpreters and arranged accommodations for the members of the U.S. DOD and OFDA-sponsored civilian burn teams.

As during the Armenia earthquake disaster, the Soviet airline Aeroflot, through the INF agreement, donated space and moved equipment and supplies from the U.S. government and U.S. PVOs. (See "U.S. Voluntary Agencies," below.) Soviet Red Cross volunteers provided care for the hospitalized victims, funds for the survivors, and assistance in contacting relatives. The Republic Hospital from Yerevan, Armenia, sent a dialysis team with a dialysis machine to aid the burn victims.

Assistance Provided by the U.S. Government

President George Bush sent a message to Chairman Gorbachev on June 4 expressing sympathy for the

families of the victims and the nation as a whole. The following day, U.S. Ambassador Jack F. Matlock declared that the train accident and the needs of the numerous burn victims warranted a disaster declaration. The U.S. State Department responded by extending an offer of medical assistance to the Soviets.

When President Bush visited the Soviet Embassy in Washington, D.C., on June 6 to sign the condolence book, he took the occasion to offer the expertise of U.S. military burn specialists. At the same time, OFDA was already preparing a civilian team to assist the Soviet victims. On June 8, the Soviet Union accepted assistance of the civilian team and one day later, they consented to the team from the U.S. DOD.

On June 9, OFDA assembled a group of civilian pediatric burn specialists, which included three physicians and one registered nurse. They arrived in Ufa on June 10. Dr. David N. Herndon, a nationally renowned pediatric burn expert from Shriners Hospital in Galveston, Texas, headed the group of medical personnel. An OFDA-designated team manager from the U.S. PHS and a communications technician from the USFS's Boise Interagency Fire Center (BIFC) accompanied the team to provide support. The group took about 600 lbs. of medical equipment and supplies, hand-held radios, and satellite communications. (OFDA reimbursed Shriners Hospital, Galveston, for the medical supplies, worth almost $25,000.) An official from the U.S. Embassy in Moscow joined the team and traveled to Ufa, providing interpreter services and support.

In Ufa, the OFDA-sponsored physicians attended to the needs of burned children at the Republic Children's Hospital and assisted the Soviet medical staff by instructing them in treatment modalities, techniques, and rehabilitative planning and treatment of patients. Since most of the pediatric patients had been transferred to Moscow by the time that the U.S. civilian team arrived in Ufa, Dr. Herndon traveled to the capital to assess needs at Children's Hospital #9. Upon his arrival, he consulted with Dr. Allan Collins, a physician sent to the Soviet Union by Occidental Petroleum as part of an advance dialysis team.

On June 12, Drs. Herndon and Collins met with top MOH officials to discuss the state of operations at Hospital #9. Based upon recommendations from the U.S. physicians, the MOH requested that another U.S. team be brought to Moscow to assist the Occidental Petroleum team. The OFDA group could not be moved from Ufa due to ongoing operations and crucial follow-up treatments. As a result, the Soviet MOH agreed to bring a burn team from Boston's Shriner's Hospital, headed by Dr. John Remensnyder, to Hospital #9.

U.S. team members collaborated closely with their Soviet counterparts in treating burn patients.
Photos courtesy of Steve Posner, PHS

Arising from President Bush's offer to the Soviet Union, the DOD also provided a team of burn specialists comprising about 22 medical personnel from the U.S. Army's Brooks Burn Center in Ft. Sam Houston, San Antonio, Texas, and their interpreters. They arrived in Ufa on June 11 and carried 3,000 kg. of medical supplies and support items for both USG teams. The Soviet MOH requested that the DOD group stay at least until June 23. In support of this, OFDA arranged for OFDA team member Paul Nichols to remain with the DOD team in Ufa until June 23rd in order to provide communications assistance. DOD U.S. Army Europe donated six ventilators which were left in Ufa as a donation.

The civilian burn team performed an on-ground assessment which revealed a need for additional medical equipment and supplies. On June 15, a DOD resupply flight also carried four additional DOD medical personnel to bolster the military medical effort.

Most of the OFDA team members returned to the U.S. on June 17. One of the physicians, Dr. Reinke, traveled to Moscow on June 18 to assist the Boston Shriners Hospital

team at the Children's Hospital #9. (See "Assistance Provided by U.S. Voluntary Agencies," below.) And with OFDA support, the USFS communications officer stayed in country to lend support to the DOD team.

OFDA also provided medical equipment and medicine. In response to a serious need for burn salve, OFDA shipped 400 lbs. of silvadene, a special burn cream, with the team on June 9. A second load of OFDA-purchased medicine and medical supplies, all worth $20,000, was carried aboard a June 15 Aeroflot flight.

During this disaster operation, OFDA aided many U.S. PVOs in their attempts to respond to the needs of the victims. OFDA forwarded a list of medicine and medical equipment identified by the Soviet MOH as being critically needed in order to treat the victims. AmeriCares and Project Hope filled part of the list. The American Red Cross (ARC) assisted OFDA by organizing the collection of commodities and prioritizing the list of needs.

Summary of USG Assistance

Cost to pre-position the first medical team for deployment to the Soviet Union on June 6 ..... $28,905

Costs of the second medical team of pediatric burn specialists (4-member) for deployment to the Soviet Union from June 8 to 17 ..... $20,330

Technical assistance of BIFC radio technician Nichols and cost of the use of satellite communications equipment for 2 weeks $20,000

Technical assistance of PHS Steve Posner to provide coordination support for the team $4,080

Transport costs of medical supplies to JFK Airport on June 9 ..... $750

Transport of medical supplies from Walter Reed Hospital to Dulles Airport $130

Reimbursement to Shriners Hospital for medical supplies $24,933

Reimbursement to Walker International Transport to move ped-o-jet equipment $972

Travel authorizations for D. Herndon and A. Collins to OFDA for debriefing on July 17 ..... $950

Reimbursement to Walter Reed Hospital for medicine and equipment $25,193

TOTAL **$126,243**

Assistance Provided by U.S. Voluntary Agencies

ARC - supported OFDA's efforts by coordinating a shipment of donated medicine, medical supplies, and equipment.

AmeriCares - sent several thousand pounds of supplies and equipment on a June 8 Aeroflot flight, including a pediatric ventilator and a donation from Bristol Myers (see below). On June 13, a second shipment carried medical supplies donated by Norwich Eaton, Surgikos, and Welch Allyn aboard an Aeroflot flight.

Armand Hammer and Baxter Travenol - sent 3 dialysis machines and 2 dialysis experts, at the request of the Soviet government.

Baxter Health Care - dispatched a customer engineer to serve on the Occidental Petroleum advance dialysis team and dialysis equipment.

Bristol-Myers - donated a ton of antibiotics, analgesics, and cans of nutritional liquid specially formulated for burn victims. AmeriCares arranged the transport aboard an Aeroflot flight on June 8.

Occidental Petroleum - dispatched an advance dialysis team to Moscow after a request for assistance was sent by the Soviet government to Armand Hammer. The team's plane arrived on June 7, carrying 3 dialysis machines, supplies for 100 treatments of burn victims, nephrologist Dr. Allan Collins and Frank Buchanan, a customer engineer from Baxter Health Care. Occidental Petroleum sent another flight to the Soviet Union on June 9 with 8 more dialysis machines and more medical supplies. The Gulf Stream II aircraft was made available for international and intranational transport.

Private U.S. citizens - contributed services through private relationships with Soviet counterparts. Doctors Vladimir Kevetan, Steven A. Blaus, and Jasvantal

Govindlal Mehta, and Engineer James O. Sweeny traveled to Visunevsky Institute.

Project Hope - collected donated medicine and medical supplies and shipped them aboard an Aeroflot flight on June 14. The shipment included 1,818 kg. of supplies intended for Children's Hospital #9 in Moscow. Project Hope sent a 4-member team of medical personnel to Moscow; the group arrived on June 18 and worked in Children's Hospital #9. A second shipment of goods, valued at $656, arrived in Moscow on June 24 and was followed by a third shipment of medical supplies on June 25.

Assistance Provided by the International Community

Cuba - dispatched a medical team to aid victims being treated in Moscow.

Fed. Rep. of Germany Red Cross - sent about $250,000 of medical supplies to Chelyabinsk.

France - deployed a team of medical personnel to work in Chelyabinsk.

Israel - donated the services of a medical team to work in Moscow.

A triage center was set up close to the disaster site. The force of the explosion scorched trees on the ridge in the background.

Shriners Hospital (Boston)/Project Hope - organized a team under the leadership of Dr. Remensnyder to attend patients in Moscow's Children's Hospital #9. The team left the Soviet Union on June 17.

Japan - provided ultrasonic nebulizer, automatic infusion pump, and liquid food.

United Kingdom/Ireland - dispatched a joint 21-person medical team to attend to victim needs in Chelyabinsk.

TOTAL **$250,000**

SOVIET UNION - Earthquake

Date: Dec. 7, 1988

Location: Soviet Armenia, the cities of Spitak, Leninakan, and Kirovakan among the most severely affected

No. Dead: 25,000 (official Soviet estimate); unofficial figure is believed to be much higher

No. Affected: 1,100,000; 530,000 homeless

Summary of Assistance:

USG	$9,466,015
U.S. Voluntary Agencies	$41,775,262
International Community	$158,857,580
TOTAL	**$210,098,857**

The Disaster

On Dec. 7 at 11:41 a.m. local time an earthquake registering 6.9 on the Richter scale rocked the northern part of the Armenian Republic of the Soviet Union. The area of the quake, along the Armenia-Georgia border, was well known to Soviet experts as a highly active seismic zone; however, the Dec. 7 temblor was reported to be the strongest in the region in more than 80 years. Within minutes of the first shocks, bustling cities and villages were reduced to dust-shrouded mounds of rubble with thousands of people trapped inside the twisted and fallen buildings.

Twenty cities and towns and 358 villages were affected, with 58 villages completely destroyed. The district of Spitak (population 46,000) was leveled, and the major cities of Kirovakan (population 170,000) and Leninakan (population 230,000) sustained serious damage. The population figures for these towns do not include the thousands of refugees from Azerbaijan, displaced by ethnic strife, who had arrived in Armenia prior to the earthquake, and the casualty figures may not reflect the losses in the refugee population.

According to official Soviet estimates, the earthquake left 25,000 people dead and 530,000 homeless. About 12,000 victims were hospitalized and 120,000 were evacuated. The official figures for the number dead are based on the number of bodies recovered, and Soviet officials indicated that thousands of bodies may not have been found. The official figures for the number of people left homeless and the number evacuated are also probably low. People who left the area without government assistance may not have been included and thousands of others living on the margins of the earthquake zone were evacuated only weeks later when authorities discovered that their homes were uninhabitable. The onset of bitter winter cold exacerbated the suffering of the thousands left homeless by the quake.

The quake caused enormous damage to housing, public buildings, and industrial establishments. About 17% of the total residential space in Armenia was damaged or destroyed. The public institutions destroyed or seriously damaged included 377 schools, 245 kindergartens, 560

Coffins lined the Yerevan streets for the thousands of dead.
Photos by Renee Bafalis, AID/OFDA

health establishments, and 324 community or cultural centers. Close to 170 businesses were destroyed, costing 82,000 jobs and 2 billion rubles ($3 billion) in lost production. High-rise apartment buildings, built with modern Soviet construction techniques, proved highly vulnerable to seismic forces. The heavy pre-cast concrete slabs used in constructing the buildings also impeded the rescue effort. The Soviet damage estimate of 13 billion rubles ($20.5 billion) was in large part due to the destruction of housing and industrial enterprises. Damage was also extensive to roads and bridges and to power and water lines. The agricultural sector was affected by the loss of thousands of head of cattle and other farm animals and the damage to barns, water pumps, water canals, and other agricultural infrastructure.

Action Taken by the Government of the Soviet Union

The earthquake occurred just as General Secretary Mikhail Gorbachev was ending an official visit to U.N. headquarters in New York. Upon hearing of the disaster in Armenia, the Secretary General cut short his visit to return to Moscow, and on Dec. 10 he toured the devastated city of Leninakan. A national day of mourning was proclaimed for Dec. 10.

The Soviet government responded quickly to send medical and rescue personnel to the stricken area. Military and civilian doctors were flown to the scene from as far away as Leningrad. The Soviet army had primary responsibility for carrying out rescue operations. Army medical units and distribution centers were set up in the affected area. The earthquake victims suffered from bone fractures, complicated by infections and crush syndrome, as well as from severe cold and exposure. Over 2,500 cases of crush syndrome developed during the first week, a condition resulting from damaged muscles releasing high concentrations of potassium into the bloodstream and causing kidney damage or cardiac arrest. The most seriously injured victims were flown to Moscow and other cities for treatment by specialists.

Domestic resources were also mobilized to send relief supplies to the earthquake zone. Over 1,000 internal relief flights had reached the area by February 1989. Most Soviet assistance came by railway, however, with over 27,000 rail cars of relief supplies having been delivered by Dec. 19. The evacuation of survivors to safer areas in Armenia and elsewhere in the Soviet Union became a high government priority as well. According to official estimates, 120,000 people were evacuated from the earthquake zone. An additional 100,000 to 200,000 people are believed to have voluntarily left the affected area.

Because of the magnitude of the disaster, Soviet officials recognized at an early stage that external assistance would also be required. On Dec. 9, the Soviet Mission in Geneva informed the United Nations of the government's decision to accept international assistance for victims of the earthquake. This prompted a nearly unprecedented response from the international community, with 74 (recorded by UNDRO as of June 1989) countries offering in-kind donations, cash, and services. At the peak of the rescue effort, over 1,000 foreign volunteers were working

The homeless stayed by the rubble sites where their houses and apartment buildings once stood.

alongside Soviet army and civilian personnel. The efforts of the rescue and medical teams extricated 40,000 people and saved the lives of 15,000. Bank accounts were established worldwide wherever the Soviet Union had embassies to collect money to assist victims.

The Ministry of Civil Aviation facilitated the international response by streamlining air clearance procedures for relief flights. The Soviet government also offered free transport by the national airline, Aeroflot, of international relief donations and agreed to the use of INF (Intermediate-range Nuclear Forces) flights to transport relief supplies from the United States.

By Dec. 23, search and rescue operations had ceased and demolition had begun in parts of Leninakan and Spitak. An interdepartmental commission was formed to

implement reconstruction plans which involved rebuilding in localities beyond earthquake rifts. Spitak was to be shifted south of its pre-earthquake location, and Kirovakan reconstruction would occur on terraces.

The government also formed a commission to coordinate the dispersion of compensation which included 500 rubles ($785) to each individual affected by the earthquake, an additional 2,000 rubles ($3,140) to each family, 1,500 rubles ($2,355) to each homeless person, and compensation to families for their material losses. The government's emergency assistance, including grants to families, amounted to 1.9 billion rubles ($3.2 billion).

The Soviet Alliance of Red Cross and Red Crescent Societies also played a major role in the domestic response. The Alliance chartered planes to carry relief supplies to the affected towns, and the Soviet and Armenian societies coordinated the consignment and distribution of relief supplies. Considerable financial assistance was provided by the Central Committee of the CP of the USSR ($78.9 million), the labor unions ($157.8 million), the Communist Youth League ($8.5 million), the Children's Fund the Peace Fund, and many other public organizations.

Assistance Provided by the U.S. Government

On Dec. 8, Charge d'Affaires Ray Smith determined that a disaster existed in Soviet Armenia and offered USG assistance to the Soviet Foreign Ministry in Moscow. On Dec. 9, the Soviet Embassy in Washington authorized a relief flight organized by OFDA and released a list of needed supplies. This marked the first time since World War II that the Soviet Union had accepted disaster assistance from the U.S. government.

Both OFDA and a specially created State Department task force maintained a 24-hour operation for the first several days after the earthquake to monitor the situation and coordinate the USG response. The State task force remained in existence until Jan. 6.

The first relief flight, a commercially chartered aircraft, departed Washington on Dec. 10, carrying OFDA and State Department representatives; six trauma specialists; a search team comprising eight dogs, eight handlers and operations support personnel; a shelter specialist; representatives from Armenian-American groups; search team support equipment; and other commodities.

The U.S. Embassy in Moscow also established a task force which operated around the clock to coordinate relief operations. An Embassy representative remained in Armenia from Dec. 14 to Jan. 10 to facilitate the USG relief effort. U.S. Ambassador Jack F. Matlock contributed $25,000 from his disaster assistance authority to the Soviet special account for quake victims on Dec. 12. OFDA provided $25,000 to the U.S. Embassy to cover expenses of the USG-sponsored teams.

Six DOD flights, paid for by OFDA, carried additional relief supplies to Armenia, including tents and plastic sheeting, water jugs, cots, blankets, hand tools, and rescue gear from OFDA's stockpiles in Maryland and Italy and medical supplies from U.S. military stocks in Europe. The six flights arrived in Armenia on Dec. 10 (two flights), Dec. 13 (two flights), and Dec. 14 and 15. The flights also carried 19 rescue personnel who participated in the discovery and extrication of two survivors who had been trapped beneath the rubble for five or six days after the quake.

OFDA dispatched a follow-on team composed of representatives from AID/OFDA, PVOs, and Armenian- and Russian-speaking pharmacists, which arrived in Armenia on Dec. 17. Several team members accompanied a convoy of trucks that delivered USG-donated tents, cots, and other supplies to residents of seven rural towns and villages in the affected area. The pharmacists conducted inventories of millions of dollars worth of donated medical supplies which were turned over to the Soviet Ministry of Health. The OFDA-donated plastic sheeting was used with Soviet-manufactured metal frames to build animal shelters to save thousands of farm animals from perishing in the winter cold.

The Soviet Academy of Sciences accepted a U.S. proposal to send a team of scientists to Armenia to study the earthquake-stricken region and provide technical assistance to Soviet scientists and engineers during the recovery and rehabilitation period. The 17-member U.S. team, coordinated by the U.S. Geological Survey, departed for Armenia on Dec. 19 aboard an Aeroflot flight arranged by the American Red Cross.

OFDA agreed to reimburse CARE/US for the transport of a planeload of CARE food packages from Great Britain to Armenia. The CARE packages arrived in Yerevan, the Armenian capital, on Dec. 20 and were distributed the next day.

On Dec. 22, DOD provided transport to Yerevan of quonset-hut kits donated by Union Carbide and accompanied by 14 volunteer technicians. The huts were set up outside Spitak and used for storage of relief supplies. OFDA provided partial funding of the airlift in order to return some of the U.S. personnel in Armenia to the United States. The remaining AID/OFDA representatives and the volunteer team left Armenia for the United States on Dec. 29 aboard a returning Pan Aviation flight.

A son and grandson of President-elect Bush traveled to Armenia aboard an AmeriCares flight on Dec. 24. John E. Bush and his son, George P. Bush, toured the stricken area and distributed supplies to earthquake victims and gifts to children injured in the quake.

As of Mar. 15, 1989, DOD had arranged 13 C-141 flights independently (in addition to those funded by OFDA) to transport 257.6 MT of relief supplies donated by the Armenian-American community. DOD also supported Project Hope's medical evacuation of critically injured earthquake victims from the Soviet Union to the United States for medical treatment. The flight arrived in Washington, D.C., on Feb. 9 and was met by First Lady Barbara Bush.

The USG team's camp site

In December 1989, the U.S. Department of State authorized a DOD follow-on flight of relief supplies, including 12 four-wheel drive trucks, 50 medium-size tents and liners, 150 solid-fuel burning stoves, and a supply of blankets. The U.S. Congress approved $5

million in additional humanitarian assistance to Armenia in November 1989. The contribution was to be channeled through U.S. PVOs.

Summary of USG Assistance

First OFDA response team flight (commercial) $150,000

6 DOD flights and value of medical supplies from military stockpiles $613,070

OFDA partial funding for DOD airlift of quonset huts $45,317

Follow-on OFDA team flight (commercial) $139,800

Travel-related expenses of 36 specialists sent to Armenia by OFDA (dog handlers, rescue personnel, physicians, transportation expert, pharmacists, disaster expert) $112,295

Travel-related expenses of housing specialist (INTERTECT) $13,598

Travel-related expenses of AID/OFDA personnel (OFDA operating budget) $28,245

Ambassador's authority $25,000

OFDA funding for local support costs $25,000

Reimbursement to CARE for charter of aircraft to transport CARE packages from the U.K. $52,000

Replacement costs of 555 rolls of plastic sheeting to stockpiles $166,339

Replacement costs of support kits and protective clothing to stockpiles (68 individual and 16 intermediate support kits, 2,000 hard hats, 2,000 pairs of work gloves, and 29,500 face masks) $59,711

Washington debriefing of OFDA response teams ... $3,186

Support of dog teams $3,781

Reimbursement to Fairfax County for search and rescue team expenses $79,428

Replacement costs of 4,020 blankets to stockpiles (FY 90) $16,080

Replacement costs of 5,023 water jugs to stockpiles (FY 90) $7,283

Replacement costs of 4 (3,000 gallon) water tanks to stockpiles (FY 90) $6,800

Value of hand tools (100 axes, 484 hammers, 280 saws, 502 shovels, 100 picks, and 98 wrecking bars) (stockpile items not to be replaced - in-kind donation) $18,318

Value of 675 family tents (stockpile item not to be replaced - in-kind donation) $275,400

Value of 1,082 cots (stockpile item not to be replaced - in-kind donation) $47,608

13 DOD airlifts of donated commodities and partial funding for quonset hut airlift (DOD funds) $2,512,574

DOD medevac flight (DOD funds) $65,182

U.S. Congressional appropriation (FY 90) $5,000,000

Total OFDA *$1,888,259*
Total OFDA (FY 1989) *$1,516,770*
Total OFDA (FY 1989 in-kind) *$341,326*
Total OFDA (FY 1990) *$30,163*
Total Other USG *$7,577,756*

TOTAL **$9,466,015**

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

ADRA - donated $1,147,439 worth of medicine, orthopedic supplies, tents, plastic sheeting, blankets, and winter clothing and provided shipping costs for some of the relief supplies sent by International Medical Assistance. In cooperation with the Mennonite Central Committee, ADRA planned to build a children's rehabilitation center in Yerevan and seven polyclinics in Spitak and Leninakan.

American Friends Service Committee - collected, cleaned, and baled winter clothing for shipment to Armenia.

ARC - contributed $50,000 and established a fund for private donations, to be channeled through the Alliance of Red Cross and Red Crescent Societies. The ARC arranged 8 flights carrying in-kind donations valued at $8,092,736. This included blood-transfusion and ultrasonic equipment, antibiotics and other medical supplies, plastic sheeting, and blankets. Some of the supplies were donated by Baxter Healthcare Corp., World Medical Relief, Stryker Medical, Lyfe Medical, Nadworthy, Howemedica, Dynamax, and the Food and Beverage Institute. The ARC also collected $6,582,896 from private donations and benefit events. The ARC president traveled to the Soviet Union on Dec. 17, and 4 ARC nurses left for Armenia on Feb. 28 to work with 11 other Red Cross personnel for a 16-month period in

Metro Dade firefighter Raul Chavez (front) surveys a site for structural damage.

treating patients with spinal injuries. ARC commitments as of May 1989 included support for a post-traumatic rehabilitation center in Yerevan and for schools, hospitals, and housing in affected cities, and project support for LRCS.

American individuals and private organizations - contributed $1,239,870 (as of Feb. 17) through a special account at Riggs Bank.

American Joint Distribution Center (AJDC) - funded the medical evacuation of adult victims to Israel and planned to construct a rehabilitation center in Leninakan.

American private groups - donated 18 MT of medical supplies transported by Soviet aircraft in 6 INF flights from Travis AFB. California donors included Lyphomed, Inc., Bergen Brunswig, Medlon, Inc., St. Jude's Hospital, Advanced Home Care, and local Armenian Relief Societies of Western (U.S.A.), San Francisco and Sacramento.

AmeriCares - funded 4 flights to carry medical supplies, medicine, and other items donated by U.S. manufacturers: Abbott Laboratories, Eli Lilly, Searle, Sterling Laboratories, Nice Pak, McNeil, Becton Dickenson, Kendall, and Johnson and Johnson. The fourth flight, on Dec. 24, carried the President-elect's son and grandson to Armenia to distribute supplies and gifts to injured children. The value of the 4 flights and donated commodities was about $9,000,000. AmeriCares also arranged to fly 15 severely injured earthquake victims to the United States for donated medical treatment. The flight arrived in New York on Feb. 5 and the children were treated at several U.S. hospitals. The value of the flight and treatment was estimated at $500,000. In partnership with the World Rehabilitation Fund, AmeriCares established a prosthetic manufacturing facility in Armenia and sent 41 medical professionals to work with patients.

Appeal of Conscience Foundation - provided a fully equipped life-support ambulance valued at $30,000.

Armand Hammer - traveled to the Soviet Union aboard a relief flight on Dec. 11 and personally contributed $500,000. Mr. Hammer also delivered a WVRD donation. (See below)

The Armenian General Benevolent Union (AGBU), the Armenian Relief Society of North America, the Armenian National Committee, the Armenian Assembly of America, and the Armenian Missionary Association of America - provided 3 airlifts carrying a total of 80 MT of medical supplies and 40-50 physicians. The following Armenian-

American organizations were also active in soliciting contributions for earthquake relief: the Armenian Roman Catholic Church, the Diocese of the Armenian Church of North America, Medical Outreach for Armenians, Prelacy of the Armenian Apostolic Church of America, and the Vahagn Cultural Foundation. Both the AGBU and the Armenian Assembly established offices in Yerevan to help coordinate future assistance. The AGBU airlifted 49 patients to American hospitals and agreed to provide $2,000,000 in stone-cutting equipment to expedite housing reconstruction. The Armenian Assembly raised over $4,000,000 for relief and planned to build 3 housing plants outside Leninakan to produce building supplies.

Armenian Relief Society (ARS) - sent medical personnel and 56 MT of medicine and supplies aboard a Dec. 13 flight and shipped 20 hemodialysis machines on an Aeroflot cargo flight coordinated by the ARC. The equipment, which was donated by Baxter Healthcare/ Travenol Labs, was accompanied by a 4-person medical team. The shipment also included 5 water purification units and 10 electrical power stabilizers. The ARS, in conjunction with Volunteers in Technical Assistance (VITA), also sponsored a benefit concert given by Mstislav Rostropovich at the Kennedy Center on Feb. 7, which raised over $100,000. ARS transported 3 mobile clinics to Armenia, a project funded by the Canadian-Armenian Relief Society.

Baxter-Travenol - sent dialysis equipment and a team of 4 technicians, as well as blood transfusion equipment. Transport was coordinated by the American Red Cross and the Armenian Relief Society.

CARE - shipped 10,000 food packages from the United Kingdom and sent two staff representatives to assist in the distribution of the packages.

CRS - donated $100,000 through the Armenian Church for an ecumenical relief fund. In addition, CRS contributed $320,000 to 2 projects administered by WCC and Caritas.

Church of the Brethren (Washington) - donated $50,000 through CWS.

CWS - channeled relief supplies from Interchurch Medical Assistance and handled shipping costs. CWS also contributed $500,000 to a WCC/ Caritas/Government of Armenia project to rebuild 100 homes, a kindergarten, and a hospital; and supported projects of the Armenian Missionary Society with a grant of $350,000.

A Consortium of Classical Musicians - arranged a benefit concert at Carnegie Hall on Feb. 21 for Armenian rehabilitation, with the proceeds channeled through the ARC.

Daily Bread - collected $778 in Brevard County, Fla., for Armenian relief.

Diocese of the Armenian Church of America - sent 2 mobile hospitals, 3 first-aid stations, 15 dialysis machines, x-ray machines, and other supplies aboard the Dec. 16 Aeroflot flight.

Direct Relief International - shipped pharmaceuticals and medical equipment to a regional hospital in Armenia.

Feed the Children - funded an airlift to Yerevan, carrying 40 MT of commodities valued at $500,000.

Food for the Hungry - gave food, medicine, and medical equipment, all valued at $229,600.

Flying Tigers - provided a flight, coordinated through the Diocese of the Armenian Church of America, to carry relief goods and 150 personnel donated by King County, Washington; a rescue team from Portland, Oregon; medical supplies donated by the AGBU; 12 dialysis machines for the Soviet Red Cross; and 5 field hospitals assembled by Dr. Edgar Housepian under the auspices of the Diocese of the Armenian Church of America.

Interchurch Medical Assistance, Inc. - shipped medical supplies valued at $4,095,000 through CWS, ADRA, and an Armenian group in New Jersey. Hoffman-La Roche was a principal donor.

International Relief - coordinated with Medical Outreach for Armenians, Inc., to medevac 12 injured children from Yerevan to the United States for free medical treatment.

Jewish Federation Council of Los Angeles - gave $10,000 through the Diocese of the Armenian Church of North America.

King County, Washington (donations from private

groups) - dispatched 27.3 MT of medical supplies and 25 doctors on a Flying Tigers flight.

LWF - channeled cash donations through the WCC.

Mennonite Central Committee - transferred 10,000 blankets to Medical Outreach. For reconstruction, MCC planned to construct 4 to 8 clinics and, with ADRA, fund a children's rehabilitation center.

Mobile Telesystems, Inc. - sent communications equipment and 2 technicians to assist USG teams in Yerevan.

National Medical Care - donated 12 dialysis machines; the Armenian Assembly of America provided the cost of transport from Boston to New York to meet the Flying Tigers flight.

Operation California - collected 90 rolls of plastic sheeting and medical equipment which were flown from Los Angeles on the Flying Tigers and Aeroflot flights.

Oxfam/US - donated $20,000.

Pan Aviation - donated the transport for 3 planeloads of supplies provided by Armenian-American groups.

People to People - sent a 10-person technical team accompanied by firemen from the International Association of Fire Chiefs.

Portland, Oregon - dispatched a rescue team aboard the Flying Tigers flight.

Project Hope - coordinated a program to help children who were seriously injured in the earthquake. Phase I brought a number of victims to the United States for treatment, and Phase II sent doctors, nurses, and therapists to provide treatment and training within Armenia over a 5-year period.

SCF/US - released $5,000 for the purchase of medical supplies and provided a project manager for the AJDC rehabilitation center. SCF/US also provided grants to the V. I. Lenin Children's Fund and to SCF/UK.

Southern Baptist Foreign Mission Board - donated $20,000 through the Danish Baptists.

SportsChannel America - launched an appeal during the televised hockey games between the Soviets and NHL teams. (The $1,000,000 raised is included in the ARC contribution.)

Union Carbide - provided funding for plastic sheeting, metal frames, and 14 technicians to construct storage huts.

VITA - co-sponsored (with the ARS) a benefit concert at the Kennedy Center on Feb. 7.

WVRD - provided $500,000 for relief and medical supplies which was delivered by Armand Hammer. WVRD also cooperated with other organizations to arrange three relief flights to Armenia, carrying 49 MT of pharmaceuticals, orthopedic equipment, generators, and other supplies, as well as toys for Armenian children. The value of the goods booked by WVRD, most of which were donated, and the cost of one of the flights totaled $1,831,943.

TOTAL **$41,775,262**

Assistance Provided by the International Community

International Organizations

Arab Gulf Fund for United Nations Development Organizations - donated $50,000.

CARE International - collected at least 20,000 food packages from various CARE chapters throughout the world, valued at $472,920, and sponsored a truck convoy to carry food and blankets.

EC - co-financed 11 relief flights with the governments of Belgium, the U.K., and West Germany, as well as NGOs and Red Cross societies, and provided tents, blankets, medicine, a mobile hospital, and prefabricated houses. Total aid amounted to $11,693,385.

LRCS - coordinated with the Soviet National Society,

with on-site liaison provided by the LRCS under-secretary general. LRCS sent 640 winterized tents, valued at $334,000. on a Dec. 17 flight accompanied by Secretary General Stinbeack, and a LRCS/WHO/UNDRO assessment team arrived in Yerevan on Jan. 12. LRCS appealed for $21,130,000 for the rehabilitation phase. Several national societies agreed to fund projects to build hospitals in the destroyed area.

UNDRO - provided $20,000 and sent a 2-person team to Yerevan on Dec. 8 to work with a special Soviet committee to identify needs for international assistance. UNDRO dispatched 2 relief flights on Dec. 17 from its Pisa warehouse, carrying tents and blankets donated by Japan and Finland.

U.N. Staff - provided generators, valued at $9,000, and cash contributions totaling $65,856.

WHO - sent an assessment team from Copenhagen and provided medical supplies, all valued at $590,324.

Governments

Algeria - airlifted 400 tents, 3,000 blankets, 15 MT of medicine and medical equipment, and a rescue team, at a total cost of $1,000,000.

Australia - channeled $434,782 through LRCS.

Austria - dispatched 6 relief flights carrying rescue teams and equipment, medicines, and other supplies, all valued at $524,999. Austria also constructed a village of 90 single family homes. The city of Vienna and 3 Austrian counties contributed a total of $500,000.

Bangladesh - sent a medical team and medical equipment.

International collaboration was a key element of many search and rescue (SAR) missions. Here the USG team works with Soviet medical personnel, the Austrian SAR team, and other international groups.

Barbados - donated $2,500 through UNDRO.

Belgium - funded 2 relief flights, in conjunction with the Belgian Red Cross and MSF/Belgium, filled with medical equipment, doctors, tents, medicine, blankets, mattresses, spotlights, hot air cannons, generators, and dialysis equipment; in all, $415,512 was appropriated for the relief effort.

Bulgaria - dispatched 2 planes laden with medicine, medical equipment, food, a rescue team, and 23 doctors. This assistance, which was channeled through the Bulgarian Red Cross, totaled $1,090,554.

Canada - contributed $41,500 to the Soviet account, donated $4,150,000 for medical relief, sent relief supplies valued at $415,000 through the Canadian Red Cross, and authorized the Canadian Department of National Defense to fly up to 12 planes to the USSR filled with goods contributed by private Canadian groups.

Chile - gave $20,000.

China, People's Rep. - channeled food and clothing through the Chinese Red Cross.

Cuba - sent a plane with 32 MT of medical supplies and a rescue team.

Cyprus - provided clothing, medicine, and food, all valued at $92,111.

Czechoslovakia - donated $1,500,000 for medical supplies, tents, blankets, cots, and other relief items.

Denmark - provided $1,204,918 through the Danish Red Cross for medical supplies.

Egypt - sent parcels of medicine.

Finland - provided cash through the Finnish Red Cross for medical supplies; a planeload of supplies (450 large tents, 38 MT of medicine, and ambulances); funding for a field hospital, blood products, and bandages; and blankets through UNDRO. Finland's assistance totaled $673,851.

France - arranged 16 flights and land and sea transport to carry 693 personnel, including SAR specialists and doctors, 54 search dogs, infrared equipment, and 200 MT of medical and other relief supplies. French assistance also included prefabricated building supplies and cash from an emergency bank account, for a total of $6,090,026.

Germany, Dem. Rep. - dispatched a plane on Dec. 11 laden with 11 MT of food and medicine and facilitated the transport of a second plane filled with donations by East German private groups; value of the first flight and transport costs for the second totaled $868,558.

Germany, Fed. Rep. - channeled 12.2 MT of medicine through LRCS and sent 6 planes with SAR dog teams, doctors, blankets, medicine, a surgical van, water-filling units, a 26-ton truck, a mobile water and milk dispensing unit, a communications unit, and other supplies. The Soviets bought or leased cranes and heavy SAR equipment from private German firms and sent cargo aircraft to pick up this equipment. The total value of West German assistance was $10,477,902. The Baden-Wurttemberg state government airlifted 12 tons of medical supplies and equipment, valued at $579,000; 12 nurses/technicians and 21 dialysis machines were also on the flight.

Greece - dispatched 4 relief flights carrying 35 earthquake specialists, 2 jeeps, more than 6 MT of food, and medical supplies.

Iceland - paid transport costs of $10,989 for 5,000 blankets donated by Church Aid and matched $44,000 contributed by the Iceland Red Cross.

India - sent 3 aircraft carrying hospital equipment, medicine, 5,000 tents, and 130 hospital beds, all valued at $100,000.

Indonesia - airlifted antibiotics, winter clothing, and blankets.

Ireland - gave $155,038 through the Irish Red Cross and sent medical supplies via regular Aeroflot flights.

Israel - sent 4 planes laden with 18 MT of medical supplies, over 100 SAR personnel, and debris-removing trucks and tractors.

Italy - sent 14 relief flights carrying 80 personnel and 6 search dogs, 2 satellite telecommunications systems, 7

off-road vehicles, 4 trailers, 2 equipped vans, tents and other logistic support equipment, a medical aid center, food, geo-sonars, firefighting equipment, over 1,000 blankets, medicine, and new clothing. The Italians also constructed a self-sufficient village in Spitak with a capacity for 1,000 people. An unofficial estimate of the total value of Italian aid was $26,000,000.

Japan - provided medicine, water purifiers, generators, 12,000 blankets, and 220 tents with transport; contributed cash through the Red Cross; and sent an official delegation to Yerevan on Dec. 11 to determine what additional assistance was required. Japan also dispatched a 10-member team, including seismographic engineering specialists, to the earthquake area and provided a relief flight of tents and blankets through UNDRO. Total Japanese assistance reached $10,358,571.

Kenya - donated 10 MT of tea, valued at $16,400, and 3 MT of coffee, valued at $7,900.

Korea, Rep. - sent 82 people including 52 doctors, and provided $2,000,000 worth of supplies.

Luxembourg - contributed $277,000 worth of unspecified relief items.

Madagascar - sent medicine and volunteers on an Aeroflot flight; the AKFM party also made a small donation.

Mongolia - donated medicine, tents, and 50 MT of canned meat.

Morocco - airlifted 10 MT of medical supplies and 10 MT of shelter materials.

Netherlands - donated medicine, medical supplies, and communications systems through LRCS, all worth $1,538,461.

New Zealand - provided $32,679.

Norway - provided $307,692 through LRCS, $462,308 through other NGOs, emergency supplies, and a rescue team.

Pakistan - sent a planeload of supplies.

Poland - sent a 100-person rescue team and about 1,000 MT of supplies donated by the government, private groups, and individuals, with an estimated total value of $2,600,000.

Romania - provided 5 MT of medicine and medical supplies and sent a team.

Saudi Arabia - donated $500,000 through the Arab Gulf Fund for U.N. Development Organizations.

Singapore - gave $20,000.

Spain - sent a rescue team and relief supplies worth $474,839.

Sri Lanka - provided 5 MT of tea.

Sweden - dispatched 4 planes with 38 rescue workers and rescue equipment, search dogs, tents, blankets, and medical supplies, with a partial value of $916,666, and channeled $333,333 through the Swedish Red Cross.

Switzerland - sent a DC-9 carrying 37 SAR personnel, 22 search dogs, and 8 MT of relief supplies, including tents, all valued at $819,443.

Syria - sent 4 planeloads of medicine, clothes, food, and blankets.

Turkey - dispatched 20 helicopters and 15 cranes and sent 6 truckloads of relief goods; 4 truckloads of medical supplies were valued at $252,576.

Uganda - provided a team to assist in rescue efforts.

United Arab Emirates - contributed food, blankets, and tents.

United Kingdom - dispatched a team of firefighters, equipped with heat-sensitive devices for locating people trapped under debris, and a 15-person medical team with equipment, including x-ray machines. Twelve planes were deployed with personnel and commodities, including 2 nine-ton earthmovers, food, medicine, blood, and 3.5 MT of tents and blankets. In all, Great Britain contributed goods, services, and transport worth $9,519,336, including a cash donation channeled through CARE/UK.

Vatican - provided $100,000.

Yugoslavia - sent supplies valued at $149,000.

Non-Governmental Organizations

Arbeiter-Samariter-Bund - gave blankets, tents, and medical supplies, valued at $63,953.

Austrian private groups - furnished prefabricates worth $851,060.

Beiersdorf Company/Hamburg - gave bandages and gauze worth $69,485.

Belgian Hospitals - sent dialysis equipment and personnel.

Brazilian-Armenian Community in San Paulo - collected money and goods.

Calouste Gulbenkian Foundation (Portugal) - donated $1,000,000 worth of drugs and medical equipment, flown gratis by Aeroflot.

CARE/Canada - purchased 1,000 food packages.

CARE/Germany, Fed. Rep. - sent relief goods worth $252,906.

Caritas/Austria - contributed medical supplies, clothing, blankets, and a cold storage container, with a total value of $426,690.

Caritas/Belgium - purchased $27,700 worth of relief supplies.

Caritas/Fed. Rep. of Germany and Diakonisches Werk - provided 2 relief flights with medicine, medical supplies, blankets, sleeping bags, cooking utensils, clothing, stoves, and food, all valued at $593,023. Caritas/Fed. Rep. of Germany furnished additional supplies worth $646,679.

Caritas/Italy - airlifted blankets, tents, clothing, and family kits at a cost of $427,821.

Caritas/Netherlands - sent blankets and biscuits worth $33,000.

Caritas/Spain - gave $15,000.

Compagnie OSI - supplied a field hospital and a rescue team.

Czechoslovakian National Front - dispatched aircraft and 1,524 rail wagons carrying rescue and medical teams, a field hospital, mobile cranes, vehicles, and other supplies; total value was $13,500,000.

Daimler-Benz, Kloeckner-Humboldt-Duetz, and the Cologne-Bonn Airport Authority - donated 4-wheel drive vehicles.

Danish Church Aid - gave $16,348.

Danish Municipal Workers - supplied $14,859.

Developpment et Paix (Canada) - donated $25,210.

East-West Commerce Bank of Frankfurt - gave $289,519.

Egyptian-Armenian Community - collected private donations.

Finnish private companies - lent debris-clearing equipment and sent trained search dogs; also provided 1,000,000 packages of milk worth $75,000.

French private groups - airlifted relief personnel and supplies at a cost of $11,204,179.

German (Dem. Rep.) private groups - collected relief goods and cash donations, all totaling $131,718.

German (Fed. Rep.) private groups - donated medical supplies, clothing, and other relief items.

Guyana Political Party - donated $1,000.

Hong Kong private groups - gave $19,000.

Hungarian private groups - collected $222,000.

Liege of Belgium - gave $103,878.

Lufthansa - donated a crew and plane to transport 100 MT of medical supplies and other relief items.

Luxembourg Private Groups - donated clothing and blankets.

Medecins du Monde - co-financed 2 relief flights with EC at a cost of $174,849.

MSF/Belgium - co-financed relief flights with EC to send a rescue team, sanitation materials, tents, medicine, blankets, and 2 vehicles; and provided transport by ship of private relief supplies. Total assistance was $659,614.

MSF/France - deployed a plane laden with 40 MT of relief supplies.

MSF/Netherlands - gave medical and relief supplies and sent a dialysis team.

Mongolian organizations - contributed $666,666.

Musicians for Armenia (U.K.) - donated $668,508.

National Church Aid (Iceland) - donated 5,000 blankets and canned fish.

Newspapers (*Le Monde* - France; *El Pais* - Spain; *La Republica* - Italy) - collected $3,697,749.

Norwegian Church Aid - furnished blankets.

Oxfam (Belgium) - sent a 15-ton shipment of clothing and blankets.

Paris (France) donor - supported train transport costs of $49,839.

Polish private groups - donated about $207,000.

Pushkin Cultural Center of the Luxembourg-USSR Association - collected warm clothing and blankets for transport aboard an Aeroflot flight.

The following national Red Cross and Red Crescent Societies contributed relief items:

Afghanistan - 10 MT of raisins
Algeria - blankets and food worth $44,319
Arab General Secretariat - $5,000
Australia - $563,668
Austria - rescue team, water purification team and equipment, blankets, tents, medical supplies; all worth $1,494,182
Bahrain - $10,000
Belgium - medical supplies worth $13,850
Bulgaria - rescue team, food, blankets, medical supplies; all valued at $757,232
Canada - medical supplies, blankets, cooking utensils, food, pumps, tents, and cash; total assistance valued at $885,649
Colombia - disposable syringes worth $4,801
Cyprus - $3,287
Czechoslovakia - $531,914 in cash and tents, blankets, and clothing
Denmark - $72,992
Finland - $300,979
France - medical supplies, blankets, food, and tents, all worth $144,617
Germany (Dem. Rep.) - medical supplies and milk powder
Germany (Fed. Rep.) - rescue team, medical supplies, tents, communications equipment, ambulances and other vehicles, bulldozers, water purification equipment, field kitchens, stoves, food, blankets, generators, and technical assistance; total contribution valued at $6,241,953
Greece - medical supplies, blankets, food, clothing, tents, and cash for a total value of $118,165
Hungary - medical supplies, food, stoves, and steel products, all worth $286,108
Iceland - $46,527
India - blankets, stretchers, and other relief goods, with a total value of $97,222
Iran - tents, blankets, food, medicines, and other items; total value of $419,772
Ireland - medicine, blankets, and cash, all valued at $448,950
Italy - blankets, canned meat, medicine, medical team, and tents, all at a cost of $307,866
Japan - cash and medical supplies, all worth $411,813
Korea (Dem. People's Rep.) - timber
Korea (Rep.) - medical supplies, blankets, and cash; total value of $911,572
Luxembourg - $26,809
Madagascar - relief supplies
Monaco - high energy foods and medicine
Netherlands - WHO basic kits, medical supplies, stoves, cooking utensils, tents, sleeping bags, and biscuits, all valued at $1,061,197
New Zealand - $6,535
Norway - albumin, emergency rations, a field hospital, and cash; total value of $1,950,901

Pakistan - blankets
Poland - blankets, tents, food, clothing, and medical supplies, all worth $396,357
Spain - tents, stretchers, medical supplies, clothing, all worth $186,937
Sweden - medicine, gloves, stoves, tents, drilling supplies, all valued at $1,235,960
Switzerland - blankets, tents, kitchen sets, sleeping bags, clothing, and medical supplies; total value of $379,783
Tunisia - medicines worth $4,276
Turkey - blankets, food, and medical supplies, all valued at $414,945
United Kingdom - blankets, tents, blood products, dialysis machines and other medical supplies; total value of $1,329,375
Yemen, Arab Rep. - blankets, clothing, and medicine, all worth $545,488
Yugoslavia - tents, water purification units, and medical supplies, all at a cost of $61,538

Redd Barna (Norway) - supplied $61,538.

SCIAF (Scotland) - provided $92,081.

Secours Catholique (France) - sent medicine worth $76,791.

Sovenz (The New Zealand Dairy Board Soviet Subsidiary) - gave $24,000.

Spiegel, Rudolf Augstein Publisher (Germany, Fed. Rep.) - donated $579,039.

Tear Fund (U.K.) - donated $10,000.

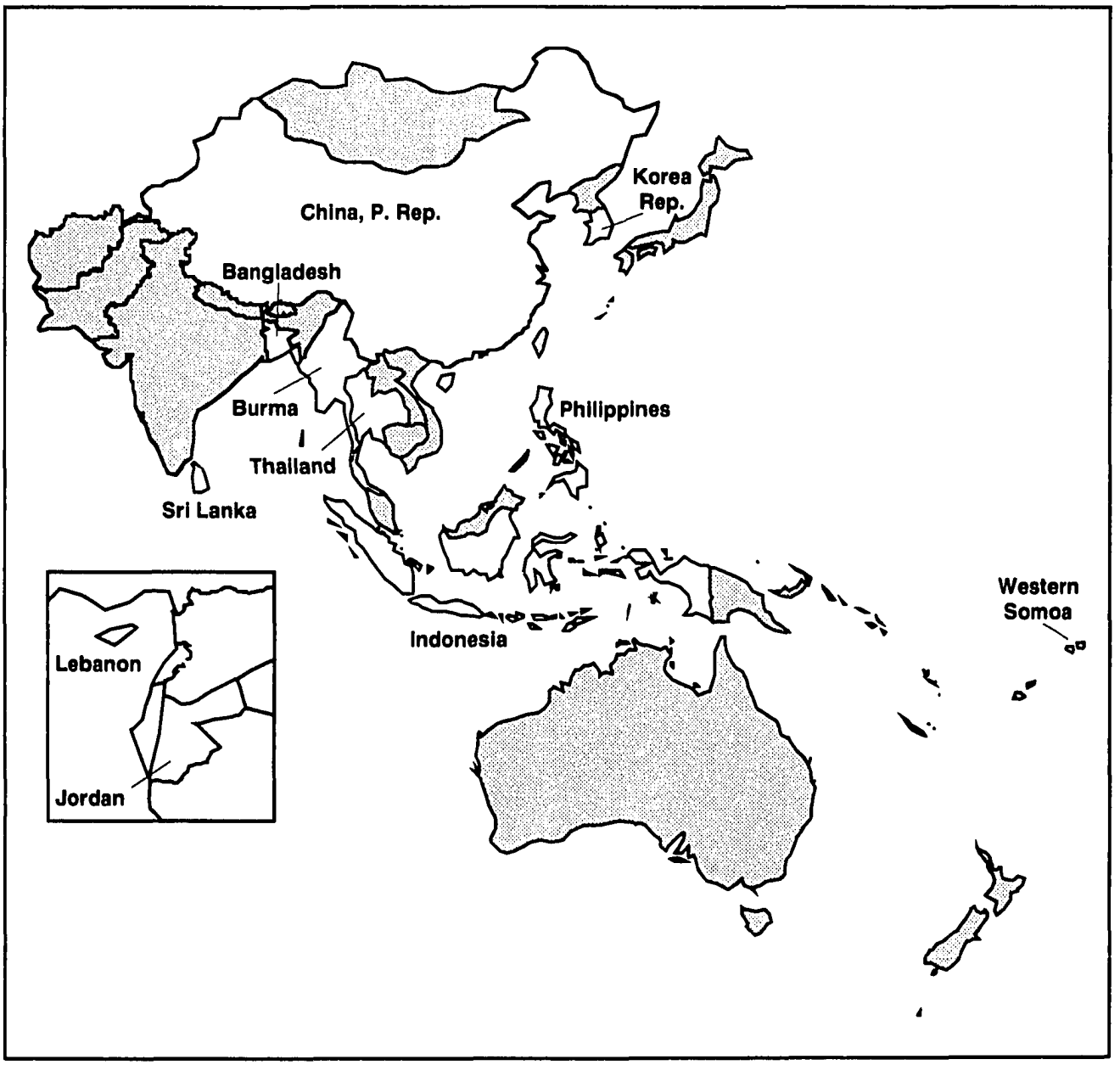
Trocaire (Ireland) - furnished $33,510.

Unspecified groups from several countries - supported airlifts.

Volkshilfe (Austria) - sent medicine, quilts, and 2 houses, all valued at $390,000.

TOTAL **$158,857,580**

Asia and the Pacific



BANGLADESH - Storm

Date: April 26, 1989

Location: Manikanj, Dhaka, and Tangail districts

No. Dead: 800 to 1,500

No. Affected: Over 100,000 homeless; 2,000 injured

Summary of Assistance:

USG	$0
U.S. Voluntary Agencies	None reported
International Community	$85,000
TOTAL	**$85,000**

The Disaster

April is the month when violent thunderstorms are likely to strike Bangladesh. These "nor'westers" produce high winds and hail and frequently spawn tornadoes. On April 26, 1989, tornadoes accompanying such a storm cut a savage swath through five *upazilas* in Manikanj, Dhaka, and Tangail districts, affecting 50 villages in 13 unions.

The storm destroyed housing
Photos by Mary Little, AID/OFDA

The strong winds left a tangled debris from thousands of flattened mud and straw houses and downed trees and power lines. Damage to standing crops and livestock was also extensive. The violent storms passing through the country were blamed additionally for the sinking of 300 small boats in the Yamuna River near Shaturia and for the capsizing of a ferryboat near Coxs Bazar with the loss of 200 lives.

The death toll from the twisters was estimated at between 800 and 1,500; some 2,000 people were injured, and at least 100,000 were left homeless. The storm ended a drought of two months, however, allowing seasonal agricultural activities to return to normal.

Action Taken by the Government of Bangladesh (BDG) and Non-Governmental Organizations

The BDG called out military medical units to assist local authorities in search and rescue operations. The injured were treated in local hospitals or transported to medical centers in Dhaka. The External Resources Division of the Ministry of Planning confirmed on April 30 that a disaster existed in the stricken area and that external assistance was desired.

The Bangladesh Red Crescent Society (BRCS) was quickly on the scene with a field hospital to render first aid and provide medical treatment to the injured. The BRCS also distributed cooked food to 8,000 victims, rice to 3,500 families, other food from emergency stocks to

4,000 victims, clothing to 5,300 people, and roofing material to 1,800 families.

Assistance Provided by the U.S. Government

Based on a USAID/Dhaka damage assessment, U.S. Ambassador Willard A. DePree made a disaster declaration on May 1, authorizing the release of on-hand disaster relief commodities to CARE/ Bangladesh for distribution. The supplies, which had been provided by OFDA after the 1988 flood and stockpiled in Dhaka, consisted of 100 MT of wheat, 40 tents, and 12,500 water purification tablets. (Note: The value of these commodities was reported in the *FY 1988 Annual Report*, "BANGLADESH-Floods" case report.)

TOTAL **$0**

OFDA tents provided shelter to storm victims.

Assistance Provided by U.S. Voluntary Agencies

CARE - conducted a field assessment and distributed relief items provided by the USG.

Assistance Provided by the International Community

Pakistan - sent a plane with relief supplies.

United Kingdom - provided $85,000 worth of assistance.

TOTAL **$85,000**

BURMA - Fire I

Date: Feb. 16, 1989

Location: Mergui, Tenasserim Division

No. of Dead: None reported

No. of Affected: 22,008 homeless

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	$282,000
TOTAL	**$307,000**

The Disaster

On Feb. 16, 1989, fire consumed 2,059 homes in Mergui city and left 22,008 people homeless. Hardest hit were the following wards: Kangyi, Seiknge, Gaung, Myitnge, Tavoyzu, Yeganbaung, Ahlekyun, Kyaungnge, and Parami. Fire also destroyed a high school, two primary schools, a township fire station and four auxiliary fire brigade buildings, three movie theaters, a trade corporation, a stationery shop, road transport administration building, development committee quarters and one ward cooperative shop. The loss was estimated at about $46 million.

Large, destructive fires are common in many of Burma's provincial centers due to unsafe building construction. Buildings are wood and open fire cooking is done indoors. Mergui, located 350 miles southeast of Rangoon, is a prosperous business center. The blaze lasted from 3 p.m. until midnight.

Action Taken by the Government of Burma (GOB) and Non-Governmental Organizations

The Burmese government provided immediate relief to the affected, including temporary shelter, blankets, and household utensils. The displaced were resettled at government expense. The Burmese Red Cross channeled donations to regional representatives of the central government, who handed the money over to township-level fire relief committees.

Assistance Provided by the U.S. Government

On Feb. 21, 1989, U.S. Ambassador Burton Levin determined that the magnitude of the disaster exceeded the GOB's ability to respond adequately and released the $25,000 Ambassador's Authority for immediate relief. Ambassador Levin presented the check for $25,000 to the Burma Red Cross Society chairman at a ceremony on Feb. 23. The money went toward the local purchase of food, clothing and cooking utensils.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

Japan - sent medicine, medical equipment, blankets, and eating utensils worth $137,000.

Red Cross and Red Crescent societies from the following countries made contributions:

Canada - $840
China - $10,000
Japan - $7,812
Netherlands - $6,451
Spain - $12,500
United Kingdom - $8,771

UNDP - gave $50,000.

UNDRO - provided $18,000 worth of goods.

UNICEF - provided 400 blankets, 36 cooking utensils, 200 sets of tableware, and 28 tents, all worth $12,000.

According to UNDRO, international assistance—including those donations listed above—totaled $282,000.

TOTAL **$282,000**

BURMA - Fire II

Date: July 26-27, 1989

Location: Mandalay, Mandalay Division

No. of Dead: 1

No. of Affected: 9,504 homeless

Summary of Assistance:

USG	$9,876
U.S. Voluntary Agencies	None reported
International Community	$62,000
TOTAL	**$71,876**

The Disaster

Fire swept through the northern city of Mandalay in Mandalay Division on July 26 to 27, 1989, causing $34.3 million in damage. The inferno razed 1,554 homes and displaced 9,504 people. One person lost his life.

The homeless were temporarily sheltered in tents and monastery compounds. It took at least three months before the displaced were able to move into their former dwellings. Since many businesses—such as garages, tea shops, and restaurants—are located in homes, many of the victims lost their means of income. The Burmese government anticipated that it would take at least one year before the displaced persons resumed their livelihoods and became entirely self-sufficient.

Action Taken by the Government of Burma (GOB) and Non-Governmental Organizations

The Burmese Government through its local authorities and ministers carried out relief and rehabilitation measures by providing emergency supplies for each affected family. Packages for the victims included a blanket, three yards of cloth, longyi/clothing, two cooking pots, rice, and cash. The homeless were relocated at government expense.

The Burma Red Cross (BRC) provided food daily and clothing. The BRC also administered $14,700 donated by various local religious groups and charitable associations.

Assistance Provided by the U.S. Government

On Aug. 3, 1989, U.S. Ambassador Burton Levin determined that a disaster existed in Mandalay Division. The Ambassador exercised his disaster assistance authority and released $9,876 in local currency to the Burma Red Cross for immediate relief. The money went toward the local purchase of food and clothing for the displaced.

TOTAL **$9,876**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

UNDRO - gave $50,000.

UNICEF - provided medicine worth $12,000

TOTAL **$62,000**

PEOPLE'S REPUBLIC OF CHINA - Earthquake

Date: Nov. 6, 1988

Location: Yunnan County, along the China-Burma border

No. Dead: 939 confirmed

No. Affected: Over 1,000,000; 267,000 homeless in Lancang County; 3,364 injured

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	$42,500
International Community	$1,883,180
TOTAL	**$1,950,680**

The Disaster

The most damaging earthquake in over a decade in the People's Republic of China struck at 9:03 p.m. on Nov. 6 in the southern province of Yunnan. The quake, registering 7.6 on the Richter scale, was centered in Lancang and Menglian counties, about 400 km. southwest of the provincial capital of Kunming and just inside the border with Burma. The area is known to be highly seismic. Dozens of strong aftershocks rocked the region during the following days.

The remote mountainous region hit by the quake is inhabited by tea and sugar cane growers of an ethnic minority related to Tibetans. Their mud and wood homes, built on stilts as protection against heavy rains, were particularly vulnerable in this powerful earthquake. Over 200,000 buildings, including 144,000 houses, collapsed, and 500,000 buildings, including 253,000 houses, were damaged. In the hardest-hit Lancang County, 267,000 people were rendered homeless. The quake also caused the loss of 23,000 ha. of crops, as well as serious damage to roads, bridges, communication lines, reservoirs, and other infrastructure. Total economic loss was estimated at $269 million. The main road connecting Lancang to the outside world was cut off by debris and rockslides, hampering damage assessment and the relief effort.

The number of confirmed deaths as of Nov. 9 had risen to 939; 650 of those deaths were in Lancang County where an additional 3,530 people were injured. The death toll in this disaster was the highest in a China earthquake since the devastating Tangshan earthquake of 1976 took 242,000 lives.

Action Taken by the Government of the People's Republic of China (GPRC) and the Provincial Government

The governor of Yunnan Province flew to the scene of the disaster to direct rescue efforts, while officials prepared food, tents, and medical supplies to be airdropped by helicopter. Some 2,000 medical workers despatched by the Ministry of Civil Affairs were airlifted to the stricken area and ferried by helicopter to the more remote regions. The central government deployed a convoy of 30 military vehicles and thousands of troops to aid civilian relief workers and help evacuate victims. The convoy carried food and other relief items to supplement the earlier airdrops of supplies.

The Communist Central Committee and the State Council sent messages of sympathy for the victims and support for the army and police units involved in the rescue effort. The central government also organized a delegation to visit the area, and officials from the Sichuan Earthquake Bureau conducted an investigation. The provincial Ministry of Civil Affairs allocated $539,000 for immediate relief operations, and the central government approved the release of $54 million for rescue work.

Assistance Provided by the U.S. Government

Although the GPRC did not officially request international assistance, the Ministry of Civil Affairs conveyed to resident U.N. officials that contributions from friendly countries would be welcome. After Chinese authorities identified needed relief supplies, the U.S. Charge d'Affaires, Peter Tomsen, issued a disaster declaration on Nov. 15 to release $25,000 from the Ambassador's authority for the local purchase of tents, blankets, and emergency food. A check for that amount was forwarded to the Ministry of Civil Affairs of Yunnan Province by U.S. Ambassador Winston Lord. Ambassador Lord visited Lancang County, the site of the most serious earthquake damage, in late January 1989.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

AmeriCares - delivered medical supplies.

WVRD - contributed blankets and coats worth $42,500.

TOTAL **$42,500**

Assistance Provided by the International Community

International Organizations

EC - donated $582,072 for the purchase of blankets and tents.

The UNDRO/UNDP resident representative organized an interagency working group comprising UNDP, UNICEF, WHO, and WFP.

UNDP - gave $50,000 for the local purchase of tents, plastic sheeting, quilts and blankets.

UNDRO - provided a $15,000 emergency grant.

UNICEF - donated $25,000 for the purchase of 12 MT of biscuits and a supply of antibiotics and other drugs.

Governments

Australia - contributed $206,611 for emergency food and other relief items.

Canada - donated $81,300 for a UNDP/UNDRO/UNICEF joint relief project.

Japan - gave $500,000 and medicine worth $174,800.

Netherlands - contributed $75,000 to the joint U.N. project.

United Kingdom - provided $121,293 for the local purchase of 75 MT of canned meat.

Non-Governmental Organizations

Canada Red Cross - gave $4,201.

Germany, Fed. Rep., Red Cross - donated $14,204.

Japan Red Cross - contributed $16,000.

United Kingdom Red Cross - gave $17,699.

TOTAL **$1,883,180**

PEOPLE'S REPUBLIC OF CHINA - Floods

Date: June - July 1989

Location: The provinces of Sichuan, Jiangsu, Jiangxi, Zhejiang, Anhui, Guangdon, Hebei, Hubei, Jilin, and Fujian

No. Dead: 2,000; over 10,000 injured

No. Affected: 100,000,000, of which 60,000,000 seriously

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	$10,000
International Community	$3,390,119
TOTAL	**$3,425,119**

The Disaster

Torrential rains unleashed devastating floods and landslides in several of China's southern and eastern provinces in the summer of 1989. Water levels rose dangerously in the Yangtze and other rivers following storms in June. Flooding conditions were greatly compounded as prolonged periods of rain and two typhoons hit the country in July.

Sichuan, in south-central China, was one of the hardest-hit provinces. During the period July 7 to 10, Wushen County, the center of the rain storm, recorded 505 mm. of precipitation. Flooding and landslides took the lives of at least 827 people and inflicted heavy property and crop losses throughout the province. Many of the deaths occurred when a cliff collapsed in Huaying City in eastern Sichuan, sending tons of mud and rock onto a residential compound. As many as 217,000 houses collapsed and 517,000 were damaged in the Sichuan floods. Some 200 hydropower stations and 1,332 km. of canals were damaged or destroyed, more than 10,000 factories and enterprises were affected, and highways and telecommunications were cut. Crops on 880,000 ha. were flooded and 78,000 livestock were killed.

Hebei Province also suffered serious damage after unusually heavy rains fell on some areas from July 16 to 23. Wanxian County of Boading Prefecture recorded an average rainfall of 400 mm. within 17 hours. Seven river courses in the county and an irrigation area were flooded, affecting 253,000 people in 273 villages. In four prefectures of Hebei Province, 75 people were killed and 1,184 were injured; crops on 485,000 ha. were submerged; and over 200,000 houses collapsed or were damaged.

In Anhui Province, over 420,000 ha. of farmland along the Yangtze River were flooded as continuous downpours pelted the area in early and mid-July. Heavy rains and at least one tornado damaged homes and cropland in northern Jiangsu Province between July 10 and 15.

A typhoon hit coastal Guangdon Province on July 18, causing widespread damage. This was followed by a second typhoon (Typhoon Hope) on July 20 which slammed into the coastal region of Zhejiang Province, leaving 122 persons dead and 901 seriously injured. Torrential rains accompanying the typhoon in Zhejiang caused rivers to rise and set off mountain floods. Over 5 million people in 43 counties were affected. Northern Fujian Province felt the effects of Typhoon Hope as well, experiencing extraordinary rains and hailstones. The severe weather was responsible for the loss of 79 lives in Fujian.

The death toll countrywide as a result of the summer storms and floods rose to about 2,000, with over 10,000 injured. An estimated 100,000,000 people were affected, 60% of them seriously. The damage figures were staggering as well: 1.2 million homes destroyed and 2.78 million damaged; over 8.5 million ha. of farmland submerged and thousands of livestock killed; and over 1.0 billion kg. of grain washed away or ruined. Economic losses were estimated at $2.8 billion.

Action Taken by the Government of the People's Republic of China (GPRC) and Provincial Governments

Provincial and local authorities coordinated the relief and rehabilitation effort, deploying rescue and medical teams, distributing food rations, clothing, and money, and initiating rehabilitation measures for agriculture and industry.

Army units were called in to help in the rescue operation along the Yangtze River. Hundreds of thousands of volunteers worked to reinforce dikes along the river.

Rescue operations were mounted also in Huaying City in Sichuan Province to try to extricate victims of the massive mudslide that buried a residential area. Emergency rescue efforts saved the lives of only 17 of the 221 people buried in the disaster. Efforts were hampered by a lack of heavy earth-moving equipment which could not be brought in because of flood-blocked highways.

Premier Li Peng sent a message of concern and sympathy to the people of Sichuan County. On July 22, a State Council delegation led by the Minister of Civil Affairs left Beijing for Sichuan to inspect the stricken area.

The GPRC's Disaster Relief Office issued an official request through the resident representative of UNDP/UNDRO on July 31 for international assistance for the victims of flooding in the affected provinces. Relief needs identified by the Ministry of Civil Affairs included food, medicine, medical equipment, blankets, construction material, vehicles, and material for the rehabilitation of roads and irrigation systems.

Assistance Provided by the U.S. Government

U.S. Embassy and consulate officials monitored events in the several provinces and noted the devastating impact the floods were having on the lives and property of millions of Chinese. When the GRPC officially requested international assistance, U.S. Ambassador James R. Lilley declared a disaster on Aug. 10 and donated $25,000 from his disaster assistance authority to the Chinese Ministry of Civil Affairs. The donation, which was earmarked for the procurement of medicine and medical supplies, was presented to the GPRC on Sept. 1.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

American Red Cross - donated $10,000.

TOTAL **$10,000**

Assistance Provided by the International Community

International Organizations

EC - funded an MSF/Belgium program to send relief material and personnel to Sichuan at a cost of $552,486.

FAO - provided seeds, pesticide, and agricultural machinery worth $300,000.

LRCS - contributed $59,880.

UNDP - gave $50,000 to purchase relief items.

UNDRO - sent $25,000 to purchase relief supplies.

WHO - contributed $5,000 for health needs.

Governments

Canada - gave $41,666 through the Canadian Red Cross.

Finland - contributed $47,393 through the Finnish Red Cross.

Germany, Fed. Rep. - donated 10,000 MT of wheat.

Japan - gave $1,428,571 through the Japanese Red Cross and sent the following relief supplies: 1,000 blankets, 10 tents, biscuits, 50 generators, 50 code reels, medicine, medical equipment, 1,000 mattresses, 20 water purifiers, and 20 water tanks, all valued at $320,571. Transportation costs amounted to $125,785.

Norway - provided cash, tents, clothes, and medical equipment, all worth $174,165, through the Norwegian Red Cross.

Non-Governmental Organizations

MSF/Belgium - administered a relief program funded by the EC.

Red Cross Societies from Australia, Austria, Brazil, German Dem. Rep., Fed. Rep. of Germany, Japan, Netherlands, New Zealand, Norway, Sweden, and the Soviet Union gave a total of $259,602.

TOTAL **$3,390,119**

INDONESIA - Earthquake

Date: August 1, 1989

Location: Irian Jaya

No. Dead: 120

No. Affected: 17,000; 5,300 relocated; 196 injured

Summary of Assistance:

USG	$51,880
U.S. Voluntary Agencies	$28,161
International Community	$23,728
TOTAL	**$103,769**

The Disaster

On the morning of Aug. 1, an earthquake measuring 6.0 on the Richter Scale rocked the district of Jayawijaya, in Irian Jaya. The area consists of steep slopes and rock ridges, and is home to the Dani, Hupla, and Yali tribespeople. The quake caused massive landslides, which buried entire villages beneath tons of rock and mud. Landslides also blocked the Baliem River, causing flooding in several of the valley villages. The local tribespeople grow sweet potatoes and other vegetables in gardens perched on the mountain slopes and many of these gardens were destroyed by landslides. Hundreds of villagers were isolated, and it was feared that they would die of starvation if food could not be transported to them.

Action Taken by the Government of Indonesia (GOI) and Non-Governmental Organizations

Mission Aviation Fellowship (MAF), a U.S. PVO working in Irian Jaya, provided its airplanes and helicopters to local authorities to conduct survey and rescue missions in the affected area. A GOI military helicopter also provided assistance, but because of its size it could only land at one site. However, the smaller MAF Hughes 500 helicopters were able to land at three other sites and evacuated over 300 people. Later the helicopters were used to bring food and medical supplies to remote villages. Provincial authorities and officials from the GOI Department of Social Affairs (DEPSOS) and the National Coordinating Body for Disaster Management (BAKORNAS) surveyed the affected area and coordinated assistance. Donations from private Indonesian sources totaled over $72,000. In September, tribal leaders approved a DEPSOS plan to relocate over 5,000 tribespeople to geologically stable areas.

Assistance Provided by the U.S. Government

On Aug. 7, Ambassador John Cameron Monjo determined that the disaster warranted USG assistance and requested his disaster assistance authority. A check for $25,000 was presented to DEPSOS to support its relief and rehabiliation program for the victims of the earthquake. On Aug. 10, MAF presented a proposal to MDRO David Nelson, requesting OFDA funding to finance helicopter airlifts of food and medical supplies to isolated villages in the affected area. On Aug. 15, OFDA provided a grant for $26,880 to support the MAF operations.

TOTAL **$51,880**

Assistance Provided by U.S. Voluntary Agencies

MAF - played a lead role in relief and rescue operations, at the request of the GOI. MAF expended at least $28,161 of its own resources between Aug. 1 and 6. MAF helicopters rescued over 300 people stranded due to landslides or flooding. MAF planes and helicopters also ferried food and supplies to remote sites 8,000 to 9,000 meters above sea level.

TOTAL **$28,161**

Assistance Provided by the International Community

Japan - provided $23,728 to DEPSOS to support its operations.

TOTAL **$23,728**

INDONESIA - Floods

Date: December 1988 - February 1989

Location: North Sumatra, West Sumatra, South Sumatra, Riau, Jambi, Bengkulu, West Java, Central Java, East Java, East Kalimantan, North Sulawesi provinces

No. Dead: 158 nationwide between December and February

No. Affected: 100,000 evacuated

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$25,000**

The Disaster

An intense monsoon settled over the central islands of the Indonesian archipelago for approximately three months. Heavy rains caused flooding and landslides in at least 11 provinces and destroyed thousands of hectares of cropland. In Central Java Province, losses to standing crops and property were estimated at over $4.6 million. Flash floods washed away a suspension bridge and inundated over 2,000 houses in West Sumatra. In January in Bengkulu Province, 12 persons were reported killed, 16,000 evacuated, and 3,900 head of cattle were swept away by floodwaters. During the week of Feb. 12 to 18, the capital city of Jakarta was inundated when the Ciliwung River overflowed. In all, at least 158 persons were reported to have drowned or to have been buried by landslides and over 100,000 people were forced to flee their homes.

Action Taken by the Government of Indonesia (GOI)

Provincial authorities and local relief organizations responded to emergency needs in affected areas. In West Sumatra, the Deputy Governor and officials of the Department of Transmigration released rice stocks to needy flood victims. Rescue teams from the Department of Public Works and the Indonesian Armed Forces were dispatched to areas hit by landslides to clear mud blocking roads and search for buried victims. In Java, the Indonesian Red Cross provided packets of rice, dried fish, and other supplies to evacuees. The GOI's Department of Social Affairs (DEPSOS) allocated emergency funds to provincial relief authorities. On Dec. 26, the GOI's Lotteries Management Foundation announced that it would provide funds to flood victims in Jakarta and other areas.

Assistance Provided by the U.S. Government

On Dec. 22, Ambassador Paul Wolfowitz determined that the floods warranted USG assistance and requested that OFDA issue a check for $25,000 to DEPSOS for its relief activities. On Dec. 28, the check was presented to the Minister of Social Affairs.

TOTAL	**$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

REPUBLIC OF KOREA - Floods

Date: July 1989

Location: Kwangju City and the Seung-Ju Kun and Na-Joo Kun regions of South Cholla Province

No. Dead: 100; 6 missing

No. Affected: 75,145; 49 injured

Summary of Assistance:

USG	$42,000
U.S. Private Agencies	None reported
International Community	$238,703
TOTAL	**$280,703**

The Disaster

Three days of torrential rain early in the week of July 23 caused severe flooding in South Cholla Province, located in the southwestern part of the Korean peninsula. Later in the same week, a weakened but still potent Typhoon Judy brought rain to the south-central coast of Korea. The flooding in Cholla took 23 lives and affected 24,209 people in Kwangju City, the provincial capital; elsewhere in the province, 77 people died and 50,936 people were affected. Damage to housing and infrastructure was estimated at $176.5 million: $23.4 million in Kwangju City and $152.9 million in the rest of South Cholla.

Action Taken by the Government of the Republic of Korea (ROKG) and Non-Governmental Organizations

The Korean government mobilized hundreds of civilian volunteers and the Korean military to participate in rescue and relief operations in response to the flooding. The relief and rehabilitation effort was coordinated from Central Anti-Calamity Headquarters in the Ministry of Construction. Of the total $263.3 million in central government rehabilitation assistance, $40.1 million was allocated to Kwangju City and $223.1 million to other affected areas in South Cholla.

The Korean Red Cross provided aid, valued at $450,000, to the victims of the flooding. Other non-governmental institutions raised a total of $14.3 million for disaster assistance.

Assistance Provided by the U.S. Government

The U.S. Embassy staff closely monitored events during the week of torrential rains. And on July 28 Charge d'Affaires Thomas S. Brooks determined that the flooding constituted a disaster and donated $25,000 to the Republic of Korea Red Cross for the purchase of relief supplies.

The U.S. Forces in Korea (USFK) played an active role in the relief effort from the beginning of the emergency, flying numerous helicopter sorties to rescue and/or to evacuate nearly 100 Koreans stranded by rising flood waters. Following President George Bush's July 28 offer of further U.S. assistance, the Korean Ministry of Foreign Affairs indicated that help would be welcome in rehabilitation operations in South Cholla Province. At the request of the U.S. Embassy, OFDA agreed to fund the expenses of a USFK team to participate in such an undertaking. After coordinating with local authorities in South Cholla Province, USFK engineers assisted with dike repair, river bank restoration, and dredging operations in the Kwangju City area. The work was completed on Aug. 27 at a total cost of $17,000.

TOTAL **$42,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

China, Rep. - contributed $14,903.

Japan - gave assistance valued at $197,563.

New Zealand - donated $1,490.

United Kingdom - provided aid worth $24,747.

TOTAL **$238,703**

LEBANON - Civil Strife

Date: Mid-March - September 1989

Location: Beirut and environs, Christian villages in Mount Lebanon, Druze villages in Aley District, and villages in Bekaa Valley

No. Killed: 900-1,000

No. Affected: 2,000,000 (U.N. estimate as of May 2); 3,000-5,000 wounded

Summary of Assistance:

USG	$23,600,000
U.S. Voluntary Agencies	$12,400,304
International Community	$76,794,671
TOTAL	**$112,794,975**

The Disaster

Military confrontations in March between Christian units of the Lebanese army and pro-Syrian Muslim forces plunged Lebanon into one of the bloodiest rounds of violence in that country's 14-year civil war. During this period, when the Lebanese Chamber of Deputies had failed to elect a new president, General Michel Aoun, head of a military government in Christian East Beirut, and Salim al-Hoss, Muslim head of a West Beirut government, represented rival interim administrations for control of the capital.

Fighting broke out after General Aoun sought to assert his control by imposing an embargo on illegal Muslim seaports, mainly to the south of Beirut. (Lebanon's "legal" ports are the ports of Beirut, Jounieh, Tripoli, Sidon, and Tyre.) The West Beirut army command retaliated with a blockade of overland routes to East Beirut. The test of strength over the ports issue escalated into violence on March 14. In the more than six months of bitter warfare that followed, about 15,000 Christian soldiers of the Lebanese army, backed by an equal number of Christian militiamen, were pitted against 20,000 Muslim soldiers and militiamen, supported by 40,000 Syrian troops. General Aoun vowed to keep up the struggle until all Syrian soldiers had left Lebanon.

Fierce artillery exchanges and rocket attacks, indiscriminately targeted, left homes, schools, hospitals, and industrial plants in ruins in East andWest Beirut and paralyzed activity in both the international airport and the city's main port. The heavy shelling of fuel storage facilities and water and electric power stations led to severe shortages of water, fuel, and electricity and the virtual shut-down of industry. By June 15, damage was estimated at over $500 million, excluding lost revenues. Coupled with the loss of employment of the city's workers was the highly inflated cost of goods as scarcities drove prices skyward.

After the failure of diplomatic initiatives to end the fighting, the violence intensified during the summer. In a single week of bombing in late July, 550 people were killed. Residents of Beirut took refuge in underground shelters during the heavy bombardments and left the city by the thousands during the rare lulls in the hostilities. About 80% of Beirut's population left the capital for other parts of the country or went abroad. Many of the displaced were concentrated in southern Lebanon or in the mountains north of Beirut, lacking adequate shelter and basic necessities. By mid-August, towns and villages in a third of the country's area had been caught up in the conflict.

On Sept. 23, General Aoun joined the Muslim fighters in accepting the Arab League's plan for a cease-fire, despite the lack of assurances for an early withdrawal of Syrian troops. The rival parties agreed to lift all blockades and reopen Beirut's international airport. The six-month spasm of violence, the longest and most intensive period of fighting since 1975, had taken the lives of 900 to 1,000 people, mostly civilians, and wounded at least 3,000 others.

Action Taken by the Government of Lebanon (GOL) and Non-Governmental Organizations

Fourteen years of civil strife had greatly weakened national and local administrations so that government services were working with great difficulty even before the latest round of violence. The numerous indigenous NGOs that regularly carry out welfare and relief programs in Lebanon assumed the major role in assisting the victims of this conflict.

The Lebanese High Relief Committee (HRC), the central government body responsible for the coordination and management of relief assistance, functioned primarily in distributing food aid from WFP. Salim al-Hoss, head of

the West Beirut government, signed a decree providing the HRC with $2 million for the emergency care of displaced persons. The government allocated $1 million for the essential repairs of public buildings, and the Ministry of Post and Telecommunications allocated funds to repair international telecommunications service.

organizations, and others to procure and distribute medical supplies.

Civil Defense volunteers performed a valuable service throughout the emergency, clearing rubble, extinguishing fires caused by shelling, providing first aid, and supplying

Bombs and gunfire damaged Berbir Hospital.
Photos courtesy of Catholic Relief Services

Despite heavy damage to the health infrastructure, the hospital system managed to cope with the increased demands, as international donors responded to appeals for assistance. The Ministry of Health (MOH) worked closely with WHO, UNICEF, private voluntary

water to homes and shelters. Some of these activities were supported by PVOs.

The Lebanese Red Cross (LRC) reported a record number

of operations during the three-month period ending Aug. 31. LRC teams of 1,400 volunteers reported 729 rescue operations, 15,593 patients transported, 17,358 medical consultations, and 1,200 units of blood for transfusion provided.

The YMCA of Lebanon, with a long-established health assistance and training program, conducted field assessments and coordinated with local and international NGOs to provide logistical support. Working with more than 150 health and medical institutions, the YMCA administered grants from A.I.D. to respond to the medical needs of the war victims (see "Assistance Provided by the U.S. Government").

The Middle East Council of Churches (MECC) helped coordinate assistance to the displaced population in Lebanon and Lebanese refugees in Cyprus. The MECC warehouse in East Beirut took a direct rocket hit on April 18, destroying 70% to 80% of the organization's reserved medicine and food.

Among the many other NGOs active in the relief effort were two local counterpart organizations of CRS which implemented medical programs. "The Non-Profit Hospitals Association," comprised 10 hospitals in East Beirut, and the "Kamal Jumblat Social Foundation" treated war injured people in hospitals and emergency centers in the Metn, Shouf, Qada Aley, and Abey areas.

Assistance Provided by the U.S. Government

In view of the terrible loss of human life and the damage to Lebanon's economy and social structure occurring as a result of renewed hostilities, U.S. Charge d'Affaires Daniel H. Simpson made a disaster determination on April 28.

OFDA executed emergency grants to four organizations having programs in Lebanon. The YMCA/USA received a grant for $100,000 to contribute toward the local procurement of medical supplies and medicine for a cooperative emergency medical activity conducted by the YMCA/Lebanon. The funds assisted a total of 88 dispensaries serving an estimated 21,700 chronically ill, disabled, or wounded people each month.

A grant to CRS for $150,000 was used to purchase medical supplies and fuel for generators for 22 hospitals, both Christian and Muslim institutions, in Beirut and suburbs and in Mount Lebanon.

OFDA provided a grant to SCF/US for $200,000 for relief supplies for some 50,000 families displaced from their homes or in an emergency state and to support mobile teams (SCF/US staff and civil defense units) using generators and pumps to supply water to families in shelters. Another OFDA grant for $50,000 went to American University Hospital in Beirut to procure medicine and medical supplies.

In addition to the emergency grants provided by OFDA, other USG relief assistance included the following:

-$6 million to American University in Beirut from A.I.D. development assistance accounts and ASHA (American Schools and Hospitals Abroad) funds;

-$300,000 to Beirut University College from ASHA funds;

-$14.8 million in Title II Food for Peace assistance (commodity value of $12.3 million for rice, lentils, bulgur, and vegoil and $2.5 million for ocean freight);

-$2.0 million from the State Department's Presidential Emergency Refugee and Migration Assistance Fund (ERMA) to assist ICRC programs.

Total OFDA	*$500,000*
Total FFP	*$14,800,000*
Total Other USG	*$8,300,000*
TOTAL	**$23,600,000**

Assistance Provided by U.S. Voluntary Agencies

AmeriCares - shipped medical and surgical supplies and food (powdered milk, infant formula) during 1989, all valued at about $10,000,000 and distributed in East and West Beirut and in northern and southern Lebanon.

Catholic Medical Mission Board - channeled medicine worth $250,000 through CRS.

CRS - implements A.I.D. grants for reconstruction, rehabilitation, and emergency assistance on an ongoing basis, as well as CRS-funded projects. During this

emergency period, CRS rehabilitated irrigation canals at a cost of $70,000, provided equipment to civil defense volunteers, and administered a grant from OFDA to purchase medical supplies and fuel for hospitals.

CWS - sent $400,000 to the WCC for the local purchase of blankets and mattresses and issued an appeal ($700,000) in the context of the WCC appeal.

Lebanese Americans - conducted an emergency campaign to collect medical supplies for Beirut hospitals.

MAP International - provided medicine and health care supplies through the following agencies: Contact and Resource Center - $109,240; WVRD - $557,922; YMCA - $749,199; and American University Hospital/Beirut - $263,943.

SCF/US - through an on-going program in Lebanon, delivered USG-provided (Title II) emergency food rations to 135,000 needy and displaced families, distributed basic medications to 150 clinics, removed rubble and garbage from streets to enable emergency vehicles to operate, and supported the efforts of 15 local civil defense units. SCF also engaged in 12 sanitation projects in South Lebanon, Tripoli, Chouf, and Akkar and administered a grant from OFDA for its relief activities.

YMCA - channeled grant funds from A.I.D., including OFDA, to YMCA/Lebanon for an emergency medical and other relief and humanitarian programs.

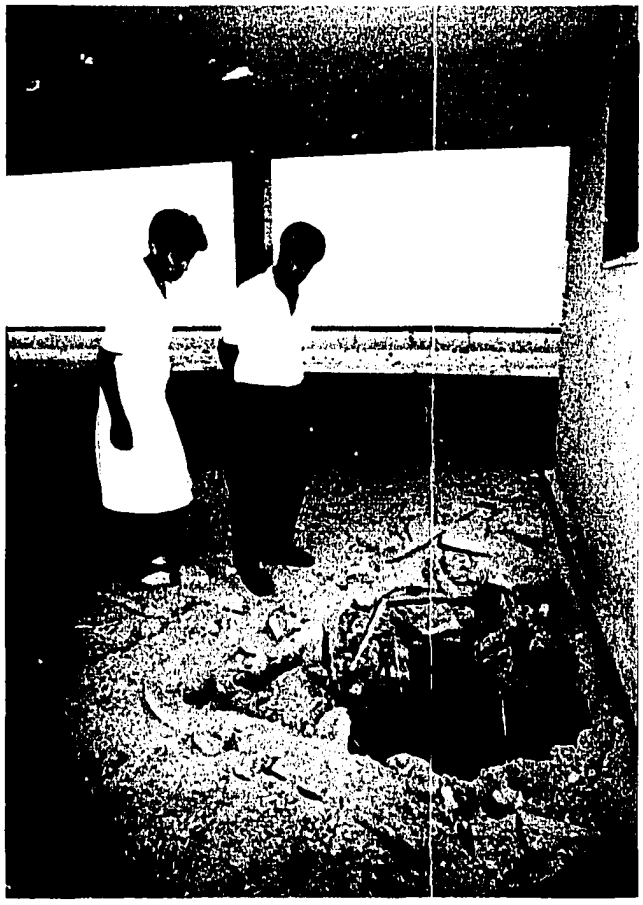
TOTAL **$12,400,304**

Assistance Provided by the International Community

International Organizations

Agfund - donated $80,000 through UNDRO for a feeding program for mother and child health (MCH) centers.

EC - provided the following assistance: medicine and medical supplies worth $126,512 through Medecins du Monde and MSF; 15,000 MT of fuel oil valued at $1,485,148; non-food emergency items worth $6,396,363 through UNDRO, MSF (Belgium), Netherlands Red Cross, Secours Populaire Francais, and ICRC; 9,140 MT of food (cereals, DSM, butteroil, and pulses), partially valued at $1,430,000, through WFP; 1,225 MT of food through Caritas, Mouvement Sociale, and Secours Populaire Libanais; and $26,595,744 for rehabilitation of public services.



Surveying damage caused by high caliber rockets at St. Charles Hospital.

FAO - gave assistance to the Ministry of Agriculture worth $223,000 to combat locusts.

ICRC - has had a delegation in Lebanon almost continuously since 1975, treating the victims of civil war and carrying out its mandated task of tracing missing persons and protecting prisoners and the civilian population. During the 1989 conflict, ICRC provided medical supplies and relief goods to civilian victims throughout the country; helped the Lebanese Red Cross evacuate the wounded; supplied hospitals and

dispensaries with medical and surgical materials; delivered family food parcels, blankets, and kitchen sets to displaced families; helped restore a water treatment plant for West Beirut; and carried out sanitation projects in bomb shelters and other places of refuge. ICRC contributed $225,000 to UNICEF's water supply project at Burj el Barajneh. ICRC increased its budget for Lebanon in 1989 in view of the expanded operation. As of Sept. 12, ICRC had received about $9,300,000 for Lebanon against its revised budget of $12,054,000. *(Note: Only the reported contributions to ICRC as listed below are included in the international total.)*

UNDRO - issued an appeal for $92,233,000 and coordinated international donations. UNDRO approved a number of projects for implementation, including a water pumping project in greater Beirut in late July, a program to assist 700 orphan families in South Lebanon, a plan to set up two mobile clinics along confrontation lines, and an anti-cancer program with the MOH. UNDRO also planned to assist a UNICEF schools rehabilitation project and WHO primary health care centers. Through SCF, UNDRO assisted with basic repairs to 1,000 housing units in the greater Beirut area.

UNICEF - continued its program of supplying basic drugs to dispensaries and immunizing children and, with funding from Austria, initiated a diarrheal diseases control program. UNICEF helped to supply water to greater Beirut by trucking fuel to pumping stations, installing water tanks, and organizing essential repairs of equipment. Working with civil defense units, UNICEF had cleaned and disinfected 450 shelters in the Beirut area as of June 5. In cooperation with U.N. Assistance for Reconstruction and Development (UNARDOL), UNICEF planned to implement project assistance in institutions for the handicapped and to social welfare institutions caring for children.

U.N. Secretary General - sent an interagency survey mission to Lebanon in April, headed by his special representative and comprised of representatives from FAO, UNICEF, WFP, WHO, UNDP, and UNDRO. Based on the mission's findings, the Secretary General issued an international appeal through UNDRO on April 20 for humanitarian assistance to the victims of civil strife.

U.N. Trust Fund - through UNICEF, provided $200,000 for hospital rehabilitation, $300,000 for the repair of water supply systems, and $50,000 for institutions caring for the handicapped.

WCC - maintained contact with the MECC in Beirut and Cyprus and issued an appeal ($2,750,000) for urgently needed relief supplies.

WFP - delivered emergency food valued at $3,200,000 to needy and displaced persons and food aid worth $4,800,000 to 159 social welfare associations and MCH centers.

Governments

Australia - contributed $201,613 for the U.N. program in Lebanon and $201,613 for the ICRC program.

Austria - provided 2,080 MT of cereals worth $1,200,000 for 50,000 families for one month through WFP and assisted UNICEF's diseases control campaign with a $30,000 donation through UNDRO.

Canada - gave $150,000 through UNDRO for the rehabilitation of the water supply network and $420,168 through ICRC.

France - evacuated 89 severely wounded victims (and 34 accompanying persons) for hospitalization in France at a cost of $9,433,962, excluding transport, as well as five burn victims for treatment in Paris. France also paid transport costs of $110,000 for the EC donation of 15,000 MT of fuel and contributed 10 MT of medicine and hospital equipment, food (30 MT of milk powder, 3 MT of vegoil, and 18.5 MT of unspecified food), and 700 MT of fuel. France and Italy helped restore telecommunications in East Beirut. The Conseil Regional Midi/Pyrenees donated $22,727 to the Fonds Social Maronite.

Germany, Fed. Rep. - donated $890,135 through ICRC and transport costs of $126,975 for an ICRC activity, as well as food valued at $602,752. Additionally, Germany provided food and transport costs worth $792,872 through Caritas/Germany and $190,769 for ambulances and transport.

India - gave medicine, blankets, and other supplies, all valued at $40,000, through the Lebanese Red Cross.

Iran - evacuated 70 wounded (and accompanying persons) for hospitalization in Iran.

Italy - provided 80 MT of food and medical goods worth $652,174, $800,000 for the purchase and distribution of medicine through UNDRO, and $138,235 in in-kind assistance through the GOL and ICRC.

Japan - gave emergency assistance worth $1,000,000 through ICRC.

Kuwait - donated 53 MT of medicine and medical equipment and evacuated 82 wounded victims (and accompanying persons) for special treatment in Kuwait. In addition, Kuwait gave $1,000,000 for radiology equipment for Makassed hospital and $6,666 for medicine through local NGOs.

Netherlands - gave $117,371 through UNICEF for water installations and $117,371 for the purchase and transport of milk powder through the Lebanese Red Cross.

Pakistan - gave medicine valued at $300,000 through UNDRO for distribution to hospitals and dispensaries by the Lebanese Red Cross.

Sweden - contributed $597,015 for the purchase and distribution of relief supplies through the GOL and an NGO task force in the Middle East, $100,554 for emergency goods (food, blankets, medical equipment) for an orphanage and a hospital, and $41,000 through Caritas for the repair of schools.

Switzerland - gave food worth $287,425 through ICRC, $374,251 to Terre des Hommes (Lausanne) for 7,500 families in Beirut and southern Lebanon, $95,800 for dairy products through Caritas, $132,934 for dairy products through Union des Eglises Evangeliques Libres, and $119,760 to children victims through Kinderhilfe Bethlehem.

Non-Governmental Organizations

Canada Red Cross - gave $31,100 through ICRC.

Caritas/Germany, Fed. Rep. - donated $1,189,744 for the relief effort through Caritas/Lebanon.

Catholic Private Schools (Vatican) - contributed $2,000,000 to a local church for 165,000 students.

Fonds de Solidarite Pour le Liban - gave $460,000 to local NGOs to assist projects in health, education, and other social sectors.

MSF/Belgium - provided in-kind emergency assistance valued at $423,542 and paid hospitalization fees of $458,333 for about 900 patients.

MSF/Medecins du Monde/Aide Medical Internationale (France) - sent a plane with 20 MT of relief supplies.

Private donor - gave $1,442 through ICRC.

Secours Catholique Francais - gave $3,800,000 to cover some of the basic needs of deprived families.

SERMING (Service Missionaire des Jeunes) - donated $3,000,000 worth of medicine through the MOH.

St. Joseph's Hospital (U.K.) - contributed $16,129 for hospital equipment.

Tear Fund - donated $8,472 for the repair of schools.

Terre des Hommes - provided one-time rations for 10,000 families.

TOTAL **$76,794,671**

PHILIPPINES - Floods I

Date: Late January - early February 1989

Location: Three provinces in Samar and Sorsogon Province in Luzon

No. Dead: At least 70 dead, 60 injured, and 52 missing

No. Affected: 346,366 in Samar

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$25,000**

The Disaster

Several days of continuous rain in late January and early February triggered disastrous flash flooding and mudslides in the east-central regions of the Philippines. Thirty-six municipalities and 781 villages in three provinces of Samar (Northern, Western, and Eastern) were seriously affected. Damage was also reported in Sorsogon Province in southeastern Luzon. Many of the deaths resulted from mudslides that buried at least 46 victims in the provinces of Northern and Eastern Samar. Floodwater caused widespread damage to homes, roads, bridges, and crops. Nearly 50,000 families were displaced and over 8,000 ha. of rice and corn cropland were destroyed. The GOP damage estimate for crops, livestock, infrastructure, and property was $4,681,000.

Action Taken by the Government of the Philippines (GOP) and Non-Governmental Organizations

As search and rescue operations were being mounted by local disaster coordinating councils, President Corazon Aquino proclaimed that a state of calamity existed in the three affected provinces of Samar. The National Disaster Coordinating Council (NDCC), the Department of Social Welfare and Development (DSWD), the Philippine National Red Cross (PNRC), and other government and private agencies extended relief assistance. As of Feb. 7, the following aid had been reported: 3,000 packages of relief goods, valued at over $37,000, from the DSWD; 10 MT of food from the PNRC; 5,100 packages of relief supplies, mostly food and clothing, from the Bigay Puso Foundation; and $560,000 worth of medicine (partly donated by the Italian government) from the Department of Health. In addition, the Philippine Department of Agriculture distributed over $215,000 worth of agricultural supplies (seeds, fertilizer, fingerlings) to farmers affected by the disaster.

A local private voluntary group, the Philippine Business for Social Progress (PBSP), and partner organizations implemented an agricultural rehabilitation project in Samar funded by the U.S. government.

Assistance Provided by the U.S. Government

Responding to the reports of widespread damage from flooding in Samar, U.S. Ambassador Nicholas Platt made a disaster declaration on Feb. 9 and released his $25,000 disaster assistance authority for the relief and rehabilitation effort. The U.S. donation was passed on to a local NGO, the Philippine Business for Social Progress, which administered a livelihood rehabilitation program in Northern Samar and Western Samar. A total of 702 flood victims from seven municipalities in the two provinces benefited from the project.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

Italy - provided medical assistance through the Philippine Department of Health.

PHILIPPINES - Floods II

Date: August 1989

Location: Metro Manila, especially the slum areas of San Juan, Marikina, and Smokey Mountain

No. Dead: None reported

No. Affected: About 47,500

Summary of Assistance:

USG	$275,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$275,000**

The Disaster

A prolonged period of heavy monsoonal rainfall caused widespread flooding throughout much of Metro Manila during the first three weeks of August. Particularly hard hit were the three slum areas of San Juan, Marikina, and "Smokey Mountain," the popular name for barrio Magdaragat.

In San Juan, the water level reached 2.2 meters in two low-lying barangays (small communities), destroying or damaging an estimated 1,474 houses and displacing about 11,000 squatter residents. Houses in the area were typically three levels high, and water damage to weak foundations caused the collapse of all three levels.

The affected barangay in Marikina had a population of about 6,500. The main road to the community was flooded for more than a week, cutting off supplies of food and other essentials. Over 800 houses were damaged or destroyed, and water supplies were contaminated.

"Smokey Mountain" in Tondo is a garbage dump site and the worst urban slum in the Philippines. The heavy rain washed away shanties here sheltering some 30,000 residents of the squatter community. Mudslides destroyed water tanks and pipes, cutting off the water supply, and stagnant water in silted sewage canals added to the health risk. Strong winds accompanying the rain toppled electric posts and severed electric lines.

.Action Taken by the Government of the Philippines (GOP) and Non-Governmental Organizations

Government and private agencies provided some aid to flood victims in the form of food and medical care; however, most of the reported rehabilitation assistance was undertaken by local NGOs. In particular, the NGO Tulay sa Pag-unlad and partner organizations in the affected neighborhoods implemented USG-funded relief and rehabilitation projects.

Assistance Provided by the U.S. Government

On Aug. 11, U.S. Ambassador Nicholas Platt declared that the flooding disaster in Metro Manila was of a magnitude to warrant a USG response. His disaster assistance authority of $25,000 was donated to a local NGO, Tulay sa Pag-unlad, Inc. (TSPI), for immediate relief in the most severely afflicted areas. The funds were to be used to procure food locally and provide wall and roofing materials and other building supplies to an estimated 10,000 people in San Juan, Marikina, and "Smokey Mountain."

After receiving damage assessment reports and proposals for rehabilitation projects from local partners, TSPI requested a $250,000 grant from USAID/Manila to fund the proposed projects. Based on USAID's recommendation, OFDA approved the grant which concentrated on two of the affected areas: Purok 1-A in Marikina and "Smokey Mountain." The projects rehabilitated the flood-damaged community infrastructure and rehabilitated and repaired flood- and wind-damaged houses. In addition, OFDA provided for five evacuation centers in strategic locations in "Smokey Mountain."

TOTAL **$275,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

PHILIPPINES - Typhoon (Ruby)

Date: Oct. 21-25, 1988

Location: Northern Mindanao, Visayan Islands, southeastern and central Luzon

No. Dead: 145 dead and 22 missing on land; over 300 dead or missing in a ferry accident

No. Affected: About 2 million (374,780 families); 270 injured; 20,000 homeless from a tornado

Summary of Assistance:

USG	$408,760
U.S. Voluntary Agencies	$145,000
International Community	$2,514,501
TOTAL	**$3,068,261**

The Disaster

Typhoon Ruby (Philippine name Unsang) entered the Philippine Area of Responsibility on Oct. 21, triggering a tornado and heavy rains in northern Mindanao as it approached the archipelago. The tornado touched down in Misamis Oriental, destroying hundreds of homes near Cagayan de Oro.

Ruby made landfall on Oct. 24 and tore through the Philippines with sustained center winds of 165 km. an hour. The storm cut a wide swath as it skirted the northeastern coast of Samar and swept north and west over eastern Camarines Sur, the Polillo Islands, and the central Luzon provinces of Nueva Ecija, Tarlac, Pangasinan, and northern Zambales.

Widespread flooding was reported in Luzon in the wake of the storm with Region III (Central Luzon) being one of the hardest hit areas. Region III governors reported that thousands of hectares of rice ready for harvest were destroyed in this major rice-producing region, and almost all banana trees were blown down by strong winds. The mango industry sustained heavy losses as well.

Floodwaters reached dangerous levels in the Manila suburb of Marikina where residents were forced to scramble to rooftops to await rescue. Flooding was also severe in Zamboanga del Sur (Mindanao) and in parts of the Visayas. Hundreds of families along the shoreline of Albay Province in the Bicol Region of southeastern Luzon were evacuated to higher ground as the storm approached. Countrywide, some 230,000 people were evacuated from flood-threatened areas, and over 50,000 dwellings were damaged or destroyed. The estimated damage to crops and property was in excess of $240.5 million, of which 80% of the loss was absorbed by Region III. The disruption in communications and power to many of the affected areas hampered damage assessments.

The storm was responsible for the death or disappearance of at least 467 people. More than 300 passengers on an inter-island ferry, the Dona Marilyn, were unaccounted for after the vessel sank in heavy seas while enroute from Manila to Tacloban, Leyte, at the height of the typhoon. Another 205 passengers reached the safety of nearby islands. Many of the survivors had not been listed on the ship's manifest, raising fears that the ship may have been carrying many more than the 451 passengers and 60 crew registered. Several other smaller vessels also sank or were reported in trouble during the typhoon. In another storm-related incident, 26 people drowned when the bus in which they were riding was swept into flood waters in Antique Province of Panay.

Action Taken by the Government of the Philippines (GOP) and Non-Governmental Organizations

The Philippine National Red Cross (PNRC) provided immediate assistance to the tornado victims in Misamis Oriental. When the dimensions of the larger disaster caused by Typhoon Ruby became evident, President Corazon Aquino declared a state of calamity in Manila and 32 provinces and released some $500,000 in relief funds. On Nov. 1, the GOP appealed to the international community for assistance.

The Philippine Armed Forces with the help of U.S. military helicopters staged rescue operations from Villamor military base near Manila. Military personnel worked with civilian volunteers to rescue hundreds of people stranded on rooftops and in trees in the Manila suburb of Marikina. Military vehicles (boats, trucks, amphibians) were kept on standby for evacuations throughout the affected area. The Philippine Coast Guard conducted search and rescue operations for the victims of the Dona Marilyn sinking.

Relief operations, spearheaded by the Department of Social Welfare and Development, were carried out also by local and provincial disaster coordinating councils and the PNRC. Local business organizations and private citizens donated funds to the relief effort. Schools and other public buildings were opened as evacuation centers and mass feedings were undertaken for families without cooking facilities. The PNRC, through its chapters in the affected areas, had assisted 905,514 typhoon victims as of Nov. 22, providing ambulance service, medical care, and tracing service, as well as food distribution. The PNRC appealed to LRCS for support in assisting at least 200,000 people for 30 days. The GOP Department of Health distributed medicine worth $70,000 in the affected regions.

President Aquino visited the storm-ravaged areas in Pangasinan and Pampanga on Nov. 5 and announced that the government would give priority to agricultural aid. The Department of Agriculture, with international assistance, planned to rehabilitate some 200,000 ha. of rice farms and 5,000 corn farms badly damaged by the typhoon. The President distributed seeds, fruit trees, and fertilizers to the farmers of the region.

A Philippine NGO, the Philippine Business for Social Progress (PBSP), played an active role in the relief effort. PBSP sent teams to the affected areas to conduct a damage and needs assessment and distributed relief goods to 2,500 of the neediest families in Nueva Ecija in Region III. The relief items were purchased with a grant from the U.S. Ambassador's relief fund. PBSP also undertook a rehabilitation program designed to restore the means of livelihood of low-income families whose source of income had been destroyed by the typhoon. A local consortium of NGOs assisted PBSP in implementing the OFDA-funded program, which provided seeds, small farm animals, and technical assistance. The beneficiaries were to provide counterpart assistance in the form of all required labor, land, water, and construction. Over 3,900 families were served in the districts of Nueva Ecija, Pampanga, Tarlac, and Zambales.

Another local NGO, the Philippines Relief and Development Services (PHILRADS), World Relief's counterpart, delivered emergency food, clean water, medicine, clothing, and building supplies to typhoon victims in Metro Manila and suburbs and planned to extend operations to affected provinces in Luzon and other islands.

Assistance Provided by the U.S. Government

U.S. Ambassador Nicholas Platt determined on Oct. 26 that a disaster existed in the Misamis Oriental Province of Mindanao as a result of a tornado. He donated $25,000 from his disaster assistance authority to the PNRC for its relief actitivties.

Ambassador Platt also declared on Oct. 26 that the destruction caused by Typhoon Ruby constituted a separate and more widespread disaster. The $25,000 from the Ambassador's authority was given to PBSP for the relief effort in Nueva Ecija. Food (rice, sardines, milk) was purchased locally and distributed to 2,500 families. The Mission Disaster Relief Officer toured Region III to assess damage and inspect relief activities.

On Oct. 29, USAID/Manila approved the release of 56.4 MT of P.L. 480 Title II CSM from CRS stocks for emergency feeding in Pampanga, Bulacan, Bataan, and Nueva Ecija. The quantity of CSM authorized for release by CRS was increased by 17.2 MT on Nov. 4, with distribution extended to regions IV and V. The total value of the donated food stocks was $133,760.

At the request of USAID/Manila, OFDA approved a $225,000 grant to PBSP for the provision of livelihood inputs (seeds, farm implements, small farm animals) to typhoon victims in hard-hit Region III. The project, which was implemented by participating partners, was supervised by PBSP (see "Action by the Government of the Philippines").

U.S. military personnel from Clark Air Force Base and Subic Bay Naval Base were active in relief and rescue operations from the beginning. U.S. military helicopters joined the rescue effort in the flooded Marikina suburb of Manila, and the U.S. Navy helped locate a sinking Philippine freighter south of Cebu and rescued some of the crew. Service personnel distributed relief supplies collected on the bases. The U.S. Navy distributed 60 boxes of used clothing and 7,784 bags of food in the provinces of Bataan and Zambales. The U.S. Air Force delivered 4,000 bags of relief supplies to typhoon victims in the provinces of Pampanga, La Union, and Benguet.

Additionally, two medcap (medical civic action program) operations of the U.S. military provided medical care to 4,042 people.

Total OFDA (tornado declaration) $25,000
Total OFDA (typhoon declaration) $250,000
Total FFP $133,760

TOTAL $408,760

Assistance Provided by U.S. Voluntary Agencies

ADRA - allocated $40,000 for relief activities, including the provision of emergency shelter, food, clothing, and "nipa" shingles.

ARC - donated $50,000 to the relief effort.

CRS - provided $30,000 for the local purchase of relief supplies (food, clothing, and plastic sheeting) and distributed 73.6 MT of P.L. 480 Title II CSM to typhoon victims in regions III, IV, and V.

CWS - issued an appeal ($40,000) and donated $15,000 from the Blanket Fund to provide assistance requested by the National Council of Churches in the Philippines.

Episcopal Church (Presiding Bishop's Fund) - forwarded $10,000 to the Diocese of Central Philippines.

TOTAL $145,000

Assistance Provided by the International Community

International Organizations

EC - provided $582,072 through the Danish Red Cross for the local purchase of blankets, sardines, and rice and for transport and distribution costs.

ICRC - assisted the PNRC with means of transport.

LRCS - on behalf of the PNRC, launched an appeal for the equivalent of $1,228,000 for the local purchase of food and other relief supplies for at least 200,000 people for 30 days. League delegates surveyed the affected areas of Laguna and Manila with PNRC staff. As of Nov. 11, LRCS had channeled $158,056 for the local purchase of rice and milk powder and had donated $30,000 through CRS/Manila. *(Note: To avoid double counting, LRCS's contributions are not included in the international total, as the funds presumably came from national societies listed below.)*

UNDP - provided $50,000 for the local purchase of medicine, canned food, clothing, blankets, shelter materials, and cooking utensils.

UNDRO - issued an appeal on behalf of the GOP and donated $25,000.

UNICEF - contributed $55,000 for the local purchase of medicine.

WCC - gave $20,000 to the relief effort.

WHO - donated $5,000 for medicine.

Governments

Australia - provided $83,810 worth of food aid.

Canada - donated $419,000 in food assistance and $126,050 for other relief essentials.

Denmark - gave $146,198 through the Danish Red Cross.

Italy - supplied drugs, canned food, and shelter materials and arranged an airlift carrying 3,000 blankets, 30 tents, and 10,000 plastic folding water containers at a cost of $75,662.

Japan - donated $304,762 worth of food aid.

Netherlands - contributed $100,000 through LRCS.

Spain - furnished food supplies worth $23,810.

Norway - donated $30,303.

Non-Governmental Organizations

Caritas/Fed. Rep. of Germany - contributed $39,572.

Diakonisches Werk (Germany, Fed. Rep.) - donated $85,227.

National Red Cross Societies responded as follows to LRCS's appeal:

Australia - $3,305
Austria - $30,000
Canada - $4,132
Denmark - $14,619
France - $33,003
Japan - $33,834
Netherlands - $24,000 and 10 basic health kits valued at $5,110
Spain - $25,862
Sweden - $80,906
Soviet Union - $79,415 for medicine
United Kingdom - $8,849

TOTAL **$2,514,501**

PHILIPPINES - Typhoon (Skip)

Date: November 7-8, 1988

Location: Bicol Division of Luzon and the Visayan Islands

No. Dead: 300 (as of Nov. 14)

No. Affected: About 3,600,000 (719,812 families); over 660,000 homeless (133,126 families)

Summary of Assistance:

USG	$251,200
U.S. Voluntary Agencies	$200,000
International Community	None reported
TOTAL	**$451,200**

The Disaster

While the Philippines was still reeling from the effects of Typhoon Ruby which had ravaged the country's central and northern provinces less than two weeks earlier, Typhoon Skip ("Yoning") slammed into the nation's mid-region—"typhoon alley"—on Nov. 7, packing center winds of 175 km. per hour as it made landfall. The Bicol Peninsula of Luzon and several of the Visayan Islands bore the brunt of the storm. The islands of Samar, Leyte, Masbate, Mindoro, Cebu, Panay, Bohol, and Palawan were among the most severely affected.

The most destructive of the 20 typhoons or tropical storms to enter the Philippine Area of Responsibility in 1988, Typhoon Skip triggered tornadoes, landslides, and widespread flooding. Several casualties were reported as landslides buried a mountainside village in Camarines Sur in the Bicol area and flood waters reached roof-top levels. Thousands of residents of Cebu and Albay provinces sought refuge in makeshift shelters when their homes and villages were swamped, and 80% of the people in the area of San Jose, Mindoro, were removed to higher ground to await the flood water's recession. According to media reports, 90% of the homes in eastern Samar were destroyed by high winds and waves. Flooding also engulfed large areas of Panay and Palawan islands, causing several deaths and forcing thousands of families from their homes. Palawan, the westernmost island in the archipelago, is rarely hit by typhoons and was unprepared for such a destructive storm. In Panay, damage was heaviest in Capiz Province and northern Iloilo. The burgeoning prawn industry was reportedly devastated.

Agriculture in the affected area suffered a severe blow as the storm flattened sugar, corn, mango, and coconut crops. The communications lines, still not fully restored after being knocked out by Typhoon Ruby, were further damaged by Typhoon Skip. Even military radio antennas were blown over by the strong winds, leaving large areas totally cut off from the nation's capital. Damage to electric lines in Samar and Leyte was so extensive that authorities predicted the two provinces would not have power fully restored for at least three to four months. Landslides, downed trees and power lines, and washed out bridges left roads impassable in many areas, hampering the transport of critically needed food and relief supplies to the stricken areas. Damage to public and private property, agriculture, infrastructure, and communications was estimated at $149,060,000 (as of Nov. 14).

Action Taken by the Government of the Philippines (GOP) and Non-Governmental Organizations

President Corazon Aquino declared that the severely affected provinces were calamity areas. Provincial disaster coordinating councils, the Philippine National Red Cross (PNRC), and the Department of Social Welfare and Development (DSWD) carried out rescue and relief operations. Schools, churches, and other public buildings were converted into emergency shelters for thousands of evacuees, and authorities ferried relief supplies to marooned villages by small boats and military helicopters. As of Nov. 22, the PNRC had assisted 661,284 victims of Typhoon Skip.

To avoid a repetition of the kind of sea disaster that occurred in the sinking of the Dona Marilyn during Typhoon Ruby's passage, the Philippine Coast Guard banned all commercial ships from leaving Manila while Typhoon Skip was threatening the country. Several fishing vessels and other small craft were reported missing or in trouble, however, in the wake of the storm.

The Ramon Aboitiz Foundation, an NGO in the Visayas, provided food and shelter supplies from its own resources

to the typhoon victims and administered an OFDA grant for housing rehabilitation in Cebu Province. Numerous private citizens also extended assistance to the families displaced by the storm.

Assistance Provided by the U.S. Government

U.S. Ambassador Nicholas Platt determined on Nov. 8 that because of the widespread damage from Typhoon Skip, USG assistance was warranted. His $25,000 disaster authority was donated to the DSWD for immediate food relief in Naga City (Bicol) and surrounding villages.

Responding to a need identified by USAID/Manila, OFDA provided a $200,000 grant to assist in the implementation of a housing rehabilitation project in the province of Cebu. The project, which was supervised by the Ramon Aboitiz Foundation (RAFI), furnished building materials for 1,489 beneficiaries whose homes were destroyed by the typhoon. The beneficiaries, all of whom had suffered at least 50% destruction to their homes to be eligible for assistance, provided the necessary labor. The project covered District 4 in the northern section of Cebu Province, including nine municipalities. RAFI worked with partner organizations to carry out the project.

USAID/Manila approved the release of P.L. 480 Title II commodities from CARE regular program stocks for emergency distribution in Camarines Sur (5 MT of wheat flour) and Negros Occidental (51.65 MT of bulgur wheat). This was in addition to food stocks diverted for Nueva Ecija after Typhoon Ruby. The total amount diverted for the two disasters was 75 MT, worth $26,200. Military personnel from the U.S. bases in the Philippines also provided assistance to the typhoon victims in the form of food, medicines, and other relief supplies.

Total OFDA *$225,000*
Total FFP *$26,200*

TOTAL **$251,200**

Assistance Provided by U.S. Private Voluntary Organizations

CARE - distributed 75.35 MT of P.L. 480 program stocks for emergency feeding in Nueva Ecija (after Typhoon Ruby) and in Camarines Sur and Negros Occidental.

Typhoon Relief Committee in Tamuning, Guam - donated 45MT of used clothing, canned food, medical supplies, and other relief items, valued at about $200,000, in response to the typhoon disasters in the Philippines. The goods were shipped under private auspices or by military aircraft on a space-available basis.

TOTAL **$200,000**

Assistance Provided by the International Community

Note: Because of the difficulty in separating international donations intended for disaster relief after Typhoon Ruby and Typhoon Skip, all international contributions have been listed in the Typhoon Ruby case report.

SRI LANKA - Floods

Date: May 30 - June 9, 1989

Location: 10 districts in central and southwestern Sri Lanka, especially Ratnapura and Kegalle

No. Dead: 325

No. Affected: 300,000, of which about 200,000 were homeless

Summary of Assistance:

USG	$525,000
U.S. Voluntary Agencies	$10,000
International Community	$1,797,758
TOTAL	**$2,332,758**

The Disaster

Torrential monsoon rains in late May and early June triggered floods and landslides that killed 325 people in southwestern and central Sri Lanka and left 200,000 homeless. Water levels rose 7.6 meters above normal in some areas of Ratnapura District during a flash flood on May 30. Continuous heavy downpours over the next few days stranded thousands of residents of nine additional districts: Kegalle, Kalutura, Colombo, Gampaha, Kandy, Kurunegala, Matara, Galle, and Nuwara Eliya. Most of the deaths occurred when rain-soaked hillsides collapsed in the tea-growing highlands, unleashing tons of mud and debris onto villages below. In Kegalle District, 37 landslides left a trail of death and destruction. Over 100 people perished in the villages of Malmaduwa, Bulathkohupitiya, and Bambaragala alone as mudslides buried their homes. The Kelani River near Colombo overflowed its banks on June 6 and 7, leaving some 60,000 people homeless in the nation's capital. Besides causing severe damage to homes and infrastructure, the flooding and landslides took a heavy toll on crops. In Kegalle District, 22% of standing crops was lost, and in Ratnapura and Galle, crop loss was 18% and 38%, respectively. Damage to roads, bridges, homes, and other structures exceeded $35 million according to the GSL.

Action Taken by the Government of Sri Lanka (GSL) and Non-Governmental Organizations

The GSL embarked quickly on a large-scale rescue and relief operation, calling on all branches of the military to assist. The Ministry of Defense deployed air force helicopters and navy boats to rescue stranded villagers and move them to schools and other government buildings equipped as emergency centers. Army troops and civilian volunteers dug through heavy mounds of earth to recover bodies and to reopen blocked roadways. Helicopters were also mobilized to airdrop food parcels to marooned families and to deliver food, clothing, and other relief supplies to emergency care centers.

The Sri Lankan Red Cross and local NGOs augmented the government's relief efforts. The initial supplies of food and medicine were from GSL stocks, but all of the clothing was collected by private groups and turned over to the Ministry of Labor and Social Welfare for distribution. Government agents in the field were responsible for distributing emergency supplies, with the assistance of NGOs and residents of unaffected communities.

Prime Minister D. B. Wijetunga toured some of the stricken areas on June 4 and gave instructions on relief measures in the emergency camps. On June 7, the GSL Minister of Foreign Affairs convened a meeting of diplomatic missions, NGOs, and U.N. organizations to provide an update on the disaster and to appeal for international assistance.

The GSL took action as well to prevent further injury and loss of life. Ministry of Health officials carried out preventive health care activities, and the government ordered the relocation of hundreds of people living in areas where landslides might occur. In Kegalle District, 74 villages were evacuated during the week of June 12. To mitigate future disasters, the GSL requested UNDP technical assistance to help the National Buildings Organization identify landslide-prone areas and improve the country's monitoring and warning systems.

For the rehabilitation phase, the Department of Social Services in the Ministry of Labor and Social Welfare developed an assistance program to enable the most severely affected low-income families to resettle in their home areas. Government agents in the affected districts compiled damage registers to determine eligibility, and

assistant government agents at the divisional level were responsible for arranging the provision of building materials and for making benefit payments. The reconstruction program was coordinated with district offices of the National Housing Development Authority which had the technical expertise to implement low-income housing construction programs. The Department of Social Services requested international technical and budgetary support in carrying out the rebuilding program. The Central Environmental Authority was later tasked with overall interministerial coordination for the relief assistance program, relocation of families, and carrying out of environmental assessments.

Assistance Provided by the U.S. Government

Following an initial assessment by the Mission Disaster Relief Officer (MDRO), U.S. Ambassador James W. Spain determined on June 1 that the flooding in Sri Lanka constituted a disaster warranting USG assistance. He committed $25,000 from his disaster assistance authority to the relief effort of the Ministry of Labor and Social Welfare.

USAID/Colombo kept in close communication with GSL disaster response officials to monitor events, and, on June 7, the USAID acting director and the MDRO traveled by Sri Lanka Air Force helicopter to view flooded areas in Ratnapura District from the air and to examine relief operations on the ground in Kegalle. This was followed up by a second visit to Kegalle on June 9 by the MDRO and two Peace Corps volunteers. The team visited emergency care centers and areas directly affected by landslides. Based on extensive discussions with GSL officials and the on-site inspections, the Mission determined that immediate requirements were being largely met by the GSL and other donors and that any additional USG assistance could best be directed toward the government's housing/resettlement program.

In response to the Mission's recommendation, OFDA provided a $500,000 grant to the GSL which was to be transferred to government agents to begin the housing emergency repair program. The GSL declared that eligible households were those with monthly incomes below rupees 650 ($16.50) and the maximum assistance for a damaged house would be rupees 5,000 ($125).

TOTAL **$525,000**

Assistance Provided by U.S. Voluntary Agencies

WVRD - gave $10,000.

TOTAL **$10,000**

Assistance Provided by the International Community

International Organizations

EC - provided grants totaling $234,375 through LRCS and MSF.

LRCS - issued an appeal for $263,344 to provide assistance to 6,000 families and contributed $500,000 for housing reconstruction. *(Note: To avoid double counting, the LRCS contribution is assumed to have come from country and national society donations channeled through LRCS and listed below.)*

UNDP - contributed $50,000 and provided technical assistance, including an environmental assessment, valued at $250,000.

UNICEF - gave food and medicine worth $15,000.

UNDRO - provided an emergency grant of $30,000.

WFP - shipped wheat flour, rice, sugar, lentils, and dried fish, all valued at $335,000.

Governments

Australia - donated $75,000.

Canada - contributed $21,667 through the Red Cross and a Canadian NGO.

Finland - donated $33,708 through the Finnish Red Cross.

France - gave $29,586 for the local purchase of food and other relief supplies.

India - supplied blankets, rice, lentils, medicine, and two jeeps, all worth $19,000.

Japan - sent medicine, 10 rescue boats, food, blankets, and a coordinator accompanying the shipment. The value of goods and transport totaled $220,000.

Korea, Rep. - donated $18,000.

Norway - gave $113,399.

Sweden - donated medicine worth $30,000.

Switzerland - sent medical supplies worth $29,842.

United Kingdom - sent blankets, milk, canned food, and rice, all valued at $200,000.

Non-Governmental Organizations
Caritas/Germany, Fed. Rep. - donated $25,126.

Red Cross and Red Crescent Societies contributed as follows:

Canada - $1,667
Japan - $7,857
Norway - $42,857
United Kingdom - $15,674

TOTAL **$1,797,758**

THAILAND-Floods

Date: November - December 1988

Location: 14 southern provinces, especially Nakhon Si Thammarat, Surat Thani, and Songkla

No. Dead: 350; 390 missing

No. Affected: 1,112,941 (more than 200,000 families); 2,000 injured

Summary of Assistance:

USG	$592,908
U.S.Voluntary Agencies	$695,600
International Community	$959,973
TOTAL	**$2,248,481**

The Disaster

A low pressure system from the South China Sea dropped more than 600 mm. of rain on southern Thailand during the period Nov. 18 to Nov. 21, 1988. The continuous torrential rains resulted in severe flooding in three provinces: Nakhon Si Thammarat, Surat Thani, and Songkla. Eleven other provinces were less seriously affected. Local officials described the flooding as the worst in living memory.

Most major roads on Thailand's side of the Isthmus of Kra remained impassable for several days. Rail service south of Surat Thani was cut, and the international airport at Hat Yai in Songkla Province was closed at the height of the flooding. Hat Yai and outlying areas were under 1 to 1.5 meters of water in flash flooding. Close to 50,000 people in the affected provinces had to be evacuated to higher ground. Schools, hospitals, and other public buildings were used as temporary shelters. The death toll reached 350, with many of the deaths occurring in the Phipoon District of Nakhon Si Thammarat where mudslides carrying heavy logs crashed down barren hillsides into villages. Government officials believed that improper logging may have contributed to the flooding and the unstable ground on hillsides.

Reports submitted by provincial officials on Dec. 8 indicated the extent of the damage: 52,402 houses destroyed; 5,301 roads and 1,379 bridges washed out; 393 irrigation canals damaged; 419 government buildings, 1,825 schools, and 435 temples or mosques damaged or destroyed; 4.5 million rais (750,000 ha.) of agricultural land submerged, seriously affecting lowland rice, rubber, and fruit cultivation, and a burgeoning coastal shrimp industry; and 518,703 head of cattle and poultry killed. Total damage was estimated at $169,146,430.

Action Taken by the Royal Thai Government (RTG), Local Governments, and Non-Governmental Organizations

Relief and rescue efforts were coordinated at the provincial level with help from Thailand's Fourth Army stationed in the south. The military and police played a major role, providing helicopters, heavy equipment, and personnel. The air force, army, and navy airlifted and distributed food, clothing, and medicine. Hundreds of civilian volunteers braved the rising floodwaters and landslides to help rescue stranded villagers. An immediate priority of government officials was the reopening of roads in hardest-hit areas so as to reduce the need for helicopters. Officials identified potable water, medicine, and shelter materials as critically needed relief items.

Prime Minister Chatichai Choonhavan visited the stricken area and called an emergency meeting of his Cabinet to discuss the disaster. The Prime Minister pledged 3 billion baht ($117,463,000) for the relief effort. The RTG appealed for international assistance on Nov. 26. Relief centers were established in each of the affected provinces, and a Regional Disaster Coordinating Center began operating in Hat Yai on Nov. 26. The Deputy Permanent Secretary of the Ministry of the Interior acted as the coordinating officer for a period of 80 days. Daily briefings were held at the Coordinating Center, attended by agency leaders. The Ministry of Finance set up a central relief fund, to which the various ministries and agencies planned to contribute through their regular budgets. The Ministry of Health advised on health and sanitation issues. A supply coordinating center was established in Bangkok, operated by the Royal Thai Army.

A generous outpouring of funds and supplies from the Thai people and commercial establishments added to relief resources. His Majesty, King Bhumibol Adulyadej, contributed $195,770; $39,154 was raised by reducing the

salary of all members of Parliament for one month; and $2,388,410 in cash and $352,388 in materials were collected at the relief center established at Government House. Other donations included a personal contribution of about $4,000 from the Minister of Finance, $391,543 from Siam Cement, and some $19,500 raised by the Bangkok Metropolitan Authority.

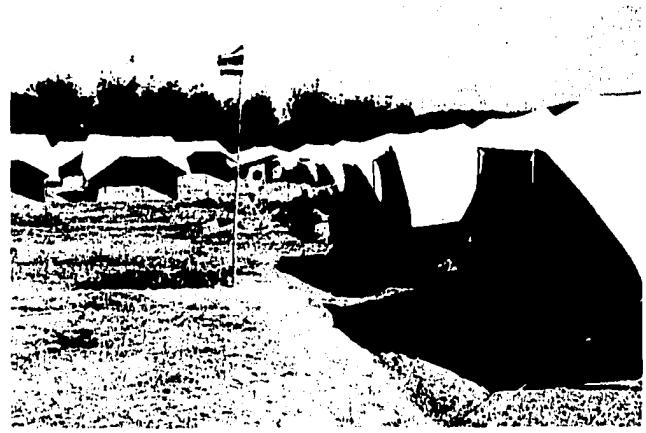
As of Nov. 30, the RTG had allocated 500 million baht ($19,577,000) in relief payments: 100 million for food, clothing, and medicine; 150 million for housing and funeral expenses; and 250 million for the repair of infrastructure.

The Thai Red Cross (TRC) played an important role in the local disaster response. The national headquarters of the TRC supported the emergency efforts of the provincial chapters with truckloads of food and medicine and two flat-bottomed boats. The provincial chapters coordinated their activities with those of government agencies.

Assistance Provided by the U.S. Government

As first reports of the severe flooding in the south reached the capital, U.S. Ambassador Daniel A. O'Donohue declared a disaster on Nov. 23 and donated $25,000 from his disaster assistance authority to the Foreign Ministry for the flood victims. On Nov. 26, OFDA agreed to provide an additional $50,000 for a damage assessment and the local purchase of relief supplies. A U.S. assessment mission was undertaken the same day with an aerial survey of the flooded area. An Embassy/JUSMAG (Joint U.S. Military Assessment Group) team, led by USAID/Bangkok Director John Eriksson and joined by OFDA consultant Everett Ressler, conducted the survey. The team met with disaster coordinators and governors of Nakhon Si Thammarat and Surat Thani provinces to evaluate the extent of damage and identify possible areas for a further USG response.

The USAID engineer, Mr. Mintara, and the MDRO, Karl Mahler, remained in the south until Dec. 8, then returned to the area with Ambassador O'Donohue for meetings on Dec. 9 and 10 with local officials of Nakhon Si Thammarat and Songkla. Having determined in those meetings that the provision of emergency shelter materials would be a most useful USG contribution, USAID/Bangkok requested that OFDA authorize the release of family tents from the Singapore stockpile for use in Thailand. With OFDA's concurrence, the Mission contracted with a charter carrier to transport 800 tents/flies and 2,307 double-decker cots from Singapore to Hat Yai. The stockpile items arrived over a three-day period, Dec. 16 to 19. The several "tent cities" that grew up as a result of this contribution helped free schools used as shelters for normal class use again.



OFDA-donated tents
Photos by Karl L. Mahler, USAID/Bangkok

On Dec. 6, a DOD C-141, carrying approximately 35 MT of medicine and other supplies collected by the U.S. PVO, AmeriCares, arrived in Hat Yai (see "Assistance Provided by U.S. Voluntary Agencies"). USAID/Bangkok coordinated the arrival, off-loading, and distribution of the supplies, which were received by the Thai regional health officer.

After discussions with the RTG, JUSMAG requested that USCINCPAC dispatch an engineer assessment team to southern Thailand to look into the possibility of conducting a training exercise that could help rebuild part of the damaged infrastructure. A five-person team (two Seabee officers, one army engineer, and two air force sergeants) visited the area Jan. 3 to 6, 1989, accompanied by the MDRO, the USAID engineer, and a JUSMAG representative. After visiting several sites, the team recommended that a CINCPAC engineer detachment build a school in a village that had been destroyed and had to be relocated. OFDA agreed to support the rehabilitation project by funding the purchase of building materials.

Summary of USG Assistance

Ambassador's authority $25,000

Cost of assessment and local purchase of supplies $50,000

Air freight costs for relief supplies from Singapore stockpile $76,800

Value of tents/flies (stockpile item not to be replaced - in-kind donation) $309,600

Value of 2,307 cots (stockpile item not to be replaced - in-kind donation) $101,508

Mission allotment for the purchase of building supplies for CINCPAC school rehabilitation project $30,000

Total OFDA $181,800
Total OFDA (in-kind donations) $411,108

TOTAL **$592,908**

Assistance Provided by U.S. Voluntary Agencies

ADRA - donated $30,000.

American Women's Club of Thailand - gave $2,000 to the Thai Red Cross.

AmeriCares - sent 35 MT of donated tools, medical supplies, and blankets to Thailand, all worth $650,000. DOD provided transport.

Residents of Chawang City navigated through mud and debris after the waters receded.

CRS - gave food, medical supplies, temporary shelter materials, and medical teams, all worth $13,600.

TOTAL. **$695,600**

Assistance Provided by the International Community

International Organizations

EC - donated $119,760 for the distribution of medicine and other supplies by MSF.

UNDP - contributed $50,000.

UNICEF - provided $25,000 worth of water pumps and sanitation and medical supplies.

Governments

Australia - gave $164,448.

Canada - donated $39,154.

Germany, Fed. Rep. - contributed $27,408.

Japan - provided $200,000 in cash and $250,000 worth of relief goods, comprising 500 kg. of biscuits, 7 boats, 50 generators, 50 transistors, 10 walkie-talkies, medicine, 1,000 blankets, 10 water pumps, 5,000 water purification tablets, and 10 water tanks.

United Kingdom - gave $84,203.

Non-Governmental Organizations

Economic and Social Commission for Asia and the Pacific - sent a team, comprising experts in water resources and flood control, geology, environment protection, human settlements, and agriculture, for a one-week mission.

TOTAL **$959,973**

WESTERN SAMOA - Cyclones

Date: Jan. 6-8, 1989

Location: Countrywide, especially the island of Savaii

No. Dead: None reported

No. Affected: Not reported

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	Not reported
TOTAL	**$25,000**

The Disaster

Two cyclones—Fili and Gina—hit Western Samoa in rapid succession on Jan. 6 and 8, dumping nearly 350 mm. of rain during the three-day period. Although wind damage was not significant, the flooding that followed the torrential downpours caused extensive damage to roads and bridges on the major islands of Upolu and Savaii. The most serious effects were felt on Savaii where the main circular road was washed away in nine places, 11 bridges were damaged, nine houses were swept to sea, and six houses and a hospital were seriously damaged. In the capital city of Apia, on Upolu Island, about 15% of the dwellings were inundated by up to one meter of water, and power and water supplies were disrupted. Preliminary government estimates put the damage at $6 million for Upolu and $9.5 million for Savaii.

Action Taken by the Government of Western Samoa (GOWS)

The GOWS, under the leadership of Prime Minister Tofilau Eti, responded quickly to repair damaged roads and bridges and restore water and electricity supplies. On Jan. 15, the Prime Minister formally declared the northern part of Savaii Island a disaster area and requested USG assistance with recovery from the severe damage to roads and bridges.

Assistance Provided by the U.S. Government

U.S. Ambassador Paul M. Cleveland, who is accredited to Western Samoa and resides in Wellington, New Zealand, forwarded the GOWS request for disaster assistance to the USAID Regional Director in Suva, Fiji, and asked that OFDA Regional Advisor Joseph Chung, who is based in Fiji, visit the islands to assess damage and determine the appropriate USG response. From Jan. 15 to 17, Mr. Chung and the Charge d'Affaires in Apia, William Francisco, surveyed the damage on Upolu and Savaii. Based on their judgment that the disaster was of a magnitude to warrant USG assistance, the Ambassador on Jan. 19 released $25,000 in disaster relief funds to the GOWS for the local purchase of building materials to replace the roof and strengthen the structure of Matautu hospital on the island of Savaii.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

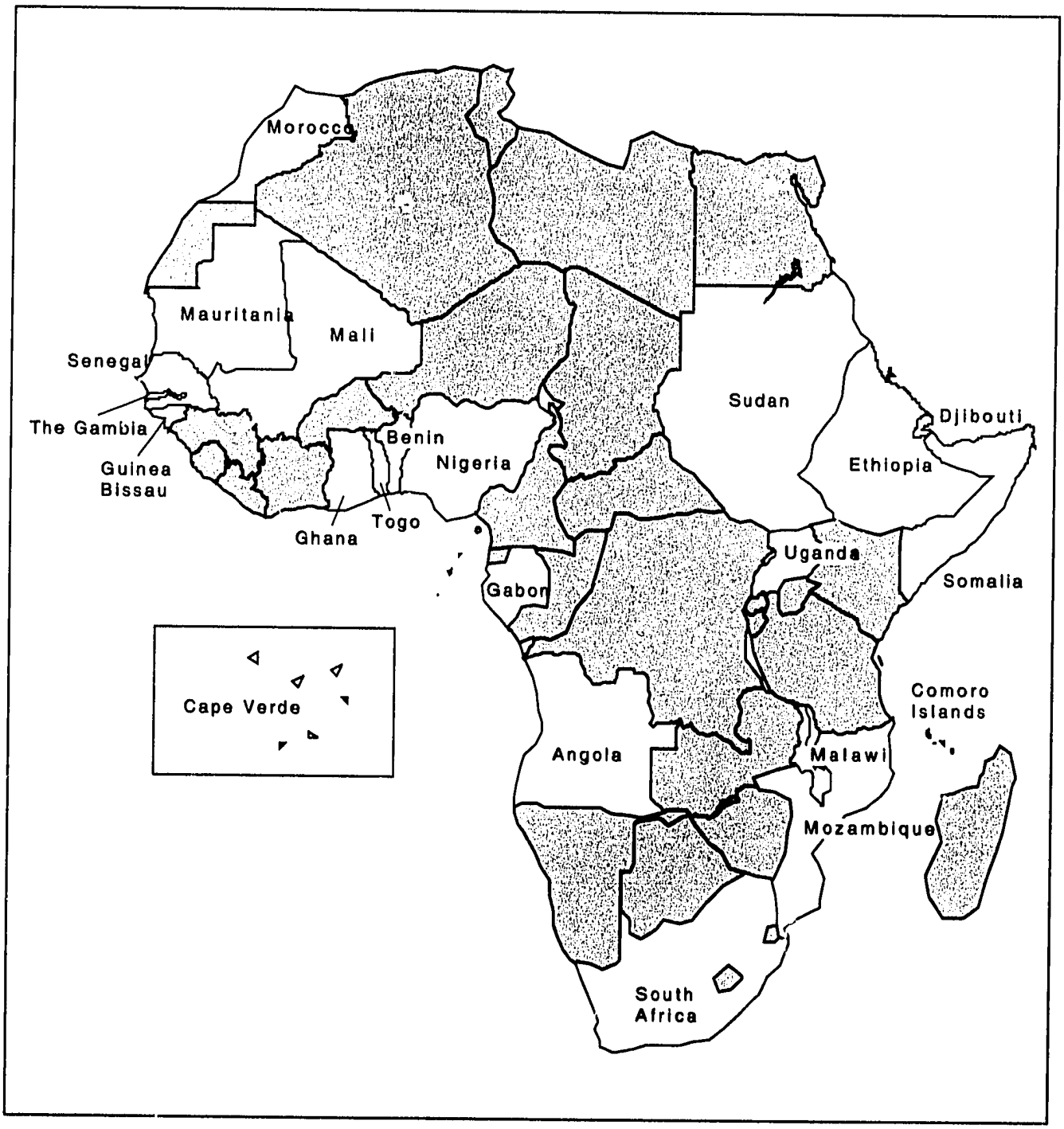
None reported

Assistance Provided by the International Community

Australia - initiated a three-year road improvement program.

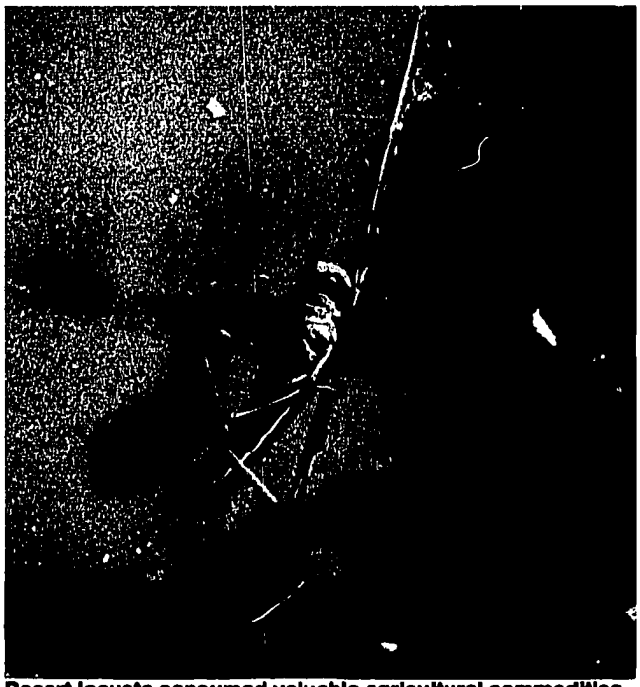
New Zealand - provided PVC pipe to rehabilitate the Apia water supply.

Africa


Morocco
Mauritania
Mali
Senegal
The Gambia
Guinea Bissau
Benin
Nigeria
Ghana
Togo
Gabon
Sudan
Djibouti
Ethiopia
Uganda
Somalia
Cape Verde
Comoro Islands
Angola
Malawi
Mozambique
South Africa

AFRICA AND NEAR EAST - Insect Infestations

Disasters were declared in six African countries (Gambia, Senegal, Mauritania, Cape Verde, Morocco, and Sudan) and in one Near East country (Jordan) in FY 1989 as a result of the continuing threat from desert locusts. A detailed description of the control activities in the African countries can be found in the *OFDA FY 1988 Annual Report*. The effectiveness of the efforts at crop protection over the three previous years—in which OFDA had been a major contributor—was apparent due to the low incidence of crop loss in infested agricultural areas. By Spring 1989, the plague had ended as a result of a combination of factors that included unfavorable



Desert locusts consumed valuable agricultural commodities.
Photo by Ron Libby, USDA/USFS

ecological conditions, control methods, and a unique storm in the fall of 1988 which moved from West Africa across the Atlantic and carried millions of locusts to sea. A sharp drop off in locust activity in Africa and the Near East by May and the optimistic outlook for continued decline into recession made it possible for A.I.D.'s intra-agency Desert Locust Task Force (DLTF) to disband on June 2. Monitoring of the locust situation was transferred to A.I.D.'s Africa and Asia Near East bureaus. The following is a brief summary of USG and international assistance and host country responses during FY 1989 in the African countries in which disasters were declared. The insect control program in Jordan is also described below.

AFRICA

GAMBIA (declared Oct. 14, 1988)

The Ambassador's Authority was used for the purchase of pesticide, fuel, and equipment to support the country's Crop Protection Service (CPS). A.I.D.'s Africa Bureau paid for participant travel to a workshop ($1,200).

Total OFDA	*$25,000*
Total Other USG	*$1,200*
TOTAL	**$26,200**

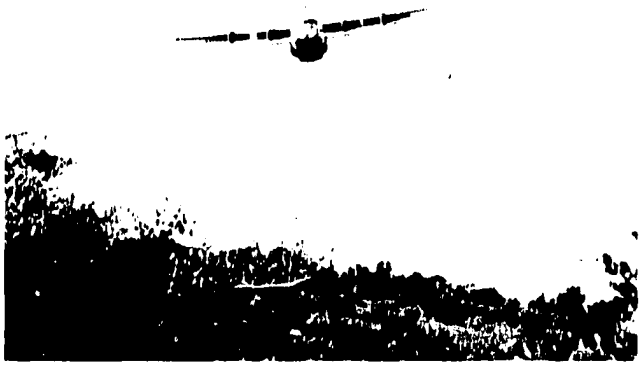
SENEGAL (declared Oct. 24, 1988)

OFDA contracted two DC-7 aircraft ($545,000), a C-130 ($589,080) and three air tractors ($190,000-Senegal's share from a regional obligation) for an aerial spray program; airlifted 253,200 liters of malathion ($870,915); purchased fuel oil ($6,840); paid for technical services to design a radio system for the CPS ($2,365-Senegal's share from a regional obligation); and arranged with DOD to airlift to the United States the bodies of the five Americans killed in an unprovoked missile attack on the two DC-7s over Western Sahara ($51,020).

USAID/Dakar paid the cost of flying spray aircraft from Morocco ($31,400) and of extending the C-130 operation ($196,160); and funded the purchase and transport costs of 67,000 gallons of malathion and other operational expenses ($1,803,840) (activities under the AELGA buy-in). A.I.D.'s Africa Bureau paid for participant travel to a workshop ($[illegible],300).

Total OFDA	*$2,255,220*
Total Other USG	*$2,034,700*
TOTAL	**$4,289,920**

The government of Senegal spent $2.5 million to purchase and ship 110,000 liters of malathion in FY 1989. Contributions from the international community, largely in FY 1989, to assist the control effort amounted to $11,273,000.



Twin Otter sprays fields in Senegal.
Photo by Renee Bafalis, AID/OFDA

MAURITANIA (declared Nov. 27, 1988)
Mauritania's share of an OFDA regional contract for four Turbo Thrush aircraft for a one-year aerial spray program amounted to $700,000. Additionally, OFDA purchased radios ($26,817) and provided technical assistance to design a radio system for the CPS ($18,183-Mauritania's share from a regional obligation) and to remove the Omega radio navigation system from the Turbo Thrush aircraft ($6,440). USAID/Nouakchott's buy-in to AELGA came to $115,000.

Total OFDA *$751,440*
Total Other USG *$115,000*

TOTAL **$866,440**

CAPE VERDE (declared Oct. 27, 1988)
The Ambassador's Authority ($18,913) was used to purchase 100 backpack ULV (ultra low volume) sprayers. The purchase was funded jointly by OFDA and USAID/Praia (from a prior-year Africa Bureau obligation). The Africa Bureau paid the additional cost of sprayers ($2,300) and expenses of biocontrol trials ($400,000). USAID/Praia's buy-in to the AELGA project totaled $25,000.

Total OFDA *$18,913*
Total Other USG *$427,300*

TOTAL **$446,213**

Assistance from the international community totaled $950,000.

MOROCCO (declared Nov. 7, 1988)
OFDA contracted for two DC-7s for an aerial spraying program ($300,000) and for an aerial operations specialist ($13,305). USAID/Rabat allocated $10 million for a Locust Project Paper amendment.

Total OFDA *$313,305*
Total Other USG *$10,000,000*

TOTAL **$10,313,305**

The government of Morocco's own contribution to the locust eradication campaign in FY 1989 amounted to about $50 million. Contributions from the international community totaled at least $20 million in FY 1989.

SUDAN (declared Dec. 30, 1989)
Following the new disaster declaration in FY 1989, OFDA purchased radio equipment to assist the control effort ($6,852) and paid for the services of a logistics/operations expert, a locust control coordination officer, and a contractor assistant to USAID/Khartoum to start up the aerial spray program ($35,012).

TOTAL **$41,864**

NEAR EAST

JORDAN (declared Feb. 12, 1989)

Entomological surveys in Jordan in February revealed that swarms of immature locusts had already entered the country. Evidence pointed to a probable severe infestation by spring if control measures were not quickly undertaken.

Lacking resources to mount a campaign that could avert a catastrophe, the government of Jordan (GOJ) appealed to the USG for assistance. U.S. Charge d'Affaires Patrick N. Theros responded to the GOJ request with a disaster determination on Feb. 12.

Malathion and other pesticides used for spraying in Morocco
Photo by Renee Batalis, AID/OFDA

The FAO estimated that a major locust incursion could begin as early as mid-March and that control activities should get underway by that date. Charge Theros asked the DLTF to arrange for early repositioning of two of the air tractors then in Senegal under OFDA contract to begin an aerial treatment program in Jordan. The two planes arrived in Amman on March 18. Several helicopters already in-country were made available for the spraying program.

Jordan's share of the cost of the aircraft contract amounted to $102,600. OFDA also paid for oil sensitive paper and other small equipment used in the spray program at an additional cost of $4,901. An aerial logistics expert with the DLTF traveled to Jordan to help with positioning of aircraft and training of the CPS. (OFDA paid the expenses of the aerial expert under a regional obligation.)

The U.S. Mission in Amman funded the cost of flying the air tractors from Dakar to Amman at an approximate cost of $100,000 and spent $25,000 for protective clothing.

Total OFDA	*$107,501*
Total Other USG	*$125,000*
TOTAL	**$232,501**

ANGOLA - Displaced Persons

Date: 1989

Location: Nationwide; worst-affected provinces were Cuanza Sul, Bengo, Huambo, and Malange

No. Dead: 527 due to cholera; unknown due to civil strife

No. Affected: 638,430 displaced, plus 140,000 affected by floods

Summary of Assistance

USG	$3,147,380
U.S. Voluntary Agencies	None reported
International Community	$9,221,000
TOTAL	**$12,368,380**

The Disaster

The long civil war between the Angolan government, under the control of the Popular Movement for the Liberation of Angola (MPLA), and the insurgent National Union for Total Independence of Angola (UNITA) has caused the internal displacement of almost 640,000 people. Most of these displaced persons came from rural areas and moved into secure locations in the provincial capitals or sought refuge in UNITA-controlled territory in southeastern Angola. Forced to abandon their land and their livelihood, they rely entirely on emergency food assistance. An estimated 80% of this group are women and children. In some villages, up to 70% of the children under six showed signs of malnutrition, with 20% severe malnutrition recorded in several locations.

Although Angola is blessed with abundant natural resources and potential, fourteen years of civil conflict have devastated the economy. Angola is one of the major oil producing countries in Africa, but most of the oil revenues have been allocated to military spending by the MPLA. Likewise, agricultural production has been severely affected by the war and sporadic drought. By the end of crop year 1989, domestic cereal production was estimated at 291,000 tons compared to a domestic cereal requirement of 670,000 tons. War has also contributed to the steady deterioration of health conditions in Angola. Poor health conditions and acute malnutrition have caused Angola to have one of the highest infant and child mortality rates in the world.

In April, heavy rains caused flooding in Cuanza Norte and Bengo Provinces. An estimated 140,000 people lost their homes and livelihood and approximately 40,000 tons of crops were destroyed. Rains also aggravated an outbreak of cholera in Benguela and Luanda Provinces. In May, the government reported that there were 527 deaths out of 11,788 cases of cholera, mainly affecting the displaced population.

Action Taken by the Government of the People's Republic of Angola (GPRA)

The GPRA's State Secretariat for Social Affairs (SEAS) is the government agency responsible for providing assistance to displaced persons. SEAS operates food distribution centers in Benguela, Cuanza Sul, and Luanda provinces. Military-escorted truck convoys deliver food to these centers. However, the security situation and poor road infrastructure hampered deliveries to outlying centers.

Following a UN-sponsored donors conference in 1986, the GPRA created the Inter-Ministerial Commission for the Coordination of Emergency Assistance (CIMCAE) to serve as the lead coordinating body. The Commission comprised representatives of SEAS and the Ministries of Agriculture, External Relations, Planning, Transport and Defense. However, lack of permanent staff and resources made CIMCAE ineffectual. CIMCAE was dissolved in 1989.

Assistance Provided by the U.S. Government

A.I.D.'s Office of Food for Peace (FFP) has been providing emergency food aid to Angola through multilateral channels since 1981. In FY 1989, FFP channeled 6,000 MT of PL 480 Title II food commodities through UNICEF.

In October 1988, the GPRA took the unprecedented step of inviting a U.S. PVO/USG delegation to conduct a needs assessment in Angola. Since no U.S. PVOs were actively involved in Angola, the assessment mission was designed to investigate the feasibility of U.S. PVOs working in Angola. A team was assembled under the

leadership of Richard Burkard, CARE Director in India. The team included a logistics expert, Michael Mispellaar of CARE; a physician, Dr. Hector Jalipa of WVRD; and an agricultural specialist, David Jackson of Africare. William Garvelink, OFDA Assistant Director for Africa and Europe, and Richard Hough, FFP Deputy Chief of the Africa Division, accompanied the team. The assessment lasted for 4 weeks and the team visited DP camps in Benguela, Cuanza Sul, and Luanda provinces and met with GPRA officials and donor representatives. In their final report, the team recommended that U.S. PVOs should initiate relief projects in Benguela and Cuanza Sul. In the summer of 1989, following a series of follow-up assessment missions, the U.S. PVOs Africare, National Council of Negro Women, CRS, and ADRA submitted relief project proposals to OFDA. These projects were approved for funding in FY 1990. Also in FY 1990, a USG/PVO team conducted an emergency needs assessment in southeastern Angola at the request of UNITA representatives.

Normally, before OFDA financial resources can be committed to an emergency situation, the USG Chief of Mission must declare a disaster in the affected country. Since the USG has no official diplomatic presence in Angola, Assistant Secretary of State for African Affairs Herman J. Cohen declared a disaster on July 31. In August, ICRC issued an emergency appeal to support airlifts of seeds, blankets, supplementary food, and medicines to DP camps in the provinces of Benguela, Huambo, and Bie. OFDA provided a grant to the ARC to pay for the cost of the airlift. The airlifts were completed in November and relief supplies were distributed to approximately 120,000 families.

Summary of USG Assistance

Grant to ARC for ICRC airlift (OFDA)	$237,280
6,000 MT of Title II food (FFP)	$2,231,700
Transport costs of 6,000 MT (FFP)	$678,400
TOTAL	**$3,147,380**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

International Organizations

EC - provided 30,000 MT of wheat and 500 MT of vegoil, valued at $3,900,000.

FAO - pledged $800,000 to the GPRA appeal.

ICRC - flew airlifts of food, blankets, medicines and agricultural inputs into Benguela, Huambo and Bie.

UNICEF - managed the largest U.N. relief operation in Angola with programs in food distribution, health, water, and logistics.

WFP - gave 2,433 MT of maize, 7,206 MT of wheat, 629 MT of rice, 513 MT of vegoil, and 19 MT of canned fish.

Governments

Canada - pledged $2,400,000 and 4,000 MT of maize to the GPRA appeal.

Norway - pledged $286,000 to the GPRA appeal.

Spain - pledged $1,000,000 and 3,000 MT of wheat to the GPRA appeal.

United Kingdom - pledged $800,000 to the GPRA appeal, including $32,000 for UNDRO emergency program.

Non-Governmental Organizations

German Agro-Action - provided food, agricultural inputs, clothes, and blankets to 40,000 displaced in Cuanza Sul.

War on Want - pledged $35,000 to the GPRA appeal.

TOTAL **$9,221,000**

BENIN - Epidemic

Date: February - April 1989

Location: Atacora and Borgou provinces

No. Dead: 132 reported

No. Affected: at least 1,402 cases; 613,000 at risk

Summary of Assistance:

USG	$20,170
U.S. Voluntary Agencies	None reported
International Organizations	$27,500
TOTAL	**$47,670**

The Disaster

A serious outbreak of meningitis afflicted the Beninois population in the northern provinces of Atacora and Borgou. The epidemic peaked between February and April 1989 with 613,000 people at risk, 285,000 of them children. In Atacora Province, health officials reported 965 cases in February and a 10% mortality rate. The following districts were particularly hard hit: Cobly with 166 cases and 14 deaths; urban Djougou reporting 140 cases and 10 deaths; and rural Djougou with 131 cases of which 11 died. The majority of the cases were meningococcus serotype A.

Action Taken by the Government of the People's Republic of Benin (GPRB)

The Ministry of Health (MOH) contacted WHO/ Benin on Feb. 23, declaring that meningitis had become an epidemic after the disease spread from Atacora Province into neighboring Borgou Province. The MOH requested USG assistance in purchasing vaccine and antibiotics which national health teams administered in affected areas.

Assistance Provided by the U.S. Government

After receiving appeals from UNICEF/Benin and the GPRB, Ambassador Stadtler announced on March 21, 1989, that a state of emergency existed in Benin. OFDA provided a grant to UNICEF/Benin to procure 60,000 doses of meningitis vaccine A/C and 8,000 vials of chloramphenicol powder from the Institut Merieux in France. The cost of the medicine and transport to Benin was $20,170.

TOTAL **$20,170**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

France - donated 100,000 doses of vaccine and 30,000 doses of chloramphenicol.

Germany, Fed. Rep. - gave $27,500 for vaccines and medicine.

WHO - provided technical assistance to the MOH.

TOTAL **$27,500**

COMOROS - Epidemic

Date: February 1989

Location: Anjouan Island

No. Dead: 3

No. Affected: 450 reported cases

Summary of Assistance:

USG	$4,673
U.S. Voluntary Agencies	None reported
International Community	$17,400
TOTAL	**$22,073**

The Disaster

On Jan. 28, Cyclone Kalafandji swept through the island of Anjouan, one of the Comoro Islands. High winds and heavy rains caused over $4 million in infrastructural damage and $1 million in agricultural losses. However, the real threat to the population came from a typhoid epidemic, which was brought on by damage to the island's water and sewerage system. Typhoid is caused by contamination of the public water supply by animal and human waste. By the end of February, over 450 people checked into hospitals in Domoni and Mutsamudu suffering from fever, fatigue, nausea, and diarrhea, common symptoms of typhoid. The death of three infants was attributed to typhoid.

Action Taken by the Federal Islamic Republic of the Comoros

On Jan. 31, the Foreign Ministry appealed for various medicines and medical supplies to combat the typhoid epidemic. The Ministry of Health prepared a list of needed medical supplies, including injectable chloramphenicol, ampicillin, aspirin, bactrim, dextrose solution, adhesive tape, and needles. Doctors at the hospitals in Domoni and Mutsamudu treated over 600 patients suffering from typhoid-like symptoms, although subsequent lab tests indicated that many cases were actually severe salmonella. Radio Comores broadcast several public health announcements, advising citizens to boil drinking water and clean and purify cisterns.

Assistance Provided by the U.S. Government

In late January, Comorian government officials presented U.S. Charge d'Affaires Karl Danga with their list of needed medical supplies. On Feb. 3, Charge Danga declared a disaster and requested that OFDA supply the typhoid medications requested by the Ministry of Health. OFDA sought technical advice from epidemiologists at CDC, who recommended that the medications be provided in tablet form, instead of vaccines. Oral doses are regarded as more effective than a series of injections. OFDA ordered chloramphenicol tablets, ampicillin tablets, bactrim, aspirin, saline solution, dextrose, and adhesive tape from UNICEF/UNIPAC in Copenhagen. The cost of the supplies, plus air freight totaled $4,673. Eight cartons of medical supplies were presented to the Comorian government on Feb 10. On Feb. 13, Charge Danga, along with Ministry of Health officials and a regional Peace Corps doctor, Bruce Slater, visited several hospitals on Anjouan.

TOTAL **$4,673**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

China - donated $5,000 to the Comorian appeal.

France - sent an epidemiologist to assist the Ministry of Health.

WHO - shipped 100,000 chloramphenicol tablets, 1,900 vials of injectable ampicillin, and 3,000 vials of other injectables, valued at $12,400.

TOTAL **$17,400**

DJIBOUTI - Floods

Date: April 1989

Location: entire country, with Djibouti City particularly hard-hit

No. Dead: 10

No. Affected: 300 injured, 150,000 homeless

Summary of Assistance:

USG	$39,852
U.S. Voluntary Agencies	$20,000
International Community	$10,074,299
TOTAL	**$10,134,152**

The Disaster

Torrential rains caused extensive flooding throughout Djibouti in early April 1989. Hardest hit was the nation's capital, Djibouti City, which is located at the mouth of the Red Sea and becomes critically vulnerable to floods resulting from a combination of high tides and heavy deluges. From April 6 through April 12, 507 mm. of rain fell, or 3.5 times the annual average of 155 mm. Waters crested at one meter in many districts of Djibouti town. Heavy rainfall caused new flooding on April 25.

Inundations throughout April claimed 10 lives and resulted in injuries to 300 people. The waters forced 150,000 people from their homes. About 120,000 of the homeless were from Djibouti City and the remainder from the provincial areas. French and Djiboutian military and civilian personnel transported the homeless to schools, tents, and other buildings. Many of the evacuees were taken to the Djibouti College which was converted into a temporary displaced persons camp. On April 11, 1989, the resettlement of victims sheltered in the college began in order to allow the school to carry on its activities. Those relocated were placed in resettlement centers opened on April 12 and run by volunteers.

The national infrastructure suffered considerable losses. The inundations damaged many roads, bridges, and water pipelines. The Boulaos electric power station flooded and several transformers suffered damage. About 10,000 homes were destroyed and schools and administrative buildings sustained damage. Agricultural losses totaled $1.1 million.

Health became a prime concern. Stagnant water throughout the city was attracting disease-carrying mosquitoes. In addition, many wells were contaminated with flood water, creating a risk of epidemic outbreaks. The Djiboutian government was prompted to request pumps to clean out streets and medicine such as intestinal antiparasites, intestinal antibacteria, and respiratory antibiotics to combat various diseases resulting from flood conditions.

The flooding and relief distribution aggravated tensions among ethnic groups residing in Djibouti City, reflecting the wider instability of the region. On the nights of April 17 to 19, rioting erupted in the outlying Balbala slum of the capital. Fighting occurred among Gadaboursi, Isaak and Issa clansmen—most of whom had fled the ethnic violence in northern Somalia—and was sparked by the poor distribution of flood relief aid. Rioting left one person dead and dozens hospitalized. Disturbances spread to the provincial areas, erupting in the provincial capital of Tadjourah on April 18 and 19.

Action Taken by the Government of the Republic of Djibouti (GROD) and Non-Governmental Organizations

By the second day of torrential rainfall and flooding, the GROD appealed to the international community for assistance. The government activated the Djiboutian Relief Committee and charged it with managing the relief effort. Firefighters used motorized pumps to clear the main roads of water.

The Djibouti Red Crescent (DRC) played a critical role, aiding the Relief Committee with the distribution of aid. About 30 DRC volunteers were assigned to the relief effort. DRC officials and a LRCS delegate assessed the victims' needs. In addition, the local Rotary club gave $10,000.

Assistance Provided by the U.S. Government

On April 8, 1989, Ambassador Robert S. Barrett determined that rains and subsequent flooding had created disastrous conditions in the city of Djibouti. He presented a check for $20,000 in local currency to the commissioner/mayor of Djibouti for the local Red Crescent on April 12.

The Djibouti Ministry of Health (MOH) and WHO identified spraying equipment to prevent the spread of insect-borne diseases as a real need which no other donor was meeting. As a result, USAID/Djibouti determined that the most appropriate USG response would be supplying a fogger to spray insect breeding grounds created by the stagnant water.

OFDA purchased a thermal aerosol fog generator and spare parts for the unit for two years. The unit was presented to the GROD on May 2.

The MOH requested a second fogger as well as five hand-held portable sprayers. On June 22, USAID/Djibouti presented the second OFDA-supplied fogger and five backpack sprayers to the MOH. The cost of the two foggers and the five hand-held sprayers was $19,852.

Three U.S. Navy ships visiting Djibouti from April 20 to 21 collected medicine, food, clothing, and cash from crew members and presented it to the relief committee on April 27. U.S.-supplied military transport equipment, a U.S.-supplied engineer company, and U.S. trucks were used on occasion.

TOTAL **$39,852**

Assistance Provided by U.S. Voluntary Agencies

American Red Cross - gave $20,000.

CARE - released 30 MT of P.L. 480 vegoil destined for Ethiopia but in Djibouti port for emergency use.

TOTAL **$20,000**

Assistance Provided by the International Community

International Organizations

FAO - provided 500 shirts.

LRCS - gave $40,000.

UNDP - contributed $50,000.

UNDRO - released $53,000.

UNHCR - provided 1,180 blankets, clothing for 10,000 people, and 189 tents.

UNICEF - furnished medicine, supplies for mother/child clinics, and an ambulance, all worth $95,000.

WFP - sent food worth $500,000.

Governments

Egypt - sent emergency relief items.

Ethiopia - provided a trainload of medical supplies and 645 MT of cereals.

France - dispatched a plane carrying 21 firefighters, 50,000 food rations, 18 MT of tents and blankets, 800 kg. of hydrochlorazone, and 20 power-driven pumps and accessories, all worth $1,650,000. A second plane was sent transporting 30 MT of food rations, worth $283,465, and 3.5 MT of medicine valued at $141,730.

Germany, Fed. Rep. - airlifted 1,200 kg. of medicine and released $550,000 to purchase relief equipment.

Iraq - sent two cargo aircraft on April 23 laden with 26 MT of relief items, including 1,515 cartons of medical supplies and 5,880 blankets.

Italy - funded an UNDRO-chartered helicopter to spray pesticides over stagnant water and airlifted 40 motor pumps, 12,300 meters of pipes, 150 family kits, and air transport. The commodities and transportation were valued at $500,000.

Morocco - airlifted 15 MT of medicine, beans, sardines, and lentils, and 8,000 blankets.

Oman - presented $100,000 to the GROD.

Saudi Arabia - dispatched 2 planes, carrying 3,750 tents, 30 motor pumps, 7,500 blankets, 500 tons of dates, and 3,750 cartons of food rations. King Fahd personally donated local currency worth $5,700,000.

Somalia - gave 20 MT of food supplies, a relief flight, and water pumps.

Soviet Union - furnished emergency aid.

United Kingdom - provided medical supplies.

Yemen Arab Republic - sent 7 aircraft and 2 vessels on April 16, carrying 10 cartons of medical supplies, 10,000 blankets, 16 motor pumps, 400 tents, and food. A third dhow was dispatched with 400 MT of sugar, flour, wheat, and clothing.

Non-Governmental Organizations

Andra International - sent 1,500 blankets, medicine, and 300 bales of clothes, all worth $155,000.

City of Paris - provided $90,000.

French Rotary clubs - sent about $15,000.

Red Cross and Red Crescent Societies from the following countries contributed:

Canada - $1,737
China, People's Rep. - gave $10,000
Finland - $24,735
Netherlands - 5,000 blankets, worth $33,785
Soviet Union - 2,500 blankets and 52 tents, all worth $32,435
Sweden - $48,412

TOTAL **$10,074,299**

ETHIOPIA - Epidemic

Date: 1989

Location: Nationwide

No. Dead: More than 7,385

No. Affected: 41,139 cases reported in 1989

Summary of Assistance:

USG	$258,500
U.S. Voluntary Agencies	$185,000
International Community	$1,660,077
TOTAL	**$2,103,577**

The Disaster

A serious outbreak of meningitis with a significant number of deaths ravaged Ethiopia in 1989. The exact number of those killed by type A meningitis is not known, but estimates as of Feb. 7, 1989, put the figure at well above 7,385.

Meningitis epidemics are not new to Ethiopia; in the past, millions were victimized by this deadly disease. Recorded data since the early 1900s show that the disease is endemic throughout the sub-Sahara region. Group A meningitis causes cyclic epidemics every eight to 14 years in that area; an average of 110,000 cases are reported yearly. It is also estimated that over a dozen countries in the region are at risk to these cyclic epidemics. A report by the Pan-African Centre For Emergency Preparedness and Response estimated that there were about 41,139 epidemic cases in Ethiopia in 1989.

Action Taken by The Government of the People's Democratic Republic of Ethiopia (GPDRE)

To combat the rapidly spreading disease, the GPDRE put into place sound treatment and vaccination strategies. It also requested assistance from the international community. The GPDRE set up health centers to assist the 27 million citizens that it estimated were at risk.

Action Taken by the U.S Government

Due to the severity of the meningitis outbreak, the U.S. Charge d'Affaires, Robert G. Houdek, on March 6, 1989, determined that a disaster existed in Ethiopia. He allocated $25,000 in support of relief activities undertaken by the Christian Relief and Development Agency (CRDA). OFDA responded to an additional request for $233,500 in support of the MSF immunization program.

TOTAL **$258,500**

Assistance Provided by U.S. Voluntary Agencies

ADRA - donated 25,000 doses of vaccines, 25,000 vials of crystalline penicillin, 45,000 tablets of rifampicin and other medical supplies.

CWS - sent 1,000,000 doses of vaccine worth $185,000.

TOTAL **$185,000**

Assistance Provided by the International Community

Canada - supplied $169,276.

Caritas/Germany - donated 20,000 doses of vaccine and other medical items.

EC - contributed $376,271 in support of transport and the procurement of medical supplies.

France - sent medical assistance to the affected areas.

Ireland - contributed $72,993.

Netherlands - furnished $398,272 for medicine.

Oxfam - donated $245,019 of medical supplies.

United Kingdom - provided $298,246 to the vaccination campaign.

WHO - donated $20,000 for the purchase of chloramphenicol capsules and doses of vaccine.

WCC - gave $80,000.

TOTAL **$1,660,077**

GABON - Floods

Date: November 1988

Location: Ogooue-Ivindo, Ogooue-Lolo, Ngounie, Moyen-Ogooue, and Ogooue-Maritime provinces

No. Dead: Not reported

No. Affected: 10,000 people homeless

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	$749,031
TOTAL	**$774,031**

The Disaster

Heavy rains caused the worst flooding in over 30 years in five of Gabon's nine provinces. The provincial capitals of Lambarene, Mouila, Ndende, Koula-Moutou, and Makokou were inundated when the Ogooue River and its tributaries overflowed during the third week in November. In Lambarene, hundreds of families were homeless, essential services were disrupted, and transportation routes were cut. The threat of water-borne disease was a primary concern, as water sources were polluted and several towns were covered with sewage, muck, and debris.

Action Taken by the Government of Gabon (GOG)

On Nov. 28, President Omar Bongo summoned several foreign ambassadors to the Presidential Palace to be briefed on the flooding and watch a videotape on the damage to the city of Lambarene. President Bongo appealed for international assistance and identified a need for medicine, clothing, and cash contributions to buy food and shelter materials. The Ministry of Social Affairs, Social Security, and Natural Calamities accepted donations and distributed medicine, food, and shelter material to flood victims.

Assistance Provided by U.S. Government

U.S. Ambassador Warren Clark was among the diplomatic representatives called to the Presidential Palace. Two weeks earlier, the Ambassador had witnessed the flooding firsthand while on a trip to Koula-Moutou, the capital of Ogooue Lolo Province. On Dec. 6, the Ambassador determined that the flooding in Gabon warranted USG assistance. On Dec. 14, he presented a check for $25,000 to the Minister of Social Affairs, Social Security, and Natural Calamities. The funds were used to purchase urgently needed medicines and medical supplies for the victims of the flooding. The Ambassador later received a letter from the GOG expressing the heart-felt thanks of the people of Gabon for the assistance rendered by the U.S. Government.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

Congo - contributed $64,516 to the GOG appeal.

Cote d'Ivoire - provided $322,580 to the GOG appeal.

EC - donated $120,000 to the GOG.

Morocco - sent 4 pallets of relief supplies.

South Korea - provided one minibus to the relief effort.

Soviet Union - contributed one ton of relief supplies, plus the proceeds from the concerts of a visiting cultural troupe.

Togo - gave $241,935 to the GOG appeal.

TOTAL **$749,031**

GHANA - Floods

Date: Aug. 25, 1989

Location: Tamale capital of the Northern Region

No. of Dead: 7

No. of Affected: 2,800

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$25,000**

The Disaster

A week of torrential rainfall caused the Ghana Water and Sewerage Corporation Dam to weaken and burst on Aug. 25, 1989. The structure serves the Tamale capital of the Northern Region. When the water level of the reservoir behind the dam reached almost 5 meters, the dam began to leak.

The dam burst and subsequent flooding caused much destruction. Seven people perished. Thirty-two homes sustained serious structural damage when the rains and floodwaters softened and crumbled the walls of the mud buildings. And, 162 dwellings were destroyed or damaged by the inundations. Cascading floodwater traveled a mile through the poorest section of town, displacing 2,800 people. Most of the homeless lost all of their personal effects.

The Northern Region secretary for Agriculture estimated that 11,860 ha. of crops have been destroyed. Maize, millet, groundunts, yams, and rice were lost. Flooding also incapacitated Tamale's diesel generator.

The torrential rains continued to fall throughout September causing the White Volta and Black Volta rivers and all of the minor tributaries to overflow their banks. Ferry traffic, which runs from Akasombo in the south to Buipe near Tamale in the north, was halted. Roads from Tamale to Wa, Yendi, and Bolgatanga were closed periodically or open only to light four-wheel drive vehicles due to water washing across the arteries.

Although the collapse of the dam was blamed for the deadly flooding, other underlying causes contributed to the magnitude of the disaster. The approved master plan for Tamale delineated the affected area as a natural drain and prohibited area. However, the damming of the stream at two points led to the creation of a reservoir. The demand for land surrounding the reservoir increased, resulting in rapid increases in population and development by land developers. This situation coupled with intensive farming activities within the catchment area of the dam constituted relevant factors in the damage and loss of life.

Action Taken by the Government of Ghana (GOG)

Soon after the dam burst, the PNDC secretary for the Northern Region, John Bawa, reviewed the situation, declared a state of emergency, and appealed for assistance. The GOG mobilized the National Disaster Relief Committee, which distributed relief supplies. Regional and district officials promptly moved 1,900 of the displaced to local primary and secondary schools which were vacant at the time for school recess. As the semester approached, the regional administration secured tents in order to transfer the homeless from the schools. Food and clothing were provided at the new encampments.

For the future, the GOG decided that the displaced would be allowed to return only if the government decided to reconstruct the dam. If the reservoir is not rebuilt, the GOG claimed that it will enforce zoning laws prohibiting construction near the water course.

Since the disaster, the GOG has initiated several long-term measures to mitigate a future recurrence. For instance, government officials have implemented a resettlement program which includes the rehabilitation of damaged homes which are located outside of the prohibited zone and the relocation of people living within the vulnerable sector prior to the dam burst. The new site for the relocated is about 5.5 km. from the Tamale town center and will be completed in three phases at a total cost of about $2 million.

Through this program, victims of each household were offered building materials by the government at ex-factory prices to construct model core houses which could be extended into complete compound housing as incomes improved. Various government agencies donated the services of a team of masons, carpenters, and other technical specialists.

Assistance Provided by the U.S. Government

On Sept. 1, 1989, U.S. Ambassador Stephen R. Lyne determined that due to the collapse of the main dam at Tamale and the subsequent life-taking floods, a disaster existed which warranted USG assistance. The $25,000 Ambassador's authority was presented to the GOG National Disaster Relief Committee to supplement its existing emergency relief program.

A U.S. Embassy official traveled to the affected region to survey the damage. He concluded that no additional USG aid was needed.

TOTAL	**$25,000**

Assistance Provided by U.S. Voluntary Agencies

ADRA - distributed its in-country stock of P.L. 480 Title II food.

Assistance Provided by the International Community

Canada - gave food and clothing.

[Note: Information from Ghana indicated that there was considerable assistance provided by private voluntary groups and other major donors. However, an account of contributions was not provided to OFDA.]

GUINEA BISSAU - Fire

Date: March 23 and March 26, 1989

Location: Bijagos island chain in the Bubaque Sector

No. Dead: None reported

No. Affected: 525 families (about 2,625)

Summary of Assistance:

USG	$10,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$10,000**

The Disaster

Destructive fires blazed through the Bijagos island chain on the nights of March 23 and 26, 1989. Most homes of the 525 families residing on the islands were lost. The infernos destroyed crops, stored food, and seeds essential for the 1989 planting season.

Action Taken by the Government of Guinea Bissau (GOGB)

The disaster occurred two weeks prior to the on-set of the rainy season. Housing and food became the highest priorities for the immediate relief phase. However, efforts by the local government and the UNDP to provide temporary shelter were haphazard and insufficient.

Shortly after the conflagrations, the UNDP coordinated a visit to the islands and determined that $35,000 was needed to purchase rice, building supplies, and transport services from local sources. The GOGB appealed for urgently needed food and fuel. Government officials feared that if rice was not made available, the local population would abandon villages as whole families left in search of food.

Assistance Provided by the U.S. Government

On May 10, Ambassador Blacken declared that a state of emergency existed on the Bijagos island chain and released $10,000 to purchase rice and seeds for the affected population.

TOTAL **$10,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

MALAWI · Floods

Date: March 1989

Location: Nsanje, Chikwawa, Mulanje, Machinga, Dedza, Mangochi, Salima, and Karonga districts.

No. Dead: 7 due to earthquake, 6 due to flooding

No Affected: 137,000 requiring assistance, 80,000 homeless

Summary of Assistance:

USG	$341,331
U.S. Voluntary Agencies	None reported
International Community	$3,453,455
TOTAL	**$3,794,786**

The Disaster

The month of March brought a string of calamities to the small, landlocked country of Malawi, already beset by a massive influx of Mozambican refugees and a nationwide food shortage. In early March, heavy rains caused severe flooding in the southern and central districts and six persons were reported to have drowned. On March 9 and 10, a series of earthquakes struck central Malawi, destroying masonry buildings and killing seven people. Finally, in mid-March, a strong wind storm wrecked the houses of approximately 24,000 people, ripped roofs off buildings, uprooted trees, and flattened crops in the northern district of Karonga.

Of the three disasters, the flooding caused the most damage and affected the greatest number of people. By April, 137,000 people required assistance from the government and local Red Cross. Floodwaters destroyed hundreds of mud-constructed houses and huts in the central and southern districts. Roads, railroad tracks, and several bridges were washed away, impeding access to refugee camps in the south. Destruction of pit latrines and contamination of the water supply in these refugee camps raised concerns about the spread of disease. Thousands of hectares of cropland were inundated and the March harvest was completely wiped out.

Action Taken by the Government of Malawi (GOM) and Non-Governmental Organizations

On March 13, the GOM convened an emergency meeting of the National Disaster Preparedness and Relief Committee and invited donor representatives to attend. Following the meeting, the GOM issued an appeal for international assistance, identifying urgent needs of food, shelter materials, agricultural inputs, and infrastructural repair. The GOM quickly built a temporary bridge to replace one destroyed by floodwaters. The GOM also diverted food stocks to be distributed to flood victims. Distribution of relief supplies was carried out by the Malawian Red Cross (MRC). On March 23, LRCS launched an international appeal on behalf of the Malawian Red Cross. From mid-March to mid-July, the MRC distributed approximately 4,866 MT of food and other relief supplies to flood victims. The MRC distributed basic food rations of maize, beans, and groundnuts, along with blankets, plastic sheeting, and some tents.

Assistance Provided by the U.S Government

Both the MRC and GOM appealed directly to the U.S. Embassy and USAID for assistance to the flood victims. On March 15, Ambassador George Trail III declared a disaster and immediately donated his $25,000 Ambassador's disaster authority to the Malawian Red Cross. The funds were used by the MRC to provide 5,490 blankets to 1,830 families in Nsanje District. The blankets were produced locally by Malawian Consolidated Textiles.

Following the LRCS appeal, USAID/Lilongwe recommended that OFDA contribute to the Red Cross rehabilitation program. OFDA immediately made a cash contribution of $100,000 to the American Red Cross, which was turned over to the LRCS and MRC. The funds were used to provide ag-paks and clothing to flood victims. USAID's Emergency Disaster Relief Coordinator Greg Gottlieb visited flood-affected areas in Nsanje, Chikwawa, and Karonga districts to oversee MRC relief operations.

In June, the U.S. PVO Africare submitted a proposal to OFDA outlining a program to provide ag-paks to 7,000 families affected by floods in Nsanje District. OFDA provided $187,441 out of funds borrowed from the special SADCC Supplemental Account. Africare, already active in Malawi, used the funds to purchase seeds, hand tools, and fertilizer to give to displaced farmers in time for the planting season in September.

Summary of USG Assistance

FY 1989

Grant to MRC for local purchase of blankets $25,000

Grant to ARC for MRC rehabilitation program $100,000

Grant to Africare for ag-pak project $187,441

FY 1990

Increase to Africare grant $28,890

Total FY 1989 ..... $312,441
Total FY 1990 ..... $28,890

TOTAL $341,331

Assistance Provided by U.S. Voluntary Agencies

Africare - distributed ag-paks to 7,000 rural families in Nsanje District.

WVRD - distributed relief supplies to affected families.

Assistance Provided by the International Community

International Organizations

EC - gave $873,000 to MRC.

UNDP - donated $50,000.

UNHCR - loaned a Bailey bridge to temporarily replace bridge that was washed away.

UNICEF - contributed $23,000.

Governments

Australia - gave $80,000 to WVRD for clothing, blankets, plastic sheeting and cooking utensils and gave $80,000 to the Freedom From Hunger Campaign to rehabilitate wells in Nsanje District.

Canada - donated $212,200 to the LRCS appeal.

Germany, Fed. Rep. - donated $1,676,455.

Japan - gave $20,000.

Norway - contributed $36,390.

United Kingdom - provided $166,600 to the LRCS appeal.

Non-Government Organizations

Caritas - contributed $18,300.

OXFAM - donated $50,000 to the LRCS appeal.

The following national Red Cross Societies contributed to the LRCS/MRC appeal:

Canada - $4,060
Japan - $14,790
Netherlands - $22,420
Sweden - $77,760
Switzerland - $48,480

TOTAL $3,453,455

MALI - Floods

Date: August 1989

Location: Several areas in Mali, including the cities of Douentza, Sikasso, Kayes, Bandiagara, Kolondieba, and Nara

No. Dead: 1

No. Affected: At least 14,635

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	Not reported
International Community	None reported
TOTAL	**$25,780**

The Disaster

A late and erratic rainy season in Mali in 1989 delayed planting and threatened to reduce agricultural production. In mid-August, however, the rains became excessive in scattered regions, causing serious flooding. An estimated 2,685 houses were destroyed; livestock were killed and grain stores were damaged. All houses in the village of Goumbou were reportedly lost as mud huts turned to liquid and disappeared. The floods left at least one person dead and over 14,000 people in need of emergency assistance.

Action Taken by the Government of the Republic of Mali (GRM) and Non-Governmental Organizations

The GRM Ministry of Territorial Affairs and Development coordinated disaster relief. On Aug. 25, Minister Ongoiba called a meeting of donor representatives to issue a request for assistance to flood victims. Needed supplies included tents, blankets, rice and other cereals, and medicine.

A nine-member disaster relief committee was set up on Aug. 29 and met once a week, with its chairperson reporting to the Minister of Territorial Affairs. The following domestic donations were reported for the affected population of Douentza: 55 MT of cereals donated by the Comite de Developpment of Mopti and 7 MT of cereals donated by Secama (associated with the Catholic Church of Mali).

Assistance Provided by the U.S. Government

On Aug. 25, U.S. Ambassador Robert Pringle determined that the floods in Mali constituted a disaster warranting a USG response. The $25,000 he authorized for disaster assistance was used to purchase and distribute rice and millet, chlorine for water treatment, disinfectant, blankets, and medicine.

A convoy of CARE trucks carrying the USG-donated supplies left Mali's capital of Bamako on Sept. 13. USAID/Bamako staff accompanied the convoy and met with the Crisis Committee in Nara on Sept 14 to determine where the aid was to be distributed. Four communities—Nara, Goumbou, Mourdiah, and Demba Salla—received a total of 400 blankets, 18 MT of millet, and 13 MT of rice from this distribution. Some 300 liters of chlorine, 150 liters of disinfectant, and two crates of medicine were turned over to area doctors to distribute as needed in affected villages. An additional 20 MT of millet were delivered to the flood victims in the four communities later in the month. USAID staff monitored distributions and visited victims in Demba Salla and Nara after distributions had been completed. A total of 253 families (or some 2,000 people) benefited from the commodities.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

CARE - put its vehicles at the disposal of the Mali disaster relief committee. CARE trucks were used also to transport USG-donated goods to 4 communities in the Nara *cercle* (district).

WVRD - provided 1,090 blankets, 8 MT of millet, 5 MT of rice, and medicine.

Assistance Provided by the International Community

None reported

MOZAMBIQUE - Civil Strife

Date: 1988 - 1989

Location: Nationwide; all 10 provinces

No. Dead: Not reported; 600,000 lives since 1981 according to President Chissano

No. Affected: 7,500,000 dependent on food aid, including 4,600,000 at-risk

No. Displaced: 1,700,000 displaced in country, plus more than 1,200,000 refugees

Summary of Assistance:

USG	$55,647,438
U.S. Voluntary Agencies	$4,927,742
International Community	$220,354,819
TOTAL	**$280,929,999**

The Disaster

RENAMO's war of attrition continued to take its toll on the people of Mozambique. Approximately one half of Mozambique's 15 million people were dependent on international food aid. This included 2.9 million urban dwellers who were affected by domestic food shortages but were able to buy donated food rations in the marketplace. The other 4.6 million Mozambicans, who were considered at-risk, were dependent entirely on free food distribution. This number included 1.7 million *deslocados*, who were forced to abandon their land in search of food and security. Another 2.9 million rural Mozambicans were unable to grow enough food because of frequent RENAMO attacks. The number of people at-risk rose significantly in 1989, as areas that were once inaccessible were liberated by government forces.

The liberation of several districts in 1989 revealed what conditions had been like in the inaccessible areas. In March, the first relief workers to enter Gile District in Zambezia Province found that 10 to 20 persons were dying every day due to starvation and a measles epidemic. In the district of Memba in Nampula, an estimated 4,800 people died between the months of January and March. When government forces liberated the village of Naburi in Zambezia, an estimated 17,000 people were starving and in need of assistance. In Gaza Province, over 100 people were killed in RENAMO attacks. Several villages in Niassa were looted and burned by bandits. In Maputo Province, women and children were butchered in an attack in Boane District. RENAMO attacks were reported in all 10 provinces.

RENAMO rarely confronted government forces, but instead targeted Mozambique's civilian population and economic infrastructure. Guerrillas attacked and looted truck convoys delivering food to *deslocado* camps. In 1989, 57 trucks were damaged or destroyed in ambushes or by landmines. Of the 132 districts in Mozambique, 86 required military escort to protect food convoys and 15 were accessible only by air. Four districts were still considered entirely inaccessible. The poor security situation also disrupted transportation of food surpluses from agriculturally productive areas to urban centers. Although peace initiatives were discussed for the first time in 1989, RENAMO's reign of terror continued throughout much of the countryside.

Action Taken by the Government of the People's Republic of Mozambique (GPRM) and Non-Governmental Organizations

The GPRM's National Executive Commission for the Emergency (CENE) continued to serve as the government agency responsible for coordinating the relief activities of other government departments, non-governmental organizations, and international donors. The Department for the Prevention and Combat of Natural Calamities (DPCCN) performed the actual transportation of donated food to the most seriously affected. In 1989, DPCCN delivered 150,000 tons of food to affected areas. Most of the food was transported by military escorted truck convoys. However, the difficulties encountered organizing these convoys delayed deliveries to the district level. Other methods of transport were employed to deliver food to affected areas. For the first time private truckers were contracted by DPCCN and various NGOs to transport food. Two state-owned shipping companies and a number of private boat owners delivered food to *deslocado* camps in coastal areas. The national airline, LAM, was chartered by DPCCN and NGOs to conduct food airlifts in Sofala, Zambezia, and Niassa provinces. During the 10-month period of January to October, LAM made 2,910 flights carrying 8,339 tons of relief supplies.

Two domestic non-governmental organizations were also involved in relief operations. The Christian Council of

Mozambique (CCM) sponsored several airlifts and distributed food, clothes, blankets, seeds, and handtools to needy Mozambicans. The Mozambican Red Cross Society worked in collaboration with the International Committee of the Red Cross (ICRC) and the League of Red Cross Societies (LRCS) on a number of emergency assistance programs.

While parts of the country still required emergency assistance, other areas were more in need of economic ·habilitation. The entire country was in need of assistance to rebuild schools, health clinics, and development projects that had been destroyed by RENAMO. The two major cities, Maputo and Beira, began showing signs of revitalized economic activity. Rural areas that were safe from RENAMO attacks needed agricultural inputs and irrigation schemes. The GPRM began trying to integrate the emergency program with the Economic and Social Rehabilitation Program and took steps to restore free and private enterprises.

Assistance Provided by the U.S. Government

For the sixth consecutive year the USG provided humanitarian assistance to Mozambique. On Nov. 14, 1988, U.S. Ambassador Melissa Wells determined that the ongoing food emergency continued to warrant U.S. government assistance. In March 1989, representatives of World Vision visited the recently liberated town of Gile in Zambezia Province, home to approximately 34,000 displaced persons. They found a severe state of malnutrition, with as many as 20 persons dying each day.

Malnourished child in Gile, Zambezia Province
Photos courtesy of Herb Bedolfe, USAID/Maputo

The road to Gile was still cut off due to RENAMO activity and there were no LAM airplanes available to conduct airlifts. World Vision proposed conducting a six-month emergency airlift into Gile and requested funding

from OFDA. OFDA immediately provided a grant to World Vision Relief and Development (WVRD) and the first airlifts into Gile began in April. WVRD contracted another U.S. PVO, Air Serv, to carry out the airlift using a Cessna Caravan with a carrying capacity of 1.3 MT. Airlifts of food, vegoil, and seeds were arranged out of the city of Quelimane and the nearby town of Alto Molocue. On April 27, the plane hit a small landmine planted in the runway and was forced to return to Quelimane for repairs. Following repairs and a minesweep of the airstrip, the airlift resumed on May 16. In August, LAM began airlifting food and supplies into Gile using a larger Cassa cargo plane. By the end of the year, malnutrition had been significantly reduced and the people of Gile began growing their own food with seeds provided by WVRD.

In addition to this emergency airlift, OFDA continued to fund several PVO relief and rehabilitation programs. In FY 1989, OFDA renewed its grants with WVRD, Air Serv, Africare, Adventist Development and Relief Agency (ADRA), and Save the Children using funds allocated out of the Special Account for the SADCC countries. The highly successful Save the Children traumatized children program was funded out of the Congressional Earmark for orphans and displaced children. OFDA sent mission allotments to USAID/Maputo to fund a WVRD primary health care project in Tete, a FHI ag-pak project in Sofala, and a seed distribution program managed by the DPCCN. OFDA also extended the contract of Herb Bedolfe, OFDA's emergency operation officer assigned to USAID/Maputo.

The major portion of the U.S. Government's assistance to Mozambique was in the form of food aid. The USG continued to be the largest food donor to Mozambique. In FY 1989, A.I.D.'s Office of Food for Peace provided 38,470 MT as part of its regular Title II program, 30,363 MT in emergency Title II food commodities, and 155,000 MT in Section 416 food commodities. As in previous years, about one third of this food was distributed by the DPCCN or U.S. PVOs to affected and displaced persons in rural areas. The other two thirds was sold as part of the Ministry of Commerce's rationing program to affected urban dwellers. This program was designed to prevent urban Mozambicans from becoming dependent on free distribution. The substantial local currency proceeds from these sales were used to finance various government and U.S. PVO relief and rehabilitation activities.

Unloading U.S.-donated food airlifted into Gile

Summary of USG Assistance

OFDA Assistance (SADCC account)

Grant to WVRD for Gile airlift $999,966

Grant extension for WVRD ag-pak project $824,439

Grant extension for WVRD commodity management program $548,639

Mission allotment for DPCCN seed project $550,000

Contract renewal for Air Serv $350,800

Grant extension for SCF/US rehabilitation project $320,092

Mission allotment for ADRA seed program $233,947

Grant extension for Africare ag-pak project $220,128

Mission allotment for WVRD primary health project $149,548

Mission allotment for FHI seed program $115,000

OFDA Assistance (IDA account)

Grant extension for Africare well project $119,479

Contract extension of Herb Bedolfe $29,700

OFDA Assistance (Orphan earmark)
Grant for SCF/US traumatized children project ..$200,000

FFP Assistance
38,470 MT Title II regular program $6,659,800
Transport costs of 38,470 MT $3,363,000

30,363 MT Title II emergency program $7,012,300
Transport costs of 30,363 MT $4,037,300

155,000 MT Section 416 .....$18,848,600
Transport costs of 155,000 MT $11,064,700

Total OFDA $4,661,738
Total FFP $50,985,700

TOTAL $55,647,438

Assistance Provided by U.S. Voluntary Agencies
ADRA - managed a program that transported and distributed food, seeds, and other supplies in northern Inhambane Province. Contribution valued at $135,160.

Africare - managed 2 projects in Sofala Province; one that distributed agricultural inputs to displaced farmers and the other that provided technical assistance in constructing shallow wells in Dondo district.

Air Serv International - provided crew and twin engine aircraft for use by relief personnel to inspect relief programs in remote areas. AirServ also provided a Cessna Caravan aircraft for use in the Gile airlift, managed by WVRD

CARE - continued to manage the Logistical Support Unit of the DPCCN, overseeing the receipt, storage, transportation, distribution and monitoring of most of the internationally donated relief commodities, including food.

CRS - supported various Caritas projects throughout the country.

CWS - donated $45,000 to support CCM distribution of seeds, food, clothing and utensils.

FHI - distributed ag-paks to 12,000 displaced Mozambicans in Sofala Province. Contribution valued at $60,101.

Map International - provided $1,218,952 in medical supplies.

OXFAM America - installed shallow wells and irrigation equipment in Tete Province. Cost of program valued at $60,000.

Mozambican mother reunited with her son, arranged through SCF's traumatized children program

SCF/US - managed a relief and rehabilitation project in Gaza Province and the traumatized children and family reunification program, under the direction of Dr. Neil Boothby. SCF contribution valued at $170,000.

WVRD - directed the emergency airlift of food and supplies into Gile district in Zambezia Province ($53,328). WVRD also ran a commodity management program in Zambezia ($527,016), an ag-pak distribution project in Tete and Zambezia ($816,798), and a primary health care program in Tete ($1,841,387). Total WVRD contribution valued at $3,238,529.

TOTAL $4,927,742

Assistance Provided by the International Community
On April 13 to 14, governments and non-governmental organizations pledged more than $290,000,000 in food and other assistance at the Mozambique Emergency Donors' Conference, held in New York. The following list of international assistance is taken from *"Mozambique Emergency Appeal 1989-90"* dated 03/21/90.

International Organizations

EC - provided $59,598,381 in food aid, logistical support, and relief and rehabilitation projects.

UNDP - donated $192,000 to support CENE.

UNDRO - gave $390,000 to purchase blankets.

UNHCR - managed a program to resettle Mozambican returnees.

UNICEF - allocated $1,105,999 against the Appeal to finance various health, agriculture, water, and vital medicines projects.

WFP - provided $21,197,057 in food aid and logistical support.

Governments

Australia - donated $7,275,050 against the Appeal in food aid.

Austria - gave $572,000 in food aid.

Canada - provided $15,539,227 in food aid and grants to COCAMO and CARE.

Denmark - contributed $32,772,218 for trucks and grants to CCM.

Finland - gave $1,494,720 in food aid and grants to UNICEF.

France - contributed $2,244,930 in food aid and seeds and handtools.

Germany, Fed. Rep. - gave $7,027,547 in food aid and grants to ICRC, Caritas, UNICEF and UNHCR.

Germany, Dem. Rep. - donated $611,790 for medicines, blankets and clothing.

India - contributed $390,000 for UNICEF projects.

Ireland - gave $39,000 for UNDRO stockpile.

Italy - provided $5,931,944 in food aid.

Japan - contributed $4,067,500 in food aid.

Netherlands - donated $3,995,000 in food aid.

Norway - provided $2,817,067 in food aid, handtools, and grants to CARE, UNDP, and Norwegian Peoples Aid.

Portugal - gave $46,519 to UNHCR.

Soviet Union - contributed $5,213,270 for helicopters to conduct airlifts.

Sweden - provided $32,383,694 for logistical support, trucks, medicines, seeds, handtools, clothing, blankets, and food.

Switzerland - donated $432,201 in food aid and grants to ICRC and UNHCR.

United Kingdom - provided $10,444,854 in food aid and grants to CARE, SCF/UK, Oxfam/UK and CONCERN.

Non-Governmental Organizations

ActionAid - managed relief and rehabilitation projects in Zambezia Province.

Bioforce - distributed 240 MT of seeds to displaced farmers in Inhambane province.

Caritas - donated $353,260 to the Appeal.

COCAMO (Canadian NGO Consortium) - provided assistance in Nampula Province.

Eduardo Mondlane Foundation - supported the construction of wells, schools and health clinics in eight provinces.

German Agro-Action - distributed seeds, tools, clothing, and blankets, valued at $145,430, in Sofala and Manica Provinces.

HelpAge - donated $1,000 in medical equipment.

LWF - provided $1,125,725 worth of assistance.

MSF/Belgium - operated health project in Inhambane, Maputo, and Tete provinces.

MSF/France - manages health project in Manica and Zambezia. Contribution valued at $1,206,660.

MSF/Netherlands - managed medical technical assistance project in Nampula.

Oxfam/UK - operated relief programs in Niassa, Cabo Delgado and Zambezia provinces. Total contribution valued at $901,770.

SCF/UK - managed relief and rehabilitation projects mainly in Zambezia. Total contribution valued at $698,096.

Tear Fund - gave $140,910 in medical supplies, clothing, seeds and handtools.

TOTAL **$220,354,819**

USAID Emergency Operations officer Herb Bedolfe conducts survey in Gile.
Photo courtesy of USAID/Maputo

NIGERIA - Epidemic

Date: January - March 1989

Location: Imo and Bendel states

No. Dead: 29

No. Affected: 41 cases

Summary of Assistance:

USG	$11,588
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$11,588**

The Disaster

Lassa fever is a viral hemorrhagic disease transmitted to humans from the rodent *mastomys natalensis* or from close contact with an infected person. Endemic transmission of the disease continues throughout the year in West Africa, with an increase during the dry months of January through May. Sporadic outbreaks are known to occur and are often initially misdiagnosed.

Clusters of cases with characteristic Lassa fever symptoms occurred in two states in Nigeria during the months of January, February, and March 1989. At the Esirike Memorial Clinic in Aboh Mbaise District in Imo State, two patients exhibiting symptoms of the disease died within a day of each other on Jan. 28 and 29. Over the next six weeks, 15 additional patients in the same clinic developed the high fever, severe sore throat, vomiting, bleeding, and convulsions associated with Lassa fever. Thirteen of the 15 patients, including Dr. Esirike who was head of the clinic, succumbed to the disease. The preliminary findings of an investigative team showed that while some of the cases may have been community-contracted, serial transmission of the virus probably occurred when syringes were reused in the administration of intravenous drugs. At Divine Grace Hospital in the city of Aba, also in Imo State, six of eight patients with typical Lassa symptoms died, including two doctors who became ill in March. Although the early cases were presumed to have been community-derived, the practice of reusing syringes and possibly needles in this crowded hospital was again implicated in the transmission of some of the cases.

At Ekpoma in Bendel State, 16 cases were reported, seven of them fatal. The mode of transmission was not determined. Investigators found that between January and February, many unreported deaths from a disease characteristic of Lassa fever occurred in private homes. In these cases, the virus may have been transmitted by rats which were reported to be a problem in the area and were sometimes eaten.

Action Taken by the Government of Nigeria (GON)

When the first case of Lassa fever was confirmed in March, the Federal Ministry of Health requested CDC assistance in the investigation of the disease and in subsequent medical interventions. Two Nigerians, Professor O. Tomori (professor of virology) and Dr. A. Nasidi (director of the federal vaccine production laboratories), joined the CDC team sent in response to the GON request. Numerous health professionals met with the team during the course of its investigations, and, in Bendel State, a state team cooperated with the CDC team to carry out a village survey.

Assistance Provided by the U.S. Government

Because of the unusual nature of the disease and the high number of deaths reported, U.S. Ambassador Princeton Lyman responded promptly to the GON's request for assistance, declaring a disaster on March 20 and releasing funds from his disaster assistance authority to support CDC's participation in a medical investigation.

OFDA arranged with CDC to send two epidemiologists to Nigeria, Dr. Joseph McCormick and Dr. Susan Fisher-Hoch. They were accompanied by extra laboratory supplies and a limited supply of ribavirin, the medication used to treat Lassa fever. Two Nigerian medical specialists joined the CDC doctors to conduct an investigation between March 25 and April 6. The team visited all the centers reporting outbreaks of Lassa fever, including the National Medical Clinic in Enugu, Anambra State, to which the three doctors who died of the disease had been referred. The team questioned and examined recovered patients and contacts of the Lassa fever victims and collected blood samples for further examination. Lectures on Lassa fever were held at the University of Bendel Teaching Hospital and at Ibadan University on April 6.

Having observed current cases of Lassa fever in hospitals not directly associated with the outbreaks, the team concluded that numerous community-derived cases were being admitted to hospitals. The team stressed the need for a full assessment of the problem in order to plan effective control. In particular, the amplification of the problem caused by the indiscriminate use of intramuscular and intravenous drugs needed to be addressed.

Suggestions offered by the team included the following: the establishment of surveillance systems in hospitals and of serosurveys in selected communities to determine the extent of the infection; the setting up of rodent trapping studies to determine the prevalence of the virus in the *mastomys* host; the education of the medical community in diagnosis and prevention and in the dangers of needle and syringe sharing in the indiscriminate use of drugs; the establishment of public health education programs; the support of prospective Nigerian studies, perhaps in collaboration with international centers such as CDC; and the establishment of diagnostic and treatment centers where ribavirin could be administered safely to appropriate cases.

TOTAL **$11,588**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

SOMALIA - Civil Strife

Date: 1988 - 1989

Location: Northern Somalia

No. Dead: Unknown

No. Affected: 17,650 displaced persons

Summary of Assistance:

USG	$930,175
U.S. Voluntary Agencies	None reported
International Community	$3,109,000
TOTAL	**$4,039,175**

The Disaster

This is a continuation of the 1988 conflict between the Somalian Government and the Issak-dominated Somalian National Movement (SNM). For background information, please refer to the *OFDA 1988 Annual Report.*

Assistance Provided by the U.S. Government

In response to the needs of the 17,650 displaced persons in Northern Somalia, Ambassador T. Frank Crigler on Dec. 14, 1988, declared the area a disaster. He allocated $25,000 for the procurement of blankets.

An additional emergency assistance of $905,175 was provided by the Office of U.S. Foreign Disaster Assistance (OFDA) for the following relief activities:

Emergency airlift of food $150,000

Airlift of 2 anesthesia units $1,975

Grant to UNICEF for water program in Hargeisa $120,000

Purchase of 10 water supply trucks $629,200

Ocean freight to replace 250 rolls of plastic sheeting $4,000

TOTAL **$930,175**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

EC - funded a four-person medical team to upgrade the Borama hospital in northern Somalia. The estimated cost was $300,000.

Italy - provided $1,500,000 of medical supplies and equipment.

LRCS and ICRC - provided a response team of four persons at the Martini Hospital in Mogadishu, Somalia.

UNICEF - provided $800,000 for medical supplies and vehicles for the Somalian Ministry of Health.

United Kingdom - donated $400,000 in support of refugee health centers.

WFP - contributed $74,000 in food assistance.

WHO - donated $35,000 for a sanitation engineer.

TOTAL **$3,109,000**

SOUTH AFRICA - Food Shortage

Date: 1988 - 1989

Location: Bophuthatswana, Lebowa, Venda, Gazankulu, Kwa-Ndebele, Kangwane, Transkei, and Ciskei homelands and townships in Cape, Orange Free State, Natal, and Transvaal provinces

No. Dead: Not reported

No. Affected: 1,320,000 required emergency assistance

Summary of Assistance:

USG	$500,000
U.S. Voluntary Agencies	$61,387
International Community	$1,065,009
TOTAL	**$1,626,396**

The Disaster

The economic and nutritional condition of more than a million black South Africans continued to deteriorate in 1989. In the so-called "black homelands," approximately 70% of all black families live below the poverty line. Unemployment in some black townships has been estimated between 50 and 70%. The current economic recession, coupled with spiralling inflation of basic food staples, has caused more than 1.3 million South Africans to depend on daily food rations in order to survive. Furthermore, it is estimated that in the homelands almost 70% of children under the age of five suffer from malnutrition. In addition, more than 250,000 Mozambican refugees have fled to the homelands to escape civil strife in their country.

The homeland population is entirely dependent on the economy of South Africa for its meager existence. Approximately 60% of the black males residing in the homelands work as migrant laborers in the farms, mines, or cities located in South Africa. The current economic recession has drastically reduced the remittances that these laborers send back to their families. Therefore, women, children, the elderly, and the increasing number of unemployed are the most seriously affected. Drought has also taken its toll on the black population. Some parts of the homelands are a virtual desert. Sporadic rains, lack of irrigation, and marginal land have all drastically limited the amount of food the population can produce for itself.

Action Taken by South African Non-Governmental Organizations

Operation Hunger, a multi-racial, non-political NGO, manages the largest emergency feeding program in South Africa. Operation Hunger works independently of the South African government and the homeland authorities and relies entirely on donations from local businesses, church groups, public fund-raising campaigns, and foreign donors. It responds only to community requests for assistance and distributes food rations through schools, churches, and other designated outlets. Operation Hunger also manages self-help gardening projects in the homelands, designed to relieve community dependence on food aid.

While several homeland communities became self-sufficient, other communities were forced to join Operation Hunger's feeding program. In 1989, Operation Hunger provided rations of protein stew and mealie meal to 1.32 million people. The vast majority of the recipients were women, children, the elderly, and the increasing number of unemployed. Since the start of Operation Hunger's feeding program, the child mortality rate has been reduced by 30%.

Assistance Provided by the U.S. Government

For the fourth year in a row, the USG provided assistance to Operation Hunger's feeding program inside South Africa. On Oct. 14, 1988, U.S. Ambassador Edward J. Perkins determined that the grave situation in the homelands constituted a disaster warranting USG assistance. USAID/ Pretoria recommended that OFDA continue to fund Operation Hunger's program. On Oct. 25, OFDA allotted $300,000 to the USAID Mission as a grant to Operation Hunger. On March 21, OFDA provided another $200,000.

TOTAL **$500,000**

Assistance Provided by U.S. Voluntary Agencies
Presbyterian Hunger Program - donated $61,387 to Operation Hunger.

TOTAL **$61,387**

Assistance Provided by the International Community
Canada - gave $5,386 to Operation Hunger.

Deutsche Welthungerhilfe - contributed $1,036,425 to Operation Hunger.

ICRC - distributed relief supplies to Mozambican refugees in Gazankulu and Kangwane.

United Kingdom - donated $23,198 to Operation Hunger.

TOTAL **$1,065,009**

SUDAN - Civil Strife/Displaced Persons

Date: 1989

Location: Civil Strife in southern Sudan; displaced persons in the south, Southern Darfur and Kordofan Provinces, Central Province, and Khartoum

No. Dead: not reported

No. Affected: 2,832,600 displaced persons; 600,000 at-risk of starvation

Summary of Assistance:

USG	$71,449,946
International Community	$99,441,000
TOTAL	**$170,890,946**

The Disaster

Historic enmity between the Arab north and the African peoples of the south has been the cause of bloody civil warfare since Sudan's independence in 1956. The current civil strife began in 1983 and has been waged in the three southern provinces of Bahr El Ghazal, Upper Nile, and Equatoria. Fighting between the Government of Sudan (GOS) and the Sudan People's Liberation Army (SPLA) has created large displaced populations in the southern war zone, the transitional zone (Southern Kordofan and Southern Darfur Provinces), and the capital city of Khartoum. Estimates of the number of displaced persons countrywide ranged from 2,250,000 (U.N. estimate) to 2,832,600 (USAID/Khartoum estimate in August 1989). In addition, there were 375,000 Sudanese refugees in Ethiopia, 54,500 in Uganda, and several hundred in the Central African Republic, according to reports late in 1989.

Early in 1989, the U.N., donor countries and NGOs recognized that although there was an abundance of food available in Sudan, transport of food to the worst affected areas was restricted by several administrative and operational constraints, as well as disruptions from civil strife (e.g. mined roads, attacks on relief convoys, and threats to shoot down aircraft). The international community feared a repeat of the 1988 famine, which took an estimated 250,000 Sudanese lives. The U.N. estimated that 600,000 persons faced imminent starvation, many of whom were located in areas which would be cut off from outside assistance after the onset of the rainy season (May-October). Food and other emergency commodities would have to be pre-positioned in key locations in the south and transitional zone prior to the rains. An ambitious U.N.-coordinated, multi-donor effort, referred to as Operation Lifeline Sudan (OLS), was launched in April 1989 to deliver critical relief assistance to government and rebel-controlled areas in Sudan. During the first phase of OLS (OLS I), which lasted until October 1989, 111,000 MT of food was delivered to SPLA and GOS areas. Not only did OLS I meet its delivery targets for relief food, it also inoculated over 100,000 children; distributed seeds, tools, fish hooks and nets; repaired and drilled over 150 water wells; refurbished hospitals; and enabled ICRC to inoculate one million head of cattle.

The most important feature of OLS was the U.N. umbrella it provided bilateral donors to deliver humanitarian assistance to the at-risk populations on both sides of the conflict. The OLS I plan of action specified "corridors of tranquility" along which the GOS and SPLA would allow safe passage of emergency food and supplies to towns in southern Sudan. These corridors used air, road, rail, and river routes which crossed fighting zones that had been insecure.

Predating OLS was an ICRC relief effort which targeted the most contested areas of the south. After protracted negotiations, ICRC received permission from the GOS and SPLA to begin its field activities in December 1988, initially serving three towns held by the GOS and three held by the SPLA. In March 1989 ICRC was ferrying food and medical supplies from Khartoum into the GOS towns of Wau, Aweil, Malakal, Juba, and Abyei. In April ICRC airlifts to government garrison towns in the south (Wau, Aweil, Malakal and Juba) were stepped up to build up stocks before the rains. ICRC expanded its program to other GOS towns in the south, including Yei, Maridi, Yambio, Rumbek, Tonj, and Gogrial. In March 1989 ICRC was ferrying food and medical supplies from Lokichokio, Kenya, to the SPLA-held towns of Leer, Akon, Yirol, and Kongor. ICRC activities in SPLA areas included cattle vaccinations; repair of water pumps; and distribution of fishing nets and hooks, mosquito nets, cooking utensils, axes and seeds. Other SPLA towns that

were eventually served by the ICRC included Kapoeta, Akot, Adok, Thiet, Mayen Abun, and Abwong. While the ICRC program was not a part of OLS, its programs were complementary and closely coordinated with the U.N. effort.

Equatoria: **Juba** remained completely dependent on relief airlifts throughout 1989. The number of displaced persons in Juba rose from 90,000 in January to 167,000 in August. Relief flights to Juba included WFP flights from Entebbe, Uganda; LWF flights from Nairobi, Kenya; NCA flights from Khartoum; and other flights from Khartoum funded by Sudan's Relief and Rehabilitation Commission (RRC), the EC, and USAID. A shortage of jet fuel caused frequent delays and cancellations of the Khartoum flights. Yei's displaced population swelled to 64,000 by August. High levels of malnutrition in Yei prompted ICRC and WFP airlifts to the town late in August. WFP tried to deliver food via land routes from Kenya and Uganda to both Yei and Juba, but bad roads and insecurity along the Sudanese/Ugandan border prevented extensive use of these routes. Truck convoys delivered only small amounts of food to Yei by truck and never reached Juba.

U.N.-flagged truck convoys from Kenya and Uganda delivered relief food to **Kapoeta, Torit, Bor, Pibor Post** and other towns in Eastern Equatoria. Despite armed attacks by the Taposa tribe in late April along the Lokichokio-Kapoeta-Torit route, substantial amounts of food were safely delivered by land to SPLA towns. As of mid-July, over 11,000 MT were delivered by road to southern Sudan from Kenya and Uganda.

Bahr El Ghazal: In January 1989, a train from Muglad to **Aweil** carried 980 MT of USG and EC-donated grain and 20 MT of UNIMIX donated by WFP and UNICEF. This food shipment represented the most significant amount of relief food received by Aweil in two years. People streamed into Aweil (GOS-held) from outlying areas as the rains set in, bringing the number of displaced to 81,000 in August 1989. A USG-funded airlift was completed on May 15 which delivered 2,742 MT of relief food to Aweil. Three additional relief trains travelled under OLS aegis between May 20 and August 20, dropping off food at SPLA towns along the way. These OLS trains delivered about 4,000 MT of food to Aweil and SPLA towns. Complications with train transport late in the year led to a precarious relief situation along the

OLS train arrives in Aweil
Photo by Joseph Gettier, AID/OFDA

Muglad/Aweil rail, especially around the area of **Mayen Abun.**

Wau, the capital of Bahr El Ghazal held by the GOS, was desperate for relief food early in the year. The number of displaced persons in Wau varied according to the availability of food, but the town hosted as many as 50,000 at one time. Wau had been cut off from relief during previous years; it could only be reached by air or by military-escorted truck convoys from Raga, a town 150 km. to the west. It was the first town to be reached by the ICRC in December 1988. The ICRC managed several relief projects in Wau, including food and seed distributions, expanded program immunization (EPI) and other health activities, water/sanitation rehabilitation, and training of local medical staff. OLS drew support from donors to fund ICRC relief flights from Khartoum and truck convoys that travelled through Raga to Wau

throughout the summer of 1989. The truck convoy was temporarily halted because of early rains and eventually delivered only a small portion of what was targeted.

Upper Nile: A barge convoy, including 14 barges with 5,660 MT of relief goods, departed Kosti bound for Malakal on Jan. 20 and arrived on Feb. 16. OLS mobilized a convoy made up of five barges carrying 1,750 MT of relief food which left Kosti for Renk on July 22. These barges were delayed in Renk and finally given authorization to proceed to Malakal on Aug. 3; three barges delivered 1,050 MT to three SPLA-controlled towns, and the other two barges delivered 700 MT to Malakal on Aug. 25. A second OLS barge convoy of 15 barges with 5,750 MT was dispatched from Kosti to Malakal in late August; it dropped off 3,650 MT at selected SPLA and GOS sites between Kosti and Malakal and delivered 2,100 MT to Malakal on Sept. 16.

Malakal's displaced population increased from 45,000 in January to 80,000 in December. By December there was plenty of food in the market at reasonable prices, relief food from the barge convoys had been distributed to the displaced population, and the affected population's nutritional status had improved.

Southern Kordofan: Relief efforts in the transitional zone were coordinated primarily out of Muglad, where warehouses held food for Muglad, Babanusa, Abyei, Meiram, and towns in northern Bahr El Ghazal. Truck convoys from Khartoum, Kosti, and other points in the north stocked food in Muglad and other towns in Southern Kordofan when the roads were dry. In addition, several fixed wing aircraft and helicopters were drawn into service under OLS to transport relief personnel and supplies to several locations in Southern Kordofan.

The number of displaced persons in **Muglad** and **Babanusa** increased during 1989; total population in both towns rose from 7,500 in January to 34,000 in August. The health and nutritional status of the displaced was reported to be good early in the year, but a shortage of water and overcrowding in the two displaced persons camps caused tensions with the local townspeople. UNICEF coordinated an effort to install two water yards in each town, one for the displaced persons camps and one for the local populations. In addition, a plan developed by IRC and CARE offered voluntary relocation to about 4,000 displaced persons from Muglad to Um

Displaced children in Muglad
Photo by Renee Bafalis, AID/OFDA

Chuck, a site north of Babanusa. Signs of resentment and hostility on the part of townspeople of Babanusa and Muglad subsided with the startup of these projects.

The food situation in **Abyei** improved dramatically in 1989; in January this small market town housed 25,000 displaced persons from the south and another 4,000 displaced by tribal fighting in the area. Abyei received a total of 4,200 MT of USAID relief food between October 1988 and April 1989. Modes for delivery of this food included an OFDA-funded airlift, donkey caravans mobilized by CONCERN (an Irish NGO) from Muglad late in 1988, a LRCS airlift from El Obeid, and truck convoys from Muglad. A heavy influx of people into Abyei throughout the summer months brought the town's displaced population to 49,400 by August. On November 25 relief food was distributed to 39,885 displaced persons in Abyei, an increase of 10,000 over the October distribution. Road shipments of relief food were dispatched to Abyei in December, but escalated military activity in the area delayed deliveries and hampered relief activities. A shelling on Dec. 11 on the Muglad/Abyei road prompted most of the expatriates to leave Abyei.

The situation in **Meiram** was calm late in 1989, with most of the displaced population working on local farms outside the town. The Meiram camp hosted a few hundred newcomers and destitute women and children. The majority of displaced people pass through Meiram on their way to the north.

Tribal clashes in the **Kadugli** area complicated food transport to the town; trucks from El Obeid required military escorts. In addition to the reported 4,500 displaced persons in Kadugli in August, AICF (a French NGO) reported an influx of 1,500 highly malnourished Nubian tribes people on Nov. 27. Tribal clashes forced all expatriates out of Kadugli by the end of 1989. Reports of displaced persons from tribal clashes also emanated from **Lagowa**, a town northwest of Kadugli. An early December report indicated that an estimated 20,000 displaced Nubian people required emergency assistance in Lagowa.

An assessment conducted by A.I.D. late in 1989 estimated that between 1,000,000 and 1,200,000 people had been displaced to **Khartoum** due to war and/or drought. The presence of refugees from neighboring Ethiopia exacerbated the crowded conditions in the country's capital. The report concluded that while undernutrition was prevalent among displaced persons, severe malnutrition was rare except among the new arrivals. The most critical need among the displaced was improved water supply. Several NGOs worked with the Khartoum displaced in supplemental feeding, preventive health, and education throughout 1989. Late in 1989, Sudan's Commission for the Displaced resettled some of the displaced persons and refugees to areas further outside the city.

Action Taken by the Government of Sudan (GOS) and Non-Governmental Organizations

The GOS appealed to the international community for assistance to manage relief efforts for people displaced by the civil war. On the invitation of Prime Minister Sadiq Al Mahdi and the U.N. Secretary General Javier Perez de Cuellar, an international conference was held in Khartoum on March 8-9. GOS officials, U.N. representatives, donors and NGOs attended the conference to reach an agreement on principles governing relief operations and to finalize the OLS plan of action. The principal task of the plan of action was to ensure streamlined procedures for effective and timely delivery of critically needed assistance to displaced persons. The GOS agreed to a set of principles that would facilitate OLS, the most important being that which guaranteed U.N., donor, and NGO personnel access to all non-combatant populations in need of emergency relief. The SPLA announced its acceptance of the principles outlined in the plan of action on a radio broadcast soon after the Khartoum conference and cooperated with NGOs and donors providing relief in the south from Kenya.

Sudan's Relief and Rehabilitation Commission (RRC) coordinated committees that would ensure implementation of the OLS plan of action. The RRC commissioner chaired a Technical Committee which brought together donor, U.N., and NGO representatives, and officials of various GOS departments including Finance, Railways, and River Transport. This committee was supported by four regional committees: Bahr El Ghazal, Equatoria, Upper Nile and Kordofan/Darfur. The regional committees tracked actual needs and relief in their region and raised issues that required resolution at a higher level to the Technical Committee in Khartoum. An information center was established at the RRC to track food deliveries, stocks, and distributions countrywide and provide the Technical Committee with reports for planning purposes.

The RRC and regional governments oversaw relief food transportation, distribution, and monitoring in the transitional zone and in government garrison towns. Local Relief Committees (LRCs) at distribution centers in Southern Kordofan and GOS-held towns in the south were responsible for supervising the final allocation and distribution of relief supplies in accordance with general distribution guidelines set by the RRC. Membership of these LRCs typically included an RRC representative, who usually served as committee chairman; a local authorities representative; a representative of the Ministry of Health (MOH); and representatives of locally active NGOs. Most of the transport and distribution of relief goods was done by NGOs. Prime Minister Sadiq Al Mahdi formed a high level GOS inter-ministerial committee, chaired by the Minister of Social Welfare, to resolve policy issues related to OLS. The GOS agreed to exchange Sudanese pounds at the prevailing market rate of 12 Sudanese pounds to the dollar for governments and agencies carrying out OLS activities. Under the OLS plan of action, the GOS also committed itself to taking several actions: identifying and preparing sites for voluntary relocation of displaced persons; expanding GOS staff to enhance logistical and administrative support to relief activities; ensuring cooperation between local GOS authorities and NGOs; expediting customs clearance for relief supplies, registrations of NGOs, visas and travel

Air Serv plane delivers USG-donated food to Muglad
Photo by Renee Batalis, AID/OFDA

permits for OLS relief workers and donor representatives; and providing radio licenses to the RRC.

The success of OLS I can be largely attributed to the *de facto* cease-fire between the GOS and the SPLA which existed through most of 1989. Without this cease-fire, NGOs and donors would not have been willing or able to conduct relief operations in GOS and SPLA towns during the first phase of OLS. A military coup in June of 1989, and breakdown of the cease-fire in October presented new problems for OLS.

After the SPLA attack on Kurmuk in October 1989, the GOS began seriously discouraging NGO relief efforts throughout Sudan. It suspended all relief flights except LWF flights and GOS-sponsored flights to the southern garrison town of Juba. The ICRC flight program was completely halted and many of its staff had to abandon their activities in southern Sudan. Fixed wing aircraft and helicopter flights which had been serving several locations in Southern Kordofan were grounded; NGOs could not transport personnel and relief supplies to their field workers in the region. The GOS confiscated radio equipment from the NGOs, denied fuel allocations, and refused to clear relief items through customs. Such actions by the GOS severely limited relief activities late in 1989. The security situation also prompted many NGOs to abandon projects in Southern Kordofan and Juba.

The Sudanese Red Crescent Society (SRC), in cooperation with LRCS, headed a consortium of NGOs which provided relief in Southern Kordofan and assisted in food distributions to displaced persons in the province. SRC also assumed full responsibility for all food distributions to displaced persons in Abyei.

CART, a consortium of mostly Sudanese NGOs, distributed food, seeds, and tools to the needy in and around Juba. Members of CART included Sudanaid, the Episcopal Church of Sudan (ECS), the Islamic African Relief Agency (IARA), the Sudan Council of Churches (SCC), and Oxfam/UK. Sudanaid and SCC also ran programs in Upper Nile, Bahr El Ghazal, and Khartoum.

Assistance Provided by the U.S. Government

On Nov. 25, 1988, U.S. Ambassador G. Norman Anderson redeclared a disaster for civil strife due to continued fighting in the south.

OFDA, A.I.D.'s Office of Food for Peace (FFP), and the Department of State's Bureau for Refugee Programs (RP) worked together to channel food and financial support to the OLS relief effort. The U.S. provided over 60% of the food delivered under OLS and funded many of its key programs.

OFDA Assistance

Through grants and contracts to the U.N., NGOs, and the private sector, OFDA funded OLS activities in the following areas: food and non-food logistics; NGO projects; seeds and tool distribution; water; health and immunization; and relocation.

Logistics: OFDA supported airlifts to Juba, including WFP and LWF flights from Uganda and Kenya, NCA flights from Khartoum, and one MSF/France cargo flight of medical supplies. OFDA also provided a grant to WFP to airlift 300 MT of relief food to Yei. Two airlifts were initiated by OFDA to Aweil and Wau, which were also supported by other donors. An airlift from Muglad to Aweil using Air Serv International began on Feb. 28 and was completed on May 15; a total of 2,742 MT of food was delivered. OFDA contracted with Southern Air Transport (SAT) to deliver 3,000 MT from Khartoum to Wau for ICRC operations in the town; the airlift began April 27 and was completed on Aug. 10. In addition to food airlifts, OFDA financed the use of small aircraft in Southern Kordofan and southern Sudan to shuttle relief personnel and non-food items to affected areas.

OFDA also funded food and non-food delivery by road in both the transitional zone and in southern Sudan. CARE signed a contract with USAID/Khartoum to manage the transport of 50,000 MT of P.L. 480 Title II food from USAID stocks to relief agencies feeding displaced populations north of the conflict zone. With a grant from OFDA, WVRD transported food, blankets, medical supplies, cooking utensils, and clothing from Kenya and Uganda to towns in southern Sudan.

Finally, OFDA donated eight radio base stations, 20 hand-held radios, and technical assistance to the RRC to establish a communications network that linked Khartoum with relief organizations working in El Obeid, Muglad, Babanusa, Kadugli, El Meiram, Aweil, and Abyei. OFDA also provided tugboat parts and marine radios to Sudan's River Transport Corporation to expedite barge delivery of relief food and supplies to Malakal, and funded repair of roads for food transport into southern Sudan.

NGO Consortium Activities: OFDA provided an umbrella grant to LRCS for selected relief activities implemented by NGOs in Southern Kordofan. The LRCS consortium included the following agencies: SRC, AICF, CONCERN, and MSF/Holland, MSF/Belgium, MSF/France, and SCF/UK. Several projects were funded under the LRCS grant, including wet and dry feeding, food logistics, water and sanitation, and primary health. OFDA also provided funding to LRCS to operate a helicopter, operated by Air Serv, which shuttled NGO personnel and relief supplies to various sites in Southern Kordofan.

Seeds and Tools: CARE and UNICEF received OFDA funding for the purchase of seeds and tools that were delivered by the ICRC to several locations in southern Sudan. CARE purchased 11,000 hoes and prepared seed packages for 11,000 families in Malakal and Yei. In addition, CARE purchased and prepared groundnut and millet packages for 1,500 displaced families in Bahr El Ghazal, Tonj, Gogrial, and Rumbek; these packages were distributed in conjunction with seeds and tools provided by the ICRC. The grant to UNICEF supplied seeds and tools to approximately 17,000 families in SPLA-held areas around Kapoeta, Torit, and Bor.

Water: OFDA supported LWR and UNICEF water activities in both GOS and SPLA areas. LWR installed 40 new wells and rehabilitated 20 wells in Eastern Equatoria. OFDA sponsored UNICEF's water projects in Babanusa, Muglad, and Juba.

Health: OFDA provided substantial funding for a health program for displaced persons run by IRC in southern Sudan. IRC immunized children, trained local health workers, and provided supplementary feeding. UNICEF received OFDA funding to purchase medical kits for its health activities in southern Sudan.

Relocation: OFDA funded a camp logistics officer through CARE to help develop and implement a

voluntary relocation plan for displaced persons arriving in Southern Kordofan from southern Sudan. Additional grants were given to CARE and IRC for preparation of relocation camps in Um Chuck, El Odeiya, and En Nahud.

OFDA funded survey/operational teams and contractors to travel to Sudan to assess needs and assist in managing USG relief projects. In March 1989 a DOD team was dispatched to Khartoum to evaluate Sudan's logistical capacity for delivering food to displaced persons and determine feasibility of an additional airlift component to famine relief efforts. OFDA also funded UNICEF and CRS staff and financed WFP logisticians through a grant to CARE.

FFP Assistance

Most of the USG assistance provided to Sudan was in the form of food. FFP concluded agreements with the GOS and Kenya in which USG-provided wheat was swapped for locally produced sorghum, maize, and beans. A total of 71,910 MT of P.L. 480 Title II emergency food was allocated for Sudan in 1989, valued at $34,365,300.

RP Assistance

In 1989, the U.S. provided about 25% and 16% respectively of the UNHCR and the ICRC African assistance programs, including those for Sudanese refugees in Ethiopia and displaced persons in Sudan. UNHCR's 1989 program budget for Sudanese refugees in Ethiopia was $24,000,000. ICRC's 1989 program budget for Sudan was about $40,000,000.

In FY 1989, RP provided $3,000,000 to the ICRC specifically for airlift operations in southern Sudan and $5,000,000 from the Emergency Refugee and Migration Assistance Fund (ERMA) for ICRC Horn of Africa programs, a large portion of which went toward operations in southern Sudan. RP also provided $1,000,000 in emergency funds to UNHCR for Sudanese refugees in Uganda. Total RP contribution is estimated at $18,800,000.

Summary of USG Assistance

OFDA Assistance

Grant to UNICEF for medical kits $310,000

Grant to UNICEF for Nairobi office support $500,000

Funding to UNICEF for operation of Air Serv Twin Otter $346,000

Grants to UNICEF for water projects $900,000

Grant to LRCS for NGO Consortium $2,750,000

Mission allotment for Khartoum/Juba airlifts and Aweil airlift; $500,000 for NGO activities in Southern Kordofan $1,200,000

Mission allotment for NCA airlift to Juba $130,500

Grant to WFP for Yei airlift $266,901

Cost of contractor to assist WFP in Ugandan road repair $17,347

Funding to CWS for LWF airlift and road repairs $581,450

Grant to CARE for food pre-positioning $272,188

Grant to CARE for Relocation Program Coordinator $53,066

Grant to CARE for Relocation Program $701,673

Grant to CARE for seeds and tools $220,002

Grant to CARE for logistics experts to assist WFP $146,956

Grant to CRS for WFP airlift $1,803,075

Grant to CRS for transport of seeds and tools $210,339

Funding to CRS for personnel support $20,513

Grant to IRC for health programs $590,883

Grant to IRC for relocation program $298,327

Grant to WVRD for food delivery $1,153,615

Grant to LWR for water project $530,787

Grant to LWR for Juba airlift $500,000

Grant to Air Serv for Aweil airlift $1,555,900

Cost of transfer of Air Serv crew from Ethiopia $30,552

Contract with SAT for Wau airlift $2,525,860

Grant to MCI to transport medical supplies for use by ICRC and MSF/France $144,043

DOD airfield/logistics assessment team $62,380

Airlift of parachutes to Nairobi for Torit $125,000

Tugboat parts for barges $6,300

Radio communications and technical support for the RRC $92,844

Cumulative cost of operational teams and USAID contractor expenses $89,095

Cost of replacement plastic sheeting and blankets plus transport to stockpile (items sent to Sudan in FY 1988) $149,050

Total OFDA $18,284,646

Total FFP $34,365,300

Total RP $18,800,000

TOTAL **$71.449,946**

Assistance Provided by U.S. Voluntary Agencies

American Red Cross - provided personnel, supplies and financial support to LRCS and ICRC to assist displaced persons in Sudan.

Air Serv International - provided crew and aircraft for relief flights to Aweil and transport of personnel and relief supplies in Southern Kordofan.

CARE - managed the transport and delivery of 63,000 MT of food to relief agencies feeding displaced persons north of the conflict zone. It pre-positioned other critical relief supplies such as temporary shelter, clothes, and blankets in El Obeid and En Nahud in anticipation of future influxes of displaced persons. In addition, CARE provided relief assistance in camps around En Nahud, where it distributed food, relief supplies, and water to 7,000 displaced in camps outside of the town. Finally, CARE helped coordinate the voluntary relocation program in Southern Kordofan.

CRS - channeled food and donated other resources to the WFP airlift to Juba and helped finance road repairs in the south. It also channeled money through Sudanaid for relief assistance to displaced persons in Juba.

CWS - assisted in road repair and worked through SCC to assist displaced persons in southern Sudan.

IRC - ran health programs in southern Sudan and helped coordinate voluntary relocation efforts in Southern Kordofan.

LWR - drilled wells in southern Sudan and contributed to the LWF Juba airlift. It also worked through SCC.

WVRD - contributed food and medical supplies to the LWF airlift; delivered emergency food and other supplies to southern Sudan by truck; and supplied food through MSF/Holland for distribution by the ECS to the displaced in Yei.

Assistance Provided by the International Community

Figures below were taken from UNICEF's OLS Situation Report Number 6, Annex I:

International Organizations

EC - pledged $9,804,000 to ICRC and $9,310,000 to WFP for OLS relief activities and donated $17,900,000 worth of food aid.

ICRC - delivered food and non-food assistance to government and SPLA towns in southern Sudan.

LRCS - coordinated a consortium of international NGOs that provided relief to displaced persons in Southern Kordofan and Juba.

LWF - ran the Nairobi/Juba airlift.

UNDP - contributed $2,000,000 and provided personnel to help coordinate OLS operations.

UNICEF - provided assistance to displaced persons in the areas of health, water, and seeds distribution in southern Sudan and the transitional zone.

WFP - ran the Entebbe/Juba airlift and coordinated food deliveries in southern Sudan and Southern Kordofan.

Governments

Austria - contributed $76,000 through ICRC.

Australia - gave $346,000 through ICRC, $405,000 through WFP, $881,000 through UNICEF, and $153,000 through NGOs.

Belgium - donated approximately $800,000 in support of air operations.

Canada - channeled $1,270,000 through ICRC, $840,000 through WFP, $671,000 through UNICEF, and $2,554,000 through NGOs.

Denmark - contributed $407,000 through ICRC, $42,000 through UNICEF, and $897,000 through NGOs.

Finland - gave $715,000 through ICRC, $3,100,000 through UNICEF and $456,000 through NGOs.

France - contributed $4,000,000 through NGOs and approximately $2,800,000 in support of air operations.

Germany, Fed. Rep. - donated $1,046,000 through ICRC, $238,000 through UNICEF, $804,000 through NGOs and approximately $2,200,000 in support of air operations.

Italy - channeled $1,000,000 through ICRC, $300,000 through WFP, $1,000,000 through UNICEF, $300,000 through FAO, and $2,000,000 through NGOs.

Japan - gave $206,000 through ICRC, $1,503,000 through WFP, and $1,500,000 through UNICEF.

Netherlands - contributed $1,454,000 through ICRC, $5,905,000 through WFP, $516,000 through NGOs, and approximately $444,000 in support of air operations.

Norway - donated $140,000 through ICRC, $220,000 through WFP, and $42,000 through UNICEF.

Switzerland - channeled $2,592,000 through ICRC, and $115,000 through WFP.

Sweden - contributed $90,000 through WFP and $1,575,000 through UNICEF.

United Kingdom - donated $4,908,000 through ICRC, $2,155,000 through WFP, $1,136,000 through UNICEF, and $3,292,000 through NGOs.

Non-Governmental Organizations

AICF (French) - provided health and feeding services to displaced persons in Kadugli; and assisted displaced persons in the transitional zone.

CONCERN (Ireland) - coordinated food logistics out of Muglad for Southern Kordofan and conducted feeding programs, assisted in water rehabilitation, and helped in voluntary relocation efforts. CONCERN also supported staff in Renk.

GOAL (Ireland) - distributed food to displaced persons and conducted a nutritional survey in camps in Khartoum.

MSF/Belgium - supported projects in health and sanitation in Abyei; and assisted displaced persons in the transitional zone.

MSF/France - provided health services to displaced persons in Aweil and in the transitional zone.

MSF/Holland - assisted displaced persons in the transitional zone, Juba, and Renk.

SCF/UK - assisted displaced persons in the transitional zone.

Total cash contributions from NGOs and other sources to OLS activities is estimated at $3,333,000.

TOTAL **$99,441,000**

TOGO - Drought

Date: January 1989

Location: Northern Togo

No. Dead: unknown

No. Affected: 400,000

Summary of Assistance

USG	$401,000
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$401,000**

The Disaster

During the winter of 1988-1989, northern Togo was hit by floods followed by drought, leading to severe food shortages.

Assistance Provided by the U.S. Government

The USAID country representative surveyed the regions of Tone and Oti and concluded that an emergency situation existed in northern Togo. On Jan. 5, 1989, Ambassador Rush Taylor declared a food shortage disaster in Togo. OFDA provided funding for 62 tons of seeds for farmers in the northern region. The seeds were divided as follows: corn—53.6 tons, sorghum—2.0 tons, rice—3.5 tons, beans—2.5 tons, and peanuts—0.6 tons.

AID/FFP provided 305.6 MT of bulgur, 305.6 MT of wheat-soy-blend, and 152.8 MT of vegoil, valued at $376,000 for the commodities and the transportation costs. The seeds were distributed by CRS/Togo through 22 mother and child feeding centers in the affected regions. Approximately 38,200 people benefited from the program.

Total OFDA *$25,000*
Total FFP *$376,000*

TOTAL **$401,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

None reported

TOGO - Epidemic

Date: Winter 1988 - 1989

Location: Savannes, Kara and Centrale regions

No. Dead: 50 (Jan. to March 1989)

No. Affected: 1,617 according to WHO

Summary of Assistance

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	$54,000
TOTAL	**$79,000**

The Disaster

In the winter of 1988-1989, an epidemic of a virulent strain of meningitis broke out in northern Togo.

Assistance Provided by the U.S. Government

Based on information provided by a representative of the Centers for Disease Control (CDC) and the Togolese Ministry of Health, Ambassador Rush Taylor declared on Jan. 5, 1989, that a disaster existed in Togo. He exercised his authority to provide a $25,000 grant to the Togolese Ministry of Health for disaster relief. The grant went to purchase 140,000 doses of meningitis vaccine from the Institute Merieux in Paris. The vaccines arrived in Lome on Jan. 16 and were distributed to regional medical chiefs, according to a previously arranged distribution plan.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

WHO - donated 100,000 doses of vaccine worth approximately $18,000.

West Germany -furnished 200,000 doses valued at approximately $36,000.

TOTAL **$54,000**

UGANDA - Drought

Date: Summer 1989

Location: West Nile region including Nebbi, Arua, and Noyo

No. Dead: Not reported

No. Affected: As many as 600,000

Summary of Assistance:

USG	$251,400
U.S. Voluntary Agencies	None reported
International Community	None reported
TOTAL	**$251,400**

The Disaster

A number of problems beset Uganda in 1988 - 1989 culminating in severe, short-term food shortages, particularly in northwestern Uganda, in the summer of 1989. The principal cause of the shortages was the erratic rainfall during the July to October 1988 period. In August 1988, heavy rain and hail-storms further damaged crops. Cassava diseases and grasshoppers ruined the remaining crops. Refugees from Sudan and Ugandans returning from Sudan placed additional burdens on an already strained food supply. Returning Ugandans were not able to plant crops in time to take advantage of the harvest cycle. The main food crop for the region, cassava, has an 18-month maturation period before it is safe to eat. Insurgent and bandit attacks on convoys restricted the movement of food into northwestern Uganda. Finally, returnees and refugees carried animal diseases which decimated cattle, goats, and other livestock. No complete assessment was available, but surveys by NGOs revealed widespread and serious malnutrition in children.

Action Taken by the Government of Uganda (GOU)

At the end of May, the GOU sent a letter to the United States asking for 50,000 MT of food rations for 500,000 people for six months, assorted animal drugs, fishing gear, agricultural tools, and tree nurseries and seeds. The Ministry for Relief sent two truckloads of food to the region, and asked the army to facilitate the passage of food-bearing vehicles through the road blocks which it controls. The Ministry also worked to acquire fast growing sweet potato vines and short maturity cassava crops.

Assistance Provided by the U.S. Government

Ambassador John Burroughs exercised his disaster assistance authority and declared on June 16, 1989, that a disaster emergency existed in Uganda. In late June, OFDA approved a grant of $75,000 for the purchase, transport, and distribution of 47 tons of seeds and cassava cuttings through CARE.

In late 1988 and early 1989, FFP approved a total of 275 tons of CSB for Uganda drought emergency. All the food was consigned to WFP for distribution in Uganda. The total value of the food, with shipping and handling costs, came to $176,400.

TOTAL **$251,400**

Assistance Provided by U.S. Voluntary Agencies

Before the famine, several PVOs and NGOs, including LWF, CARE, and MSF, were working in northwestern Uganda on improving health services and encouraging agricultural self-reliance. As malnutrition became a serious problem, some of these organizations placed more emphasis on treating malnutrition and the diseases arising from it. SCF carried out a nutritional survey of children in selected areas of the region.

Assistance Provided by the International Community

WFP - purchased about 5,000 MT of maize from Kenya for the drought affected region.

WEST AFRICA - Expellees

Date: Conflict began on April 9, 1989

Location: Mauritania, Senegal, Gambia, and Guinea-Bissau

No. Dead: Several deaths

No. Affected: 80,000-100,000 Senegalese fled Mauritania for Senegal; 40,000 black Mauritanian Moors were in refugee camps in northern Senegal; 60,000-80,000 Mauritanians returned home from Senegal; 3,000 Mauritanians escaped to Gambia; and about 3,000 Mauritanians fled to Guinea-Bissau.

Summary of Assistance:

USG	$250,000
U.S. Voluntary Agencies	$5,470
International Community	$4,506,660
TOTAL	**$4,762,130**

The Disaster

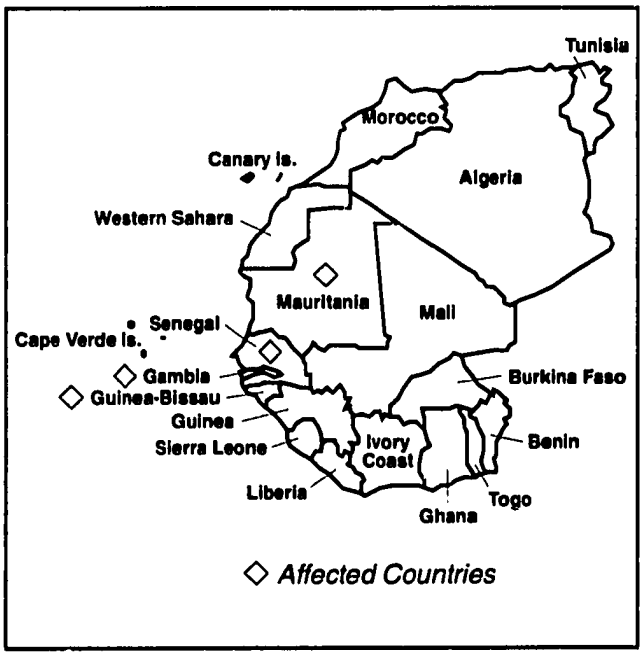
On April 9, violence erupted in the West African nations of Senegal and Mauritania. A clash between Senegalese farmers and Mauritanian herdsmen in which two Senegalese lost their lives sparked the latest turmoil. According to eyewitness accounts, land cultivated by Senegalese farmers was trampled by cattle tended by Mauritanian herdsmen.

The incident deteriorated into chaos in the capitals of Dakar (Senegal) and Nouakchott (Mauritania). Reprisals by Senegalese against Mauritanians residing in Senegal and by Mauritanians against Senegalese residing in Mauritania resulted in many wounded, thousands of displaced, and several deaths. Mauritanians and Senegalese nationals were forced to repatriate to their respective countries.

Clashes at the border are nothing new; age-old hostilities flare up frequently along the Senegal River that separates Mauritania and Senegal. Friction between black Senegalese and Mauritanian white Moors can be traced to early centuries. Some Senegalese consider the white Moors as oppressors; many white Moors had black slaves and ended this practice in 1980 when the Mauritanian government outlawed it. Another source of Senegalese suspicion of the white Moors is the unfavorable economic status of blacks in Mauritania. The white Moors are economically and politically dominant; on the other hand, the black Moors and other African ethnic groups living in Mauritania must struggle for social and economic equality. The antagonism has been further exacerbated by these recent events.

A principal source of the continued animosity is arable land near the border; the whole area was arbitrarily delineated by France when its colonial rule ended in 1960. Senegal claims some sections of southern Mauritania as part of its territory. This claim is based on a French decree promulgated in 1933. According to Senegal's interpretation of the French ruling, the border between the two countries lies on the furthest right bank of the Senegalese River which includes the very fertile area of southern Mauritania. The latter rejected the claim as legally baseless.

The area along the border is economically important to Mauritania—and to Senegal as well. A mining consortium discovered large deposits of phosphate in 1984 on the Mauritanian side. This can only be good news to Mauritania which is faced by an encroaching desert. The discovery may intensify Senegal's historic claim to that area.



To understand the contentious behavior on the part of these two countries, one needs to look at the cultural diversity in each nation. Mauritania, which is located to the north of Senegal, is ruled and dominated by white Moorish Arabs of various tribes; most of them were nomads originating in the desert. The white Moors traded in the Sahara before colonialism and inherited power when French colonial rule ceased. The second major ethnic group in Mauritania is the black Moors who have been assimilated into Arab culture; some of them were slaves who were enfranchised in 1980 when slavery was abolished. According to observations made in 1981, there were at least 100,000 slaves and 300,000 ex-slaves. Added to this mosaic are the black Senegalese living and working inside Mauritania. A coup attempt in 1987 by a group supporting their cause sent tremors within the confines of white Moorish society. The latest waves of expulsion are welcomed by radical elements in the Mauritanian government who wish to promote the "arabization" of the country.

In Senegal the majority of the population is black, comprising several African ethnic groups. Among the major ones are the Wolof, Toucouleur, Serer, Diola, Peul, and Mandingo all of whom share similar cultural values. In spite of these numerous groups, Senegal is considered by most historians and African political analysts as generally stable. Senegalese are culturally homogeneous and this cultural heritage is strongly encouraged by their government and national associations that cut across ethnic lines.

Prior to the clash most of the small businesses in Senegal were owned and operated by successful Mauritanians, to the envy of poor Senegalese; while in Mauritania the immigrant Senegalese were seen as a threat to the economic well-being of the country. In some parts of Mauritania before this racial altercation, the Senegalese controlled the transportation industry and the agricultural sector.

Official relations between Senegal and Mauritania are still very tense. Diplomatic relations were severed in August 1989. Tens of thousands of residents including 40,000 black Moor Mauritanians who took refuge in Senegal, were expelled from their villages on the northern side of the Senegalese river. According to independent observers, conditions in the refugee camps were extremely poor. There were reports of continued cross border raiding along the Senegalese River. Unconfirmed reports indicated that land and cattle formerly owned by Senegalese were distributed to black and white Moors who returned to Mauritania.

General Situation in Gambia and Guinea-Bissau

In addition to the tens of thousands of expellees who fled the Mauritania-Senegal border, a significant number fled to neighboring Gambia and Guinea-Bissau. The influx of so many refugees created an emergency situation that warranted international assistance.

Action Taken by the Government of Senegal (GOS)

The government of Senegal's first action was to deal with frightened Mauritanian residents in Senegal. About 13,000 Mauritanians took refuge at the fairgrounds in Dakar, while others sought protection in other parts of the country. During the months of April and May, the GOS airlifted about 20,000 Moors to Mauritania, and the rest returned by road to their homeland.

As Moor returnees left for Mauritania, Senegal received its own citizens. The number of arrivals rapidly escalated to about 70,000 returnees; some of the new arrivals were absorbed in villages where they had families. The GOS set up two crisis committees to assist those affected by the conflict.

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

During the first few days of the conflict the GIRM's main preoccupation was to establish order. It assisted with airlift operations that repatriated thousands of Mauritanians and Senegalese to their respective countries. The GIRM provided a reinsertion plan for its displaced persons from Senegal. It also provided governmental apparatus to deal with the problem.

Action Taken by the Government of Gambia (GOG)

Thousands of Senegalese and Mauritanian refugees fled to neighboring Gambia. The GOG assisted them by providing food and basic shelters. With the help of the

Gambian Red Cross the displaced persons obtained additional relief supplies such as blankets, medicine, wash basins and hygiene items.

Action Taken by the Government of Guinea-Bissau (GOGB)

The GOGB assisted with the repatriation of 800 refugees back to their homeland. The continued arrival of additional refugees strained the country's relief capabilities. The government expressed some concern about its ability to feed the growing numbers of refugees and made an appeal to the international community for assistance. The GOGB also directed the Ministry of Social Affairs to manage the situation.

Assistance Provided by the U.S. Government

Senegal

To assist with the increasing number of displaced persons, U.S. Ambassador George E. Moose, on April 28, 1989, declared that a disaster existed in Senegal. He issued $25,000 to help those affected by the conflict. OFDA contributed an additional $25,000 to the U.S. Embassy at a later date, as well as $25,000 to CRS and $100,000 to UNICEF in support of ongoing relief activities.

TOTAL $175,000

Mauritania

In response to the conflict, U.S. Ambassador William H. Twaddell, on April 26, 1989, determined that a disaster existed in Mauritania. He allocated $50,000 to cover the cost of airlifted medical supplies, as well as to support organized efforts by some PVOs. Additional assistance was provided by the Peace Corps, which provided manpower to assist with food distribution and other logistical operations.

TOTAL $50,000

Gambia

In response to the refugee problem in Gambia, the U.S. Ambassador Herbert E. Horowitz, on May 2, 1989, declared the situation a disaster. He allocated $25,000 to the Gambian Red Cross for the financing of local transportation and the administering of its refugee program.

TOTAL $25,000

Assistance Provided by U.S. Voluntary Agencies

CRS- utilized an OFDA grant to purchase 6,000 square meters of mosquito netting for the fabrication of nets, as well as pots and spoons and various shelter materials.

CWS - donated $5,000 to the CWS office in Dakar for shelter, food and immediate medical care.

WVRD - donated $470 for immediate relief needs.

TOTAL $5,470

Assistance Provided by the International Community

International Organizations

Caritas International - donated $24,020 in support of ongoing relief efforts.

EC - contributed $625,000 to help the refugees and also donated 750 MT of rice to feed affected populations.

UNDRO - made an appeal for financial assistance and provided logistical assessments in affected areas.

UNHCR - launched a $3 million campaign for emergency assistance. A $476,000 project was designed in Mauritania to support the Ministry of Planning with its ongoing relief efforts.

WFP - provided food for distribution in the river valley and other affected villages.

Governments

Algeria - donated 60 tents and 11.5 MT of food.

Belgium - contributed $23,500 for relief assistance.

Canada - gave $70,380 and other relief items.

Denmark - donated $64,000.

France - provided tents, mats and kitchen utensils and gave $2,620,000 in emergency funds to Senegal and Mauritania.

Holland - donated $23.500 to assist the victims.

Libya - provided 10 tents and 10 MT of food and $80,000.

Morocco - gave 50 blankets, 300 tents, and 11.2 MT of food.

Spain - donated relief assistance and provided an aircraft to help with the evacuation process.

Switzerland - provided $88,760 for relief supplies.

Tunisia - donated 10 tents and 10 MT tons of food.

Zaire - donated $100,000.

Non-Governmental Organizations

Red Cross and Crescent Societies - donated a total of $311,500.

TOTAL **$4,506,660**

** (Note: Because of the difficulties in separating international donations among the several affected countries, only cumulative totals are possible.)*

Latin America and the Caribbean

ARGENTINA - Emergency

Date: May - July 1989

Location: Buenos Aires, Cordoba, and Santa Fe provinces

No. Dead: 15

No. Affected: 1,500,000 requiring mass feeding

Summary of Assistance:

USG	$10,000
U.S. Voluntary Agencies	None reported
International Community	$440,000
TOTAL	**$450,000**

The Disaster

A surge of hyperinflation (79% in May, 114% in June, and 197% in July) led to widespread rioting and looting in the cities of Buenos Aires, Rosario, Cordoba, Mandoza, Quilmes, and Mataderos. On May 23, thousands of Argentines went on a rampage, raiding supermarkets and grocery stores in search of food. Several buildings were ransacked and four bomb explosions were reported in the financial district of Buenos Aires. On May 29, the government announced a 30-day state of emergency and riot police detained more than 2,000 people. Fifteen people were reported killed during the rioting and hundreds more were injured.

The latest round of hyperinflation was blamed on decades of governmental fiscal mismanagement, such as extravagant government subsidies to selected businesses, massive foreign debt, and rampant tax evasion. Interest rates hovered around 300% and credit was no longer available. Retailers raised prices daily and during the week of June 1, food prices rose 27%, while purchasing power eroded rapidly. Despite wage increases, real incomes had dropped more than 35% since 1983. No longer able to keep up with the pace of inflation, many frustrated Argentines took to the streets.

Action Taken by the Government of Argentina (GOA) and Non-Governmental Organizations

The rioting came just two weeks after the election of a new president, Carlos Saul Menem. Lame duck president, Raul Alfonsin, was blamed for the latest surge of hyperinflation and agreed to transfer power to Menem five months ahead of schedule. Before resigning, President Alfonsin declared a 30-day state of siege throughout Argentina, suspending certain constitutional liberties and giving police broader powers. President Alfonsin also took several emergency economic measures to arrest the inflationary spiral, including doubling the minimum monthly wage, raising export duties, and establishing a single fixed exchange rate.

National, provincial, and municipal authorities worked with church groups and charitable organizations to feed the hungry. Many of the poorer towns in Buenos Aires Province subsisted on food provided by soup kitchens. As many as 700,000 persons were fed daily at one time in Buenos Aires Province alone. Once soup kitchens were set up and the food stamp program introduced, the rioting subsided in all three provinces.

The new administration took over on July 8 and immediately took stiff economic measures that targeted inflation and the public deficit. The new government limited all exchange transactions, negotiated a 90-day price freeze, and suspended certain government subsidies. President Menem also introduced a new public welfare program, whereby government-issued coupons were redeemable for food and medicine. By September, the inflation rate was down to 10% and some food prices actually decreased slightly.

Assistance Provided by the U.S. Government

On June 30, U.S. Ambassador Terence A. Todman determined that the food emergency warranted USG assistance and requested that $10,000 of his disaster assistance authority be allotted to three non-governmental organizations that were distributing food and medicine to Argentina's neediest people. On July 6, Ambassador Todman presented $4,000 to the local Caritas, $3,000 to the Conciencia Association, and $3,000 to Federacion Apoyo Familiar (Federation of Family Help). The grants were used to purchase food for distribution to thousands of Argentines.

TOTAL **$10,000**

Assistance Provided by U.S. Voluntary Agencies
None reported

Assistance Provided by the International Community
EC - donated $440,000 to the LRCS to purchase cornmeal, rice, milk.

TOTAL	**$440,000**

BOLIVIA - Epidemic

Date: 1989

Location: Cochabamba Department

No. Dead: 67

No. Affected: 97 infected, 1,700,000 at risk

Summary of Assistance:

USG	$174,450
U.S. Voluntary Agencies	None reported
International Community	$16,000
TOTAL	**$190,450**

The Disaster

Yellow fever, which is endemic to Bolivia, threatened 1.7 million inhabitants in 1989. By early September, 67 of the 97 people afflicted with the disease had lost their lives. Although an early assessment indicated that the epidemic had peaked in March and had ended in April, PAHO/Bolivia and the Bolivian Ministry of Health (MOH) continued to report outbreaks through September.

Cases were reported in five provinces located in four departments, with most occurring in Chapare and Carrasco provinces of Cochabamba Department. Officials from Beni and Pando departments also reported serious outbreaks of the disease. The *a. aegypti* mosquito was imputed for this latest infection of yellow fever.

Action Taken by the Government of Bolivia (GOB)

By the end of March, the GOB declared that a state of emergency existed in Cochabamba Department, especially Chapare Province. The MOH initiated an intensive vaccination program to immunize those in the affected areas. By late June, the MOH identified a need to immunize 300,000 migrants, most of whom lived in the highland areas.

Besides mobilizing the massive vaccination program, the MOH took the following actions: (1) intensified its investigation of all suspected cases; (2) improved its vaccine storage capabilities; and (3) intensified its mass education and surveillance programs. The GOB also initiated an eradication program in the mosquito-infested areas to prevent further eruptions of the disease.

Recognizing the need for vaccine, the GOB purchased about 500,000 doses of vaccine through its internationally financed social emergency fund. In 1989, the MOH added donations of 330,000 doses from USAID/La Paz and 50,000 doses from the Brazilian Government to its stocks. Despite a reduction of 200,000 doses in response to a dengue fever outbreak in 1989 in Santa Cruz, the GOB had enough vaccine on hand for the first few months to meet demand. But as the population at risk grew over time, the GOB appealed for more vaccine and injection equipment.

Assistance Provided by the U.S. Government

On May 25, 1989, U.S. Ambassador Robert S. Gelbard declared that an emergency existed in the Cochabamba region. Prior to the ambassadorial declaration, USAID/La Paz had furnished 330,000 doses of thermo-stable yellow fever vaccine to the Bolivian MOH. Procured with logistical support from PAHO, the cost of the vaccine, $93,000, was charged against USAID's bilateral child survival project, community and child health program. The vaccine was bought from Pasteur Institute/Paris and Oswaldo Cruz Institute in Rio de Janeiro.

OFDA responded by procuring 150,000 doses of vaccine. The purchase and transport of 150,000 doses (in 50 dose vials) of vaccine from the Oswaldo Cruz Institute cost $25,725. The shipment arrived, cleared customs, and was delivered to MOH on Aug 29. OFDA also purchased 20 ped-o-jet injection equipment units at a cost of $55,730 and loaned them to the MOH for its mass immunization program.

Total OFDA	*$81,450*
Total Other USG	*$93,000*
TOTAL	**$174,450**

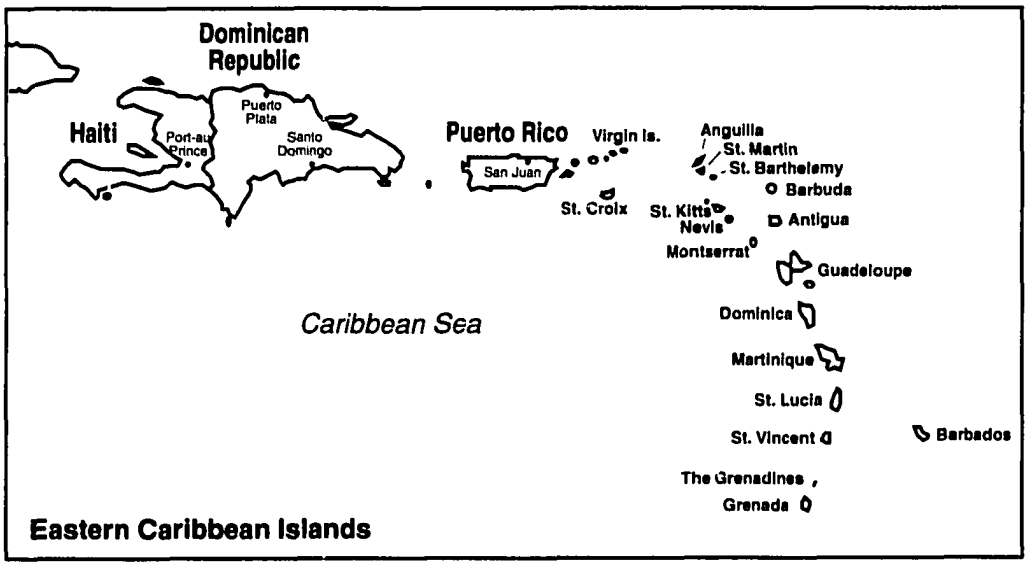
Assistance Provided by U.S. Voluntary Agencies
None reported

Assistance Provided by the International Community
Brazil - provided 100,000 doses of vaccine, worth $16,000.

France - contributed 10,000 doses.

TOTAL	**$16,000**

CARIBBEAN - Hurricane Hugo



Date: Sept. 16-19, 1989

Areas Affected: The eastern Caribbean islands of Dominica, Guadeloupe, Montserrat, Antigua, St. Kitts, Nevis, Anguilla, and Tortola (British Virgin Islands)

No. Dead: 21; 6 missing

No. Affected: 50,000; 30,000 homeless; numerous injuries

Summary of Assistance:

USG	$4,715,028
U.S. Voluntary Agencies	$325,000
International Community	$6,631,185
TOTAL	**$11,671,213**

The Disaster

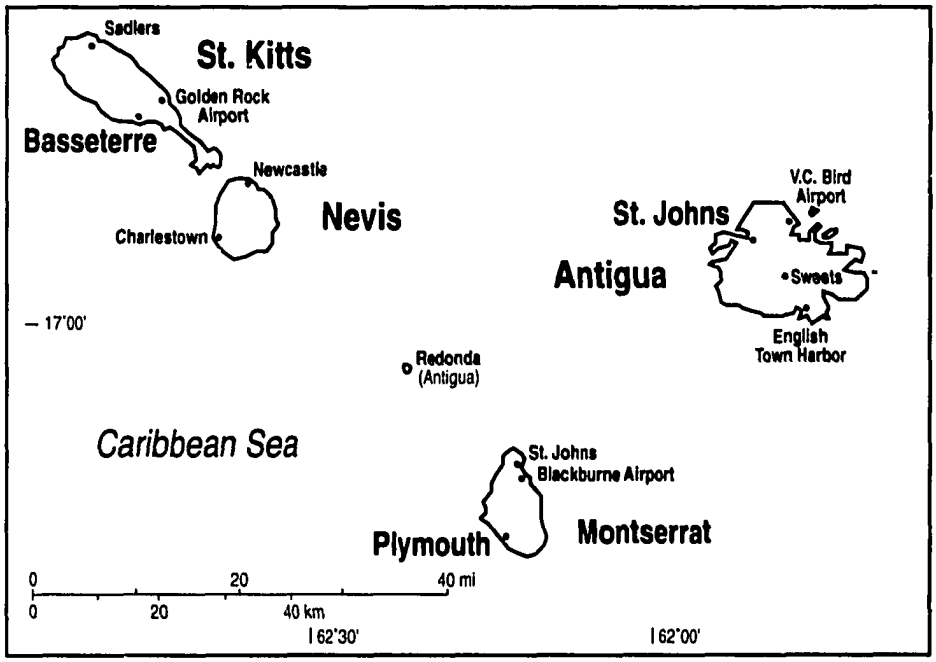
Hurricane Hugo ripped through the eastern Caribbean on Sept. 16-17, 1989, causing massive destruction of housing, public buildings, and infrastructure, and leaving thousands homeless. It was the sixth hurricane of the 1989 Atlantic season, and the most powerful storm to hit the Leeward islands in at least a decade. The storm moved into the U.S. Virgin Islands and Puerto Rico on Monday, Sept. 18, skirted the northern coast of the Dominican Republic on the night of Sept. 18, and slammed into the mainland U.S. at Charleston, South Carolina on Sept. 22.

On Sept. 17 and 18, initial damage assessments in the eastern Caribbean were conducted by an international team comprising representatives from OFDA, the Canadian International Development Agency (CIDA), PAHO, and the League of Red Cross Societies. A ground survey was done of Antigua and aerial surveys of Montserrat, St. Kitts, and Nevis. Over the next several days, more detailed damage and needs assessments began to flow in from the islands, and it became clear that the islands of Montserrat and Guadeloupe had been the most severely affected. Because Guadeloupe is a French department, relief efforts for that island were handled by France. The relief efforts on the other four affected islands, whether independent nations or British colonies, were handled as a multinational effort. Below is a summary of the damage by island and a map of these four islands.

Montserrat, a British Crown Colony with a population of 12,000, took the full force of Hurricane Hugo. Ten people were killed. Ninety percent of the houses were affected: 30% were destroyed, 30% severely damaged, and 30% somewhat damaged. An estimated 10,000 to 11,000 people were left homeless. The storm stripped the island of the lush vegetation for which it is famous

(Montserrat is often referred to as the "emerald isle"). The hospital, half of the island's 12 health clinics, the police station, and two of the larger schools were badly damaged. The port was virtually destroyed.

On *Antigua*—the nation of Antigua and Barbuda has a population of 78,500—the hospital, the Home for the Aged, and the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) building sustained damage.



Guadeloupe, a French department with a population of 300,000, reported seven people killed and 84 injured by Hugo. About 12,000 people were rendered homeless. The storm severed telephone lines and seriously damaged houses and tourist hotels. About 70% of the roads were made impassable and an estimated 3,000 head of livestock perished.

The neighboring islands of *St. Kitts and Nevis*—the two islands form an independent nation with a population of 45,000—were also hit by the hurricane. Two people were confirmed dead, and the sugar crop was devastated. On St. Kitts, about 5% of the houses were damaged and 5% of the power poles were downed. The principal hospital in St. Kitts suffered severe damage: its roof was blown away and serious water leaks made many wards unusable. Hugo caused more extensive damage to Nevis: 20% of the roofs were destroyed and 60% sustained moderate to serious damage. The main hospital lost its roof, mattresses (from water damage), and vaccines (from the power outage). Damage to the electric lines on both islands was serious.

Two people were confirmed dead. The storm disrupted the electrical system, and damaged 10% to 15% of residences and five hotels. Damage was concentrated in the southwestern corner of the island.

On *Dominica*, a nation of 77,900, extensive flooding and landslides severely damaged coastal roads and the island's seawall. The water supply was also disrupted. Over 75% of the banana crop, Dominica's major source of foreign exchange, was destroyed.

On the island of *Tortola* (population 10,200) in the British Virgin Islands, an estimated 25% of the houses were damaged by the storm. Coastal roads and infrastructure were also substantially damaged.

Finally, other Caribbean islands suffered damage. The Government of the Netherlands reported that the Netherlands Antilles islands of *St. Eustatius, St. Maarten, and Saba* sustained damage. On St. Maarten, about 500 people were homeless; 200 victims had to go to temporary shelters. The airport sustained damage to

equipment, but remained open. Approximately 45 Dutch Marines were flown in from Curacao to assist the police and those cleaning up. On St. Eustatius, up to 200 people were rendered homeless. Some 71 homes, or 25% of the total housing stock, sustained severe damage on Saba, the most affected of the Netherlands Antilles-affiliated islands. Saba's only harbor pier and communications tower were damaged, and telephone communication after the storm was limited. *Anguilla* (a British Crown Colony affiliated with St. Kitts-Nevis) also suffered some damage.

Disaster Relief Activities on the Islands

The governments of the affected islands began mobilizing ministries and workers for the relief effort immediately

Hugo decapitated trees and scattered debris from houses.
Photo by Renee Bafalis, AID/OFDA

after the storm and appealed for assistance from the international community. Foreign assessment and response teams established Antigua as a base of operations for all the affected islands in a multinational effort to assist the victims of Hurricane Hugo.

Donor coordination meetings were held in both Barbados and Antigua. Daily coordination meetings in Antigua were chaired by Franklin McDonald of the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) and later also by Dr. Carl Mitchell of the Organization of Eastern Caribbean States (OECS). These meetings were attended by donors and disaster relief workers, including representatives of the League of Red Cross and Red Crescent Societies (LRCS), local and other national Red Cross societies, PAHO, the EC, OFDA, Caribbean Council of Churches, Christian Children's Fund, the U.K., Canada, and the island governments. The donor coordinating meetings in Bridgetown, Barbados, were chaired by the U.N. Resident Representative. The Barbados group kept a list of pledges, as most of the donors have representatives for the region in Bridgetown, and the Antigua group maintained a list of requirements and donor responses.

Contingents from the defense forces of Barbados, Trinidad and Tobago, Jamaica, and Guyana handled airport loading, clearing, and distribution on Antigua, Montserrat, and Nevis. CARICOM set up a disaster relief unit (the CDRU) at the airport in Antigua to coordinate logistics and monitoring of the relief goods arriving in Antigua for all the affected islands. This unit was headed by Commander Peter Brady of the Jamaica Defence Forces, who contributed to greater efficiency in the movement of goods. The OFDA team worked with this group to develop a chart for tracking requirements and donated commodities. The disaster relief workers in Antigua communicated with each other through hand-held radios provided by OFDA. Radio base stations and two TCS-9000 satellite communications terminals were set up at the U.S. Embassy in St. John's by the OFDA team members from the Metro Dade Fire Department. PAHO set up a TCS-9000 in Plymouth, the capital of Montserrat. An OFDA team also installed a mobile VHF system on Montserrat.

PAHO conducted assessments of the health sector on all affected islands and provided assistance where needed. Two water engineers from Jamaica and PAHO addressed water issues in Montserrat, while a PAHO engineer was assigned to St. Kitts and Nevis to monitor water quality on the two islands.

The United Kingdom, Canada, and the U.S. divided responsibilities for reestablishing vital services on the islands. Canada focused its efforts on airports and the water sector as needed on all islands; the United Kingdom

took responsibility for relief assistance to Montserrat and power restoration on Antigua; and the U.S. assisted in restoring electrical services on the islands of St. Kitts and Nevis.

Assistance Provided by the U.S. Government

On Sept. 15, A.I.D.'s Office of U.S. Foreign Disaster Assistance (OFDA) pre-positioned a team of disaster experts to assess the impact of Hurricane Hugo on the islands. Two team members from OFDA's regional office in San Jose, Costa Rica, and two members from the Miami Metro Dade Fire Department, carrying two portable satellite telephone units (TCS-9000), traveled to Antigua. Paul Bell, OFDA's regional advisor based in Costa Rica, headed the team. Based on the initial assessment by the OFDA team, Charge d'Affaires R. James McHugh, who is based in Antigua, declared a disaster in the islands of Antigua, Montserrat, and St. Kitts-Nevis, and exercised his disaster assistance authority, immediately releasing funds for support of relief operations.

Other members of the OFDA Disaster Assistance Response Team (DART) arrived in Antigua on Sept. 19 to survey the damage from the hurricane and to assist with assessments, logistics, information management, monitoring, and press relations. An OFDA DART member established a tracking system for relief commodities, while a Peace Corps volunteer tracked the destination of all in-coming relief.

Meanwhile, because of the extensive damage to Dominica, on Sept. 22, U.S. Charge d'Affaires in Barbados, John Clark, declared a disaster on the island of Dominica and donated the disaster assistance authority of $25,000 to the government of Dominica for road-clearing projects.

During the relief phase, OFDA arranged for three DOD C-130 aircraft to bring supplies from OFDA's stockpile in Panama. A DOD C-130 aircraft loaded with three 3,000-gallon collapsible water tanks, 12 6-person tents, 140 rolls of plastic sheeting, and seven chain saw kits arrived in Antigua the evening of Sept. 19; this shipment was the first major flight of relief supplies to reach the area. The majority of the supplies were distributed on Montserrat, with some going to St. Kitts, Nevis, and Antigua. The two other flights arrived in Antigua from Panama on the weekend of Sept. 23-24, and brought 236 rolls of plastic sheeting, 13 3,000-gallon water tanks, and 500 pairs of work gloves (the latter were provided to school children who were assigned to clean up trash and debris on Montserrat). From the three shipments of USG relief goods, 268 (71%) of the 376 rolls of plastic were sent to Montserrat. After relief coordinators visited Tortola and saw the extent of the damage there, the team decided to donate 27 rolls of plastic sheeting from the third plane to be used to cover schools.

Regional Adviser James and Dade firefighters Castillo and Carroll try to establish communications via satellite.
Photo courtesy of Metro Dade Fire and Rescue Dept.

The USG relief supplies were part of the larger international response. Supplies provided by other donors included medical supplies, plastic sheeting, water containers, food, clothes, generators, blankets, tents, tarp, flashlights, and toiletries. A primary worry during the first week of the relief effort was air transport for the supplies from V.C. Bird Airport in Antigua to the other affected islands. OFDA offered to provide planes for inter-island transport. However, the Royal Air Force was able to keep its C-130 in the region longer than expected—in fact, the RAF crew and plane, based in Belize, stayed almost three weeks—and the Caribbean forces provided several small aircraft, so it was not necessary for OFDA to make this contribution.

OFDA team members accompanied some of the shipments of the supplies to the affected islands to ensure that they were consigned properly. Team members also held discussions with local government officials in charge of distribution and the relief effort, gave demonstrations on how to cut and use the plastic sheeting, and observed

some of the distribution. Later, the team toured Montserrat, St. Kitts, Nevis, and Antigua to monitor the end use of USG-donated supplies. The table below shows how these relief supplies were distributed.

Soon after relief operations got underway, planning began for the rehabilitation phase. This stage consisted of restoring vital services destroyed or damaged by the hurricane, in this case, electricity, airports, and housing. Early in the emergency phase of the program, OFDA/ Washington and team leader, Paul Bell, initiated discussions with USAID/ Bridgetown (which also serves as the Regional Development Office for the Caribbean—RDO/C) and AID/W concerning AID's strategy for medium-term rehabilitation on the islands. Both the team and OFDA viewed power restoration and the provision of permanent roofing materials as the most appropriate potential interventions by the U.S. However, they wanted to ensure that the U.S., Canada, and Britain coordinated their rehabilitation assistance (this was done in Jamaica after Hurricane Gilbert in 1988 with power restoration and it worked very well). Representatives of the three countries met in Barbados on Sept. 21 to discuss coordination of the rehabilitation phase and decided that Canada would focus its efforts on airports (Canada originally built or expanded many of the airports in the region) and the water sector; Britain would take responsibility for power restoration on Montserrat and Antigua; and the U.S. would concentrate on power restoration on St. Kitts and Nevis, and assist the British if necessary. Work would begin as soon as circumstances allowed.

A civil engineer and an electrical engineer from USAID/ Barbados, a civil engineer from USAID/ Kingston, and an electric power contractor conducted assessments of the electrical systems on the affected islands during the first week after the disaster and then assisted in the design of a rehabilitation program to restore electrical power to St. Kitts and Nevis. During the next week, OFDA, RDO/C, and Lloyd Electric Co. conducted negotiations and made arrangements for the arrival of the power crews and necessary equipment. The next Friday, Sept. 29, and Saturday, Sept. 30, two DOD C5As arrived in St. Kitts with trucks and equipment for the project. The crews also arrived that weekend. Work began on the project on Oct. 3. Power was 95% restored to St. Kitts by Oct. 16, at which time, the Lloyd Electric crews moved to Nevis. After that, the crews proceeded on Nov. 17 to Montserrat to assist in power restoration there. The contract with Lloyd Electric was initially paid for by OFDA, but A.I.D.'s Bureau for Latin America and the Caribbean reimbursed OFDA for part of the cost. USAID/ Bridgetown provided oversight of the work. OFDA also funded the cost of the C5A airlifts.

Distribution of USG Assistance

COMMODITY/COUNTRY	MONTSERRAT	ST. KITTS	NEVIS	ANTIGUA	TORTOLA	TOTAL
Plastic Sheeting	268 rolls	36 rolls	14 rolls	31 rolls	27 rolls	376 rolls
Chain Saws	5		2			7
Water Tanks	2	1	4	9		16
Work Gloves	500 pairs					500 pairs
Zinc Sheeting*	400.76 tons	51.6 tons	73.96 tons	51.6 tons	10.32 tons	588.24 tons

* Included appropriate roof capping, tie-down straps, zinc nails, and washers.

Meanwhile, there was concern over the devastation to the housing sector, particularly on Montserrat. Bill Joslin, USAID/Kingston Mission Director, informed OFDA and the team that there was a substantial amount of zinc sheeting in Jamaica, left over from the USG contribution after Hurricane Gilbert the previous year. Zinc sheeting is a common roofing material in the Caribbean. The government of Jamaica agreed to donate the surplus roofing sheets to the Leeward islands. Discussions then

took place among USAID/Kingston, OFDA, the team, and local government officials regarding the roofing sheets. Bill Joslin and Aaron Williams, USAID/Bridgetown Mission Director, arrived in Antigua soon after the disaster, and they and the team made initial assessments and met with government officials. OFDA agreed to pay for the cost of shipping the roofing to

Lloyd Electric truck unloaded from a C5A
Photo by Renee Bafalis, AID/OFDA

Montserrat, St. Kitts, Nevis, Antigua, and Tortola. An A.I.D. housing team arrived in the area on Oct. 2 and held discussions with the relevant government officials to finalize distribution procedures and delivery schedules.

Jamaica donated a total of 342 bundles of zinc sheeting of 200 sheets each (for a total of 68,400 sheets), which amounted to 588.24 short tons (1,176,480 lb.), or 534.76 MT. Also donated with the zinc sheeting were six bundles (4,350 lb.) of ridge capping, six pallets (7,750 lb.) of tie-down straps, ten pallets (30,000 lb.) of zinc nails, and six boxes (80 lb.) of washers. The roofing sheets left Jamaica on Oct. 11 on the ship *Nordic*. It traveled first to Tortola, arriving on Oct. 15 and unloading six bundles of zinc (10.32 short tons). The ship then proceeded to St. Kitts and Nevis, unloading 30 bundles (51.6 short tons) on the first island and 43 bundles (73.96 short tons) on the second. Then, the *Nordic* went to Antigua to unload 30 bundles (51.6 short tons). Finally, the ship reached Montserrat on Oct. 20 and left the largest amount, 233 bundles (400.76 short tons).

Finally, for Dominica, USAID/Bridgetown developed a bilateral program with the government to rehabilitate the agricultural sector, particularly bananas and fisheries, and to clear the roads. OFDA provided the funds, but USAID/Bridgetown administered the project; A.I.D.'s Latin America and the Caribbean Bureau plans to reimburse OFDA for these costs.

Summary of USG Assistance

RELIEF SUPPLIES AND TRANSPORT

376 rolls of plastic ($289.80 per roll) $108,965

16 3,000-gallon water tanks ($2,400 per tank) $38,400

500 pairs of work gloves ($3.00 per pair) $1,500

7 chain saw kits ($257 per kit) $1,799

Transport for the above supplies from Panama to Antigua (3 C-130s) $47,800

TOTAL **$198,464**

OFDA RESPONSE TEAM AND SUPPORT COSTS

(includes per diem and transport for OFDA DART team, 10 individual support kits, 12 tents, grant to the PCDPPP to help pay for the costs of the CDRU [$20,000], and funds for team support) $62,262

REHABILITATION PROJECT COSTS FOR LEEWARD ISLANDS

Per diem and transport costs for Jay Carter and Richard Harrell to do power assessments $4,000

Transport of Lloyd Electric equipment and vehicles on 2 DOD C5As $150,000

Contract with Lloyd Electric to restore power on St. Kitts and Nevis $1,589,202

Shipping and handling costs of the 588 tons of zinc sheeting from Jamaica to Tortola, St. Kitts, Nevis, Antigua, and Montserrat $84,000

Transport cost of a rotor from Antigua to Dover AFB on a DOD C5A (at the request of the Government of Antigua and Barbuda) $2,100

TOTAL **$1,829,302**

REHABILITATION PROJECTS FOR DOMINICA

Ambassador's authority given to the Government of Dominica for clearing roads $25,000

Bilateral grant to the Government of Dominica for rehabilitation of bananas and fisheries and for road clearance $2,600,000

TOTAL **$2,625,000**

FUNDS BY FISCAL YEAR

Total FY 1989 ..... $1,902,166
Total FY 1990 ..... $2,812,862

TOTAL **$4,715,028**

FUNDS BY SOURCE

Most funds were from OFDA, either from its regular International Disaster Assistance Account (IDA account) or from "borrowed" funds. A.I.D.'s Bureau for Latin America and the Caribbean (AID/LAC) reimbursed OFDA $1,800,000 in January 1990 and is planning to reimburse OFDA a further $1,400,000 (for a total of $3,200,000) for part of the power restoration project and the rehabilitation of the agricultural sector in Dominica.

Currently, the funds come from the following sources:

FY 1989 IDA account $738,428
FY 1989 borrowed funds (reimbursed by AID/LAC in FY 1990) $1,000,000
FY 1989 stockpile items $157,276
FY 1989 disaster travel operating expenses ... $6,462
FY 1990 IDA account $2,012,862
FY 1990 AID/LAC funds $300,000

TOTAL **$4,715,028**

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

ADRA - worked on Guadeloupe, St. Croix, Antigua, Montserrat, St. Vincent, St. Lucia, Martinique, St. Kitts-Nevis, and Dominica and sent 150 tents, blankets, WPTs, plastic sheeting, powdered milk, medical supplies, food, and $150,000 to affected islands.

Allied Universal - donated chlorine through the Chlorine Institute.

American Airlines - provided transportation of ADRA supplies on Sept. 21.

ARC - sent a delegate and a communications specialist to assist the LRCS delegate in Antigua, and loaned telecommunications equipment worth $20,000; one representative traveled to Montserrat and the other to St. Kitts, where they established satellite communication links. The ARC also sent 10,000 comfort kits, worth $24,500. Total ARC assistance to the eastern Caribbean emergency, as of Sept. 28, was $52,000.

AmeriCares - donated water pumps, medical supplies, and plastic sheeting.

CRS - donated $10,000 to Caritas/Antilles for the local purchase of food, cooking utensils, and other supplies for Antigua and Dominica.

Chlorine Institute - coordinated the donation of over 90 tons of chlorine provided by its member companies to the PADF for the affected Caribbean islands.

CCF - has field offices on Montserrat, Antigua-Barbuda, Dominica, St. Vincent, Anguilla, and St. Kitts-Nevis, and appealed for food, WPT, medical supplies, and building supplies. CCF will also assist with long-term reconstruction.

CWS - donated $5,000 to the Caribbean Conference of Churches for relief activities on the affected islands, and appealed to its constituency for $100,000.

Four Seasons Hotel - contributed 9 MT of food and other goods, including chain-saws, hammers, nails, clothing, generators, and power tools to Nevis. The commodities arrived on Sept. 24.

Intertran - donated its services in emergency supplies preparation and delivery to the Texaco-chartered 707 in Miami.

Jones Chemicals - donated chlorine through the Chlorine Institute.

Northwest Medical Teams - sent medical supplies, WPTs, food, and blankets to Antigua for St. Kitts. The value of the donation was approximately $75,000.

Oxfam/US - provided assistance on Montserrat, Dominica, and St. Kitts-Nevis. It donated $20,000 to an indigenous NGO coalition for an agricultural fund and coordinated assistance from the Boston area.

PADF - provided first-aid items, blankets, tools, generators, electrical supplies, shovels, blankets, tents, and plastic sheeting worth $68,000. PADF worked with several U.S. companies in providing assistance after Hurricane Hugo. It also provided $25,000 for self-help rehabilitation of houses on Nevis and Montserrat.

PB & S Chemical Co. - donated chlorine through the Chlorine Institute.

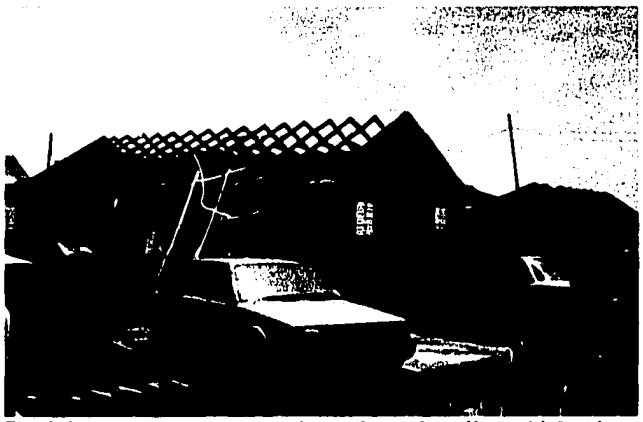
Pittsburgh Plate Glass - donated chlorine through the Chlorine Institute.

Stanley Works - donated hand tools and reconstruction equipment to St. Kitts, Nevis, and Antigua.

Texaco - sent a relief flight to Antigua on Sept. 23, carrying supplies donated by Texaco and U.S. Red Cross chapters. After unloading supplies for Texaco employees at Antigua, the plane went to St. Kitts.

The following U.S. PVOs also provided assistance to various Caribbean islands: American Friends Service Committee, Direct Relief International, Lutheran World Relief, Operation USA, Partners of the Americas, Presiding Bishop's Fund for World Relief, Salvation Army World Service, SCF/US, and WVRD.

TOTAL **$405,000**



Roof damage was common throughout the affected islands.
Photo courtesy of John Carroll, Metro Dade Fire & Rescue Dept.

Assistance Provided by the International Community

International Organizations

EC - funded a Sept. 20 British Red Cross airlift (see *U.K. Red Cross*, below). The relief items were divided among the islands. In addition, the EC pledged $1,309,410 for Guadeloupe, and $1,050,000 for the cost of the airlift and aid for the following islands: Antigua, Dominica, St. Kitts/Nevis, Anguilla, British Virgin Islands, and Montserrat.

LRCS - gave $40,000 for Antigua and Dominica and received pledges of $313,000 from an appeal. A LRCS representative in Antigua coordinated INTELSAT communications in Antigua. LRCS organized a regional team, comprising volunteers from national chapters in Jamaica, Bahamas, and Trinidad/Tobago.

PAHO - provided $30,000 for relief efforts on St.Kitts-Nevis, Montserrat, and Antigua. PAHO stationed a 10-person team with a satellite telephone unit, valued at $20,000, 2 radio operators, 1 physician, and 3 cameramen in Montserrat. PAHO also sent water engineers to St. Kitts-Nevis and Montserrat, a representative to Dominica, and an environmental engineer to St. Kitts to assist the Ministry of Health. PAHO replaced the vaccines destroyed on Nevis.

PCDPPP - coordinated assistance at its headquarters in Antigua.

UNDP - furnished $150,000 for the British Virgin Islands, Montserrat, St. Kitts-Nevis, and Dominica, divided equally among the islands.

UNDRO - provided $10,000 for Montserrat, $5,000 for Anguilla, $5,000 for the British Virgin Islands, and $30,000 for Antigua, St. Kitts-Nevis, and Dominica.

Governments

Barbados - sent 32 defense forces personnel to work with the CARICOM Disaster Relief Unit (CDRU).

Canada - donated $65,000 through PAHO for hospital repairs and emergency medical needs and $275,000 through the LRCS. The LRCS funds were used to purchase and transport generators, blankets, rolls of plastic, water bottles, and WPTs. Canada also provided

personnel and equipment to repair airports and water supplies.

Dominica - sent 2 doctors and 2 nurses to Montserrat.

France - sent 2 DC-8s carrying 450 civil defense personnel and 50 MT of equipment to Guadeloupe on Sept. 17.

Germany, Fed. Rep. - sent building supplies, 12 generators, batteries, and kitchen sets.

Guyana - dispatched defense forces personnel to work with the CARICOM Disaster Relief Unit (CDRU) and positioned a Sky Van in Antigua to assist with inter-island transportation.

Jamaica - sent members of the Jamaican Defence Forces to work with the CARICOM Disaster Relief Unit (CDRU). Jamaica also gave excess zinc roofing provided to the island after Hurricane Gilbert. A Jamaican Defense Forces plane provided inter-island personnel transport. The Jamaica Public Service Company (JPS) sent a 9-person team of its best linemen to Antigua on Sept. 30 to work with other power restoration crews for a month.

Trinidad/Tobago - provided defense forces personnel to work with the CARICOM Disaster Relief Unit.

United Kingdom - sent 2 naval vessels: 1 to St. Kitts, and 1 to Montserrat. The U.K. sent an initial assessment team by helicopter to Montserrat. A British Airways flight arrived in Antigua on September 19, carrying 11.5 MT of supplies from the British Red Cross. The cargo comprised 154 tents, 640 rolls of plastic sheeting, 2,500 blankets, 1,000,000 WPTs, and antibiotics. A Royal Air Force crew and C-130 was dispatched from its base in Belize to provide inter-island transport. British emergency assistance to the region totaled $639,700. Rehabilitation assistance was valued at $2,238,950, and included financing power restoration teams from British Electricity Boards for Montserrat, and equipment and materials for restoring other essential infrastructure.

Venezuela - donated and transported medical supplies and deployed a 21-person defense force contingent to St. Kitts.

Non-Governmental Organizations

The following national societies of the Red Cross contributed to the relief effort:

Australia - $3,846
Austria - $5,988
Bahamas - 2 volunteers for the LRCS international team
Belgium - $10,805
Canada - a relief flight to Antigua on Sept. 21 with $275,000 worth of the following goods: plastic sheeting, collapsible plastic water containers, 18,000 blankets, 18,000 cots, WPTs, and 12 6-kW generators. A representative assisted the regional delegate in preparing reports for donors.
Denmark - $13,750
Fed. Rep. of Germany - hand tools, nails, generators, flashlights, batteries, and kerosene lanterns on a charter flight
France - a team of 30 construction engineers and 4 radio technicians with high-frequency radio equipment went to Guadeloupe; some of the radio technicians went on to Martinique and Dominica. The French Red Cross also accepted disaster welfare requests for concerned family members.
Jamaica - 2 volunteers for the LRCS team
Japan - $9,790
Netherlands - $5,688
Norway - $14,084
St. Vincent and the Grenadines - a shipment of food, clothing, cooking gas, and blankets to Montserrat
Trinidad and Tobago - 2 volunteers for the LRCS international team
United Kingdom - a relief flight carrying food, 460 rolls of plastic sheeting, 10 1,500-liter collapsible water tanks, 15,000 tropical blankets, 2,000,000 WPTs, and 2 delegates, arrived in Antigua on Sept. 22. The British Red Cross delivered 4 MT of food to Antigua and designated 1 MT for Montserrat, 1.5 MT for St. Kitts, and 1.5 MT for Nevis.

Tear Fund/UK - donated $3,174 worth of relief supplies.

International Rescue Corps/UK - donated a team with communications equipment for Montserrat.

TOTAL **$6,210,185**

COSTA RICA - Hurricane Joan

Date: Oct. 19, 1988

Location: southern Costa Rica, particularly Osa, Aguirrecon, Gulfito, and Parrita cantons in Puntarenas Province

No. Dead: 28

No. Affected: 120,000; including 100,000 displaced and 7,500 injured

Summary of Assistance:

USG	$85,000
U.S. Voluntary Agencies	$24,000
International Community	$969,783
TOTAL	**$1,078,783**

The Disaster

Hurricane Joan swept through the southern Caribbean basin less than one month after Gilbert wreaked destruction throughout the upper Caribbean. Joan menaced Curacao, Venezuela, Colombia, Panama, Costa Rica and Nicaragua before crossing the isthmus and being renamed Hurricane Miriam. Miriam then swept up the Pacific coastal areas of Costa Rica, El Salvador, Guatemala, and Mexico. In Costa Rica, the storm buffeted the coast with fierce waves and pelted the inland areas with more than 381 mm. (or 15 inches) of rain between Oct. 19 and 22. This caused flooding and landslides in the south, especially the Pacific coastal plains in southern Puntarenas Province on the west coast. Wind damage was minimal, while flooding and mudslides were blamed for the majority of the destruction. Heavy rainfall isolated at least 22 towns, cutting off bridges, and impeding the movement of relief goods.

The country's official death toll stood at 28, with 120,000 persons affected. Although government officials feared that Puerto Limon would suffer the brunt of the storm, the greatest destruction was sustained by Parrita in Puntarenas Province on the Pacific Ocean. Until Joan/ Miriam, Costa Rica had been spared the violent devastation of hurricanes.

In all, the hurricane destroyed or structurally damaged 1,500 homes, affected 75 communities, and caused $13 million in damages to hospitals, clinics, and other infrastructure. Landslides blocked the Pan-American Highway at three points and the coastal highway in four places. Agricultural losses included extensive flooding of rice, bean, and corn fields and damage to cattle herds. Economic damage amounted to $60 million.

Action Taken by the Government of Costa Rica (GOCR) and Non-Governmental Organizations

Working closely with the National Hurricane Center in Florida, Costa Rican authorities issued hurricane warnings and evacuated 55,000 residents from the 18 coastal communities, including Puerto Limon, before Joan hit. The GOCR's National Emergency Commission (Spanish acronym CNE) operated 750 emergency shelters throughout the country and coordinated relief efforts by government and voluntary agencies. The GOCR declared a national emergency on Oct. 21, which was extended for two months in order to allow authorities to complete relief efforts. By Oct. 24, the CNE had distributed food to 38,500 people and had mobilized 500 trucks, 950 double-traction vehicles, and 125 ambulances.

President Oscar Arias and Guillermo Constenla, Minister of Public Works and Transport, spent Oct. 27 in the disaster areas and determined that U.S. assistance, particularly helicopters to shuttle relief to isolated communities, was necessary. In support of the aerial operations, RECOPE—the national oil refinery—delivered more than 3,800 gallons of jet fuel for the helicopters and the GOCR provided ground security for the choppers. The Ministry of Health dispatched water and sanitation teams to the affected areas to reinforce local health services.

The Costa Rican Red Cross (CRCR) played a critical role in preparing for the effects of the hurricane and in the ensuing relief operations. The CRCR mustered 1,200 volunteers to evacuate and rescue victims, to set up shelters, and to distribute food. The group also distributed blankets, mattresses, food, and medicine and provided immediate relief to 25,000 victims for 90 days in Osa, Parrita, and Golfito cantones, and reconstructed homes in the Villa Neilly. In addition to the CRCR, thousands of rescue workers, firefighters, and other volunteers assisted in the relief operations.

Assistance Provided by the U.S. Government

On Oct. 24, 1988, U.S. Ambassador Deane Hinton determined that the magnitude of destruction overwhelmed the capacity of the Costa Rican government to aid the victims. He exercised his disaster assistance authority, releasing $25,000 to the CNE. The funds were used to cover partial costs of fuel for helicopter runs, for an ocean-going ferry delivering supplies from port Puntarenas to Golfito, and for other vehicles used to distribute relief supplies.

OFDA regional adviser Paul Bell, based in San Jose, performed an assessment of the affected areas on Oct. 23 and 24 and recommended that OFDA fund the use of six DOD helicopters and crews from U.S. Army South in Panama. OFDA provided $60,000 for six days of flight time. Bell also traveled to Nuevo Palmar Sur on Oct. 27 to facilitate the arrival of the DOD flight crews and choppers.

TOTAL **$85,000**

Assistance Provided by U.S. Voluntary Agencies

ARC - gave $15,000 to the CRCR.

CARE - supplied food and plastic sheeting worth $2,000 through the CRCR and the CNE and assisted authorities in evacuating affected areas.

CRS - donated $7,000 for the in-house purchase of food and milk.

CWS - provided water purification tablets, medicine, and blankets, all valued at $255,280, for Nicaragua, Honduras, and Costa Rica.

WVRD - furnished $150,000 to be divided among Nicaragua, Costa Rica, El Salvador, Guatemala, and Honduras.

TOTAL **$24,000***

Assistance Provided by the International Community

Australia - sent $16,529.

Canada - contributed $21,008.

Caritas/West Germany - donated $42,780 through Caritas/ Costa Rica.

Diakonisches Werk - furnished $17,000.

Denmark - gave $69,444.

EC - donated $115,000 to buy emergency supplies in Costa Rica, $115,000 through the CRCR for the local purchase of kitchen utensils and food for 15,500 families, $55,555 through Caritas for supplementary food and blankets, and another $575,000 to be distributed between Costa Rica and Nicaragua.

Finland - channeled $23,809 through the Finnish Red Cross.

France - supplied food; the food and transport were worth $231,023.

Germany, Fed. Rep. - gave construction materials worth $26,737.

Norway - contributed $151,515 through the Red Cross and Caritas.

Panama - loaned 2 helicopters for relief use.

Spain - furnished 2,040 blankets, 100 tents, 1.5 MT of milk, all valued at $80,133.

U.K. - donated $438,000 for relief efforts in Costa Rica and Nicaragua.

War on Want - gave $5,250.

TOTAL **$969,783***

**(Note: Total does not include cumulative totals for Nicaragua and Costa Rica.)*

HAITI - Civil Strife

Date: The rebellion began on April 2, 1989

Location: Port-au-Prince

No. Dead: 12

No. Affected: Not reported

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	$6,430
TOTAL	**$31,430**

The Disaster

The unrest began on April 2, 1989, when a rebellious army unit, the Leopard battalion, kidnapped Haiti's President General Prosper Avril. The mutinous troops attempted to deport him, but Avril was rescued by his presidential guards as he was being driven to the airport.

Fighting broke out between the Leopard battalion and the presidential troops. Avril declared a state of emergency and tried to suppress his enemies. This move prompted about 400 soldiers of the Dessaline battalion to join the revolt. Heavy artillery and machine-gun fire were reported; unofficial reports estimated that 12 people were killed and more than 75 were wounded.

In Haiti the level of frustration is high. Ninety percent of the population suffers from extreme poverty, and violence has become for many the only form of political expression. There seems to be no end in sight for these frequent military revolts. According to numerous reports, at least 400 soldiers from the Dessaline battalion went into hiding after the failed coup, and they took all their weapons with them. Four presidents since 1986 have tried to lead Haiti; three are in exile (including Avril, as of this writing) and the current transitional government is plagued by its predecessors' floundering social and economic policies.

Action Taken by The Government of Haiti (GOH) and Non-Governmental Organizations

On April 10, President Avril held a news conference in which he tried to calm and reassure Haitians that he was still committed to democratic principles. He requested medical assistance from the United States and also indicated that the Haitian Red Cross was providing medical assistance to the wounded.

Assistance Provided by the U.S. Government

On April 8, 1989, following a survey of domestic reports and contact with the Haitian government the U.S. Ambassador Brunson McKinley declared the unrest a disaster. He allocated $25,000 to the Haitian Red Cross for the procurement of medicine.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided By the International Community

LRCS - donated $6,430 for the purchase of bandages and sutures.

TOTAL **$6,430**

PERU - Floods

Date: Feb. 8-9, 1990

Location: Arequipa metropolitan area

No. of Dead: 4

No. of Affected: 500 (100 families)

Summary of Assistance:

USG	$25,000
U.S. Voluntary Agencies	None reported
International Community	$33,000
TOTAL	**$58,000**

The Disaster

Torrential rains triggered severe flooding and mudslides in Arequipa, Peru, in February 1989. The Chili River, which runs through Peru's second largest city, and several drainage streams overflowed their banks carrying mud, debris, and large boulders through the city streets. Hard hit were the "Barrio Obrero," or Worker's Neighborhood, and streets close to the Grau bridge. In some areas, debris and sediment accumulated in piles almost eight feet high.

Four people drowned. At least 100 families living in the Barrio Obrero and close to the drainage streams suffered serious damage to their homes and lost most of their personal effects. The floods also impacted the city's public services. The water supply system was shut down for 12 days. Dregs obstructed some 2 km. of tunnels and open canal sections which carry the water from the intake to the treatment plant. The sewage system also suffered substantial damage. Electricity was cut to most of the affected areas.

Action Taken by the Government of Peru (GOP)

On Feb. 6, 1989, the GOP Institute of Civil Defense (Spanish acronym INDECI) declared Arequipa a disaster area. INDECI mobilized the army, the Red Cross, and firefighters, all of which played significant roles in the relief and clean up of Arequipa.

City-run water trucks delivered sufficient water throughout the affected zones when the water system was inoperable. The Arequipa city council provided emergency relief to the affected population and gradually took responsibility for physical rehabilitation of the city.

The GOP attributed the low loss of life and the successful relief operations to programs which exercised the emergency management community and early warning systems. The OFDA and USAID/Lima disaster management course held in Lima in December 1988 was credited by the GOP with reinforcing relief responsibilities among the various response groups which participated in the Arequipa clean-up.

Assistance Provided by the U.S. Government

After receiving a request for assistance from INDECI, U.S. Ambassador Watson declared on Feb. 24, 1990, that a state of emergency existed in Arequipa, warranting USG disaster assistance. About $18,000 of the Ambassador's Authority was presented to INDECI to rent heavy equipment for mud and rock removal from city streets and homes. INDECI transferred these funds to the mayor of Arequipa. USAID/Lima used the remaining $7,000 of the disaster assistance authority to locally purchase 107 cots with mattresses and 216 blankets for the displaced. The commodities were shipped to Arequipa on March 6 and distributed to the displaced families by the Arequipa city council on March 11 and 12. A USAID/Lima representative traveled to Arequipa on March 2 to 3 to coordinate the use of the funds for debris clean up.

TOTAL **$25,000**

Assistance Provided by U.S. Voluntary Agencies

None reported

Assistance Provided by the International Community

Canada - supplied $10,000 in aid.

Japan - contributed relief worth $20,000.

Spain - furnished $3,000 in relief.

TOTAL **$33,000**