

FIRST REPORT

PART I

FOREIGN DISASTER EMERGENCY RELIEF

JANUARY 1 TO JUNE 30, 1964

BEST AVAILABLE COPY

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JANUARY - JUNE 30, 1964, REPORTED FOREIGN DISASTER STATISTICS AND EMERGENCY RELIEF EXPENDITURES

COUNTRY AND DISASTER	NO. KILLED	TOTAL NO. REPORTED VICTIMS	CONTINGENCY FUND		AID PROJECT OR OTHER GOVT FUNDS	FOOD FOR PEACE		VOLAGS OTHER US ASSIST.	DOD	TOTAL US ASSISTANCE	ASSIS-TANCE OTHER NATION
			BY AMB.	AID/W		TO GOVTS. INT.ORG.	TO VOLAGS				
			\$	\$	\$	\$	\$	\$	\$	\$	\$
AFRICA											
Algeria Floods Dec. '63-Jan '64	-	45,400						20,228		20,228	134.06
Kenya Floods May-June 1964	-	15,000					50,231			50,231	3.08
Morocco, Floods Dec. '63-Apr '64	69	35,069				667,400	32,000	31,517		730,917	48.81
Tanganyika Earth- quake, 5/7	4	504	10,000				23,243			33,243	97
Tanganyika Floods May 14	-	10,000) for					2,800		2,800	2.33
) both								
AFRICA TOTALS	73	105,973	10,000			667,400	105,474	54,545		837,419	189.25
EUROPE											
Azores Earthquake 2/18/64	-	1,000	500		US Military 159,561			X 118,000		278,061	
LATIN AMERICA											
Brazil Flood Jan. 1964	-	100,000	12,809			1,300,000		X 29,100		1,341,909	
Brazil Flood - Apr.	-	15,000			4,600		11,000		18,424	34,024	
British Guiana Civil Strife - May	150	13,608	2,000			120,000	3,700		6,010	131,710	64.44
Chile Volcano Eruption - March	4	804					5,620	X 5,600		11,220	
Costa Rica Volcano Eruption Dec. '63	15	5,015	10,000	1,000,000	2,060,000	774,900	8,650	X 20,062		3,873,612	22.97
Ecuador Drought/ Famine March	-	600,000				123,500	122,600		12,320	258,420	
Panama Measles Epidemic Oct. '63	-	1,200							2,772	2,772	
Paraguay Drought/ Famine - Jan. 64	-	13,400					114,037			114,037	
LATIN AMERICA TOTALS	169	749,027	24,809	1,000,000	2,064,600	2,318,400	265,607	94,288		5,767,704	87.41

JANUARY TO JUNE 1964 CUMULATIVE DISASTER STATISTICS (Cont'd)

COUNTRY AND DISASTER	NO. KILLED	TOTAL REPORTED VICTIMS	CONTINGENCY FUND		AID PROJECT OR OTHER GOVT. FUNDS	FOOD FOR PEACE		DOD	VOLAGS OTHER US ASSISTANCE	TOTAL US ASSISTANCE	REPORTED ASSISTANCE OTHER NATIONS
			BY AMB.	AID/W		GOVT., INT.ORG.	VOLAG				
NEAR EAST /SOUTH ASIA			\$	\$	\$	\$	\$		\$	\$	\$
Afghanistan Coal Mine Explosion 6/12	74	474					4,400			4,400	40
India Floods Summer 1964	145	752,355	10,574				288,000		48,166	346,740	5,240
India/E.Pakistan C.Strife, Jan.	*	400,000				466,000			115,750	581,750	90,710
Iran Drought/Storms/Famine		625,000				160,000	71,800			231,800	
Nepal, Small-pox - Jan.	*	6,000	1,200							1,200	
Nepal, Famine 1964		*				800,000				800,000	
E.Pakistan Cyclone 4/12	300	1,100	10,000				134			10,134	
W.Pakistan Cyclone, 6/12	450	400,450	10,000				50,000		250,996	310,996	63,160
W.Pakistan Famine, June	*	300,000						X	1,730	1,730	
Saudi Arabia Flood, Apr. 9	20	1,020	3,825	33,265						37,090	
Turkey Measles Feb-Mar.	19	2,519					2,867	X	950	3,817	
Turkey Flood March 10	-	3,000					4,639			4,639	
Turkey Storms May 5	-	12,000					27,919			27,919	
NESEA TOTALS	1,008	2,503,918	35,599	33,265		1,426,000	449,759		417,592	2,362,215	159,150

JANUARY TO JUNE 1964 CUMULATIVE DISASTER STATISTICS (Cont'd)

COUNTRY AND DISASTER	NO. KILLED	TOTAL REPORTED VICTIMS	CONTINGENCY FUND		AID PROJECT OR OTHER USG FUNDS	FOOD FOR PEACE		DOD	VOLAGS OTHER US ASSISTANCE	TOTAL US ASSISTANCE	ASSISTANCE OTHER NATIONS
			BY AMB.	AID/W		GOVT., INT.ORG.	VOLAG				
			\$	\$	\$	\$	\$		\$	\$	\$
FAR EAST											
Burma Cholera 1963-64		*			20,000			X		20,000	*
China (Taiwan) Quake/Fire 1/18	107	37,107			1,061,500		80,500	X	46,447	1,188,447	1,700
Fiji Islands Floods, 3/22	1	8,001	10,000				10,600		6,600	27,200	58,860
Japan Earthquake 6/16	25	35,025						X	20,575	20,575	
Philippines Typhoon 6/29	56	924,181	1,000				87,200	X	83,475	171,675	153,580
S. Vietnam Cholera Jan.	598	10,848		1,813,326				X	9,100	1,822,426	17,900
FAR EAST TOTALS	787	1,015,162	11,000	1,813,326	1,081,500		178,300		166,197	3,250,323	232,040
TOTALS ALL REGIONS	2,037	4,375,080	81,908	2,846,591	3,305,661	4,411,800	999,140		850,622	12,495,722	667,850

Region	No. Disasters Jan-June 1964
Africa	5
Europe	1
Latin America	8
Near East/South Asia	13
Far East	6
	<u>33</u>

* Incomplete or not reported

X under DOD means US Military assisted in disaster relief

Assistance Provided by U.S. Voluntary Agencies

CARE - 350 blankets	\$ 1,050.
American National Red Cross - cough syrup (13 cases, 1,845 lbs.)	2,600
Church World Service - cash donation	5,438
Catholic Relief Services - cash donation	<u>11,140</u>
	\$ 20,228

There was indication that CARE and CRS had contributed food, but no record of kind, quantity or value was reported.

Assistance Provided by Other Nations

Red Cross Societies:

Albania - cash	\$ 500
Australia - cash	556
Canada - cash and layettes	6,108
Czechoslovakia - medicine, clothing, bedding	7,046
France - blankets	1,226
Germany - tents	7,580
Hungary - food, tents, other supplies	24,115
Korea - misc. supplies	*
Rumania - medicine and blankets	5,000
Sweden - blankets and clothing	4,355
United Arab Republic - medical supplies, clothing, blankets	5,800
United Kingdom - cash	700
USSR - medicaments, blankets, tents	27,842
China - cash and supplies	40,000
Vietnam - Dem. Rep.	<u>3,232</u>
	\$134,060

KENYA

Characteristics of the Disaster

Event: Floods

Date-Time: May-June, 1964

Location: Central Nyanza and Western Region of Kenya

<u>Damage:</u>	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>	<u>No. Affected</u>
	--	--	4-5,000 families	15,000

Mass Feeding

12,000

Areas Affected by the Flooding

Kisumu, Kibos, Ahero, Pap Onditi, Mohoru, Bulwani, Osieko, Runya, Musoma, Kusa, Obaro, Samia, Nduru, Kibigori, Bukoma, Bunyala, Ikola, Karema, Kasanga.

Description of the Disaster

Widespread floods occurred in the Nyanza Region around the Kavirondo Gulf of Lake Victoria. 15,000 people were evacuated. In some areas people were forced to sleep in huts six inches deep in water and children waded through flood waters four times a day to go to school.

Although the waters eventually receded, the rise in the level of Lake Victoria inundated some low lying areas around the Lake Shore on a long-term basis.

Assistance Provided by Local Government and Organizations

The Government of Kenya dealt with the situation promptly and effectively through its regional organization based at Kisumu. Relief operations in Nyanza were organized and directed by the Kenya Government Administration Service and its technical department.

There were sufficient local boats and canoes in the area around Lake Victoria to negotiate flooded areas, and distribute food supplies.

About 12,000 people were cared for by mass feeding for a period of about one month by the GOK. The majority of the victims later found homes with clan relatives and some returned to their home after the flood receded.

There were, however, 1,600 homeless victims including 995 children, left in emergency camps at Kibigori, who had to be resettled by the GOK on lands purchased from Europeans at Muhoroni and Kibigori.

Assistance Provided by U.S. Government

CRS diverted 1,140 cases of P.L. 480, Title III NFD Milk from its ongoing program. Estimated value \$50,231

Assistance Provided by U.S. Voluntary Agencies

CRS distributed the above 1,140 cases of dried milk.

Assistance Provided by Other Governments and Organizations

Government of Israel - 175 kilos of medicines including vitamins and antibiotics, 475 woolen blankets *

Government of China - ±1,000 \$ 2,800

Mr. Willie Liebenberg - (Attending Rotary International District Conference at time of the flood) ± 100 \$ 280

*Value unknown

MOROCCO

Characteristics of the Disaster

Event: Floods
Date-Time: Dec. 1963 to April 1964
Location: Tangier, Gharb Area
Damages: Number Killed Number Injured Number Homeless
69 10 35,000

3,230 houses were destroyed; 12,500 damaged

Description of the Disaster

Limited information available but continuing heavy rains and thunderstorms caused heavy flooding, especially in the Gharb area. Rising rivers cut road and rail connections between Tangier and Algeria. The December flooding was followed by a series of floods extending into April.

Action Taken by Government of Morocco

Information not available

Assistance Provided by the U. S. Government

A grant of 8,409 metric tons of P. L. 480, Title II, wheat was made, which was valued at.....\$667,400
Also 200,000 pounds of flour, 50,000 pounds of bulgur and 50,000 pounds of cheese were provided from P. L. 480, Title III, Volag stocks, with estimated market value of..... 32,000 \$699,400

Assistance Provided by U. S. Voluntary Agencies

American National Red Cross - Cash and clothing \$ 7,180
Catholic Relief Services (OXFAM contribution of 15,000 lbs blankets)22,500
American Jewish Joint Distribution Committee - Distribution of P. L. 480 Food and contributed clothing, blankets, valued at 1,837 \$ 31,517.

Assistance Provided by Other Nations

League of Red Cross Societies:
United Kingdom (including OXFAM) - food, soap, cash, vaccine \$12,850
Canada - cash and clothing 7,140
France - blankets 920
Sweden - used clothing 26,000
Switzerland - used clothing 1,900 \$ 48,810

TANGANYIKA

Characteristics of the Disaster

Event: Earth Tremors

Date-Time: May 7, 1964

Location: Northern Tanganyika especially Mbulu and Babati

<u>Damage:</u>	<u>No. Killed</u>	<u>No. Injured</u>	<u>No. Homeless</u>
	4	--	500

At Babati, 83 houses were destroyed, a school completely demolished and a Catholic Mission razed to the ground.

Description of the Disaster

An earthquake struck northern Tanganyika on May 7, 1964, stretching from the northern part of Tanga, on the eastern seaboard through Arusha and Mwanza on Lake Victoria, causing buildings to collapse, injuring people and rendering hundreds homeless.

The worst hit area was Mbulu and Babati in the Arusha region where four deaths and several injuries were reported. Considerable damage was also reported at the Ngorongoro Crater Lodge and landslides made several roads impassable.

Action Taken by Local Government and Organizations

On May 13, a National Relief Fund to assist the earthquake victims was launched with a donation of \$70,000 by the Government of the United Republic of Tanganyika. As a result of a nation-wide broadcast appeal by Second Vice President Kawawa for donations and appeals by Regional and Area Commissioners throughout the country, a total of \$292,572 including \$10,000 from the U.S. was collected. Donations were made by external donors, public bodies, commercial firms, communal organizations and individuals.

In the Kigoma area, National Service units built temporary houses for the homeless families. The Regional Administrations in the affected areas provided transport facilities, tents and food for the earthquake victims.

Assistance Provided by the U.S. Government

The U.S. donated \$10,000 from the FAA contingency Fund through the Mission in Dar es Salaam. This donation was later incorporated into the National Relief Fund. \$10,000

P.L. 480 Food for Peace, Title III, was provided through CRS 149,958 pounds. Valued at 23,243

\$33,243

Assistance Provided by U.S. Voluntary Agencies

Assistance in the way of food, clothing and blankets was also given by voluntary organizations and the Red Cross in Dar es Salaam. CRS distributed above P.L. 480 food.

Assistance Provided by Other Nations and Organizations

Swedish Red Cross \$ 970

West Germany and Communist China also made cash contributions to the relief fund but amount was not reported.

TANGANYIKA

Characteristics of the Disaster

Event: Floods

Date-Time: May, 1964

Location: Pangani River Basin (Kilimanjaro and Mwanza Region)

Damage: Number Homeless Number Affected

3,900

10,000

Over 300 homes were destroyed.

Description of the Disaster

About a week after the earthquake, the rising flood waters in the Pangani River basin trapped some 600 people in the Kilimanjaro Region. At the same time floods occurred in the Mwanza region causing considerable damage to crops in addition to damaging houses.

Later in the month rising flood water of Lake Tanganyika caused wide devastation along the shores of the lake. The port city of Kigoma was completely under water and isolated while farther south, districts were cut off, villages swept away and hundreds left homeless.

Important commercial and administrative points in Kigoma were flooded. Trains ceased operating between Tabora and Kigoma. The roadway was also closed because the bridge was washed out. 700 people in one village near Kigoma were left homeless. Many homes were destroyed in Sumbawanga areas, with approximately 600 people left homeless, farms were under water and all roads in the area were closed. At Ilagala, south of Kigoma, the flooding Malagarasi River washed away 135 houses and 2,000 people were reported homeless. Damage to crops was extensive.

Action Taken by Local Government and Organizations

In all affected areas, local traders contributed food grains, beans, salt and other foodstuffs for flood victims.

In the Kigoma area, National Service units built temporary houses for the homeless families. The Regional Administration in the affected areas provided transport facilities, tents and food for flood victims.

Assistance in the way of food, clothing and blankets was also given by voluntary organizations and the Red Cross in Dar es Salaam. The National Relief fund launched for the earthquake victims was also used to aid flood victims (see Tanganyika earthquake report).

Assistance Provided by U. S. Government

(See Tanganyika earthquake report.) The U. S. donation of \$10,000 was also used to aid flood victims.

Assistance Provided by U. S. Voluntary Agencies

Church World Service - cash donation \$2,800

Assistance Provided by Other Nations and Organizations

Canada Red Cross - cash 930
United Kingdom Red Cross - cash 1,400

The RAF stationed in Kenya helped with two helicopters which made a series of dramatic and successful rescues along the Pangani River.

AZORES
(Portuguese Possession in the Atlantic)

Characteristics of the Disaster:

Event: Earth Tremors

Date-Time: February 18 - February 24, 1964

Location: Sao Jorge and the general Angra District

Damage: Number Homeless
200 Families
(About 1,000 persons)

Description of the Disaster:

High intensity earth tremors shook the island of Sao Jorge repeatedly for about a week causing panic among the population and tumbling of Sao Jorge's older buildings. These tremors also caused the surrounding sea to wash ashore 30-foot waves that damaged or wrecked hundreds of homes. More than 6,000 people took refuge on the safer eastern part of the island or were transported by ship to other nearby islands. Bad weather hampered air-sea rescue operations. Residents were afraid that the quakes might awaken a dormant volcano and spill molten lava throughout the area. The principal city of Velas and several villages were completely destroyed. Strong tremors were also felt on the nearby islands of Pico, Fayal, Graciosa and Terceira.

A computer at the Third Coast Guard District Office, U. S. Customs House, in the Azores, was used to locate rescue ships for use in evacuation of victims from the earthquake area. This computer is the heart of the Atlantic Merchant Vessel Report System which covers all the Atlantic Ocean north of the Equator and keeps track of the hour-by-hour positions of more than 800 vessels plying the North Atlantic sea lanes. These vessels regularly report their positions, course, speed, destination and estimated time of arrival at their destinations. The information is transferred first to punch cards, then to magnetic tape and fed into the computer. On command, the computer then types out a list of all ships in a given area and the Coast Guard is able to radio to those ships requests for help in any emergency. In this case, it was used in foreign disaster relief operations.

Action Taken by Local Government and Organizations

The harbor master of Angra do Heroismo on Terceiro Island diverted several vessels to Sao Jorge by radio to begin loading terrified evacuees. Also, a ship was sent from Angra do Heroismo with 17 ambulances and blood plasma for Sao Jorge, should there be casualties. The British cable ship "Mirror" of the Cable and Wireless Company put out from Horta Harbor for Sao Jorge carrying two doctors, a nursing staff, medical supplies, bread, flour and tents.

Local workers erected 96 quonset huts in Sao Jorge that had been supplied by the U. S. Military.

Assistance Provided by U. S. Government

The Governor of Angra requested U. S. assistance in obtaining temporary shelters to house the 200 homeless families. The Department of Defense contributed 100 quonset huts as a "People to People" gift. In August 1964, four of these quonset huts were airlifted by U. S. Military Air Transport planes to the island of Terceira. A special 3-man Sea Bee team and supervisor erected the huts and gave special quonset hut construction training to the local residents. On September 1 the remaining 96 huts were delivered directly to Sao Jorge. Cost of huts, handling, air transportation of men and equipment was.....\$159,561.

The U. S. Air Force in the Azores made air drops of supplies and MATS delivered 59 tons of clothing donated by League of Fraternal Portuguese Societies of California.

On recommendation of the American Consul at Ponta Delgada, the American Ambassador at Lisbon authorized a cash donation from the AID contingency fund under his disaster relief authority of.....500
\$160,061

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

No volag assistance reported.

League of Fraternal Portuguese Societies of California collected 59 tons of clothing. Value estimated at \$1 per pound..... 118,000

Assistance Provided by Other Nations

British destroyer placed at the disposal of the Governor of Angra District.

BRAZIL

Characteristics of the Disaster:

Event: Floods

Date-Time: January to February 1964

Location: State of Bahia - from Salvador to border state Espirito Santo. The principal area affected was Jequitinhonha River which empties into the sea at Belmonte.

Damages: Number Temporarily Homeless

100,000

No deaths were reported. There were 130 stricken towns and cities, 100 bridges damaged or destroyed, 7,580 houses destroyed and 8,044 damaged. Dollar damage estimate not available.

Description of the Disaster

After a long drought, an extended period of torrential rains in the interior of the state caused great flooding and unprecedented destruction in a large number of municipalities where a great part of the population were left destitute and without food. The flood area covered five river systems from Salvador to the border state of Espirito Santo, an estimated 50,000 square miles.

Action Taken by the Government of Brazil, State of Bahia and Local Organizations

The Governor of Bahia arranged for victims to be sheltered including mobilization of local labor for construction of temporary shelters. Committees were organized for food distribution and other relief purposes.

On January 24, 1964, the State Government requested assistance from the U. S. AID Mission and U. S. voluntary agencies in providing food and medicines for the disaster victims and such assistance was given.

An Emergency Relief Committee was formed and headed by Governor Antonio Lomanto Junior to analyze the situation and coordinate action. Commissions on Health and Food Distribution were established. Members of this committee were Secretaries of Transportation and Public Works, Health and Agriculture, the Federal Delegate of Agriculture and the SUDENE representative. (SUDENE is the Economic Development Agency for Northeast Brazil.)

Responsibility for collection and distribution of food and clothing to the flood victims was given to the Comissao Central de Distribuicao, headed by the Secretary of Economic Development (SEDECS) of Bahia. Members of this commission met individually with representatives of the various municipalities (usually the mayors) and discussed the needs of each community and the allocation of

commodities. Collection, warehousing and distribution were all carried out in Salvador. Transportation of commodities to Salvador was provided by the Brazilian Army, Air Force and Navy Petrobras and other private donors and the USAF and Navy. Most of the affected communities provided adequate outgoing transport for their own requirements. The Central Distribution Committee made distribution of food-stuffs only through local Municipal Commissions which consisted of the mayor, representative of CARITAS, representative of the Evangelic Confederation (CNME), local civil and military authorities, representatives of other assistance institutions and organized associations registered with the Central Committee.

Of the P. L. 480 food provided by the U. S., 70% of it was utilized for free distribution, while the balance was used for rehabilitation work fronts as a complement of salary paid by the Government of Brazil. The work projects were submitted with plans including description of work to be done, number of men to be employed, estimated man days and available funds for the projects. With regard to constructing houses, consideration was given to avoiding rebuilding in areas subject to new floods. Federal funds were provided for areas where flooding occurred and to the State of Bahia to help with the work projects and cover partial payment of salaries.

The U. S. Mission reported that 118 communities participated in 230 separate work projects. There were 4,978 workers employed who used 364,431 man days (an average of 73 work days per man). Approximately 32,573 persons received direct Food for Peace benefits by being workers or members of a worker's family and received food to supplement their diet. Over half a million persons were affected by these projects some of the major projects being: 25 projects for public service (city cleanup, park repair and cleanup, drainage, water and sewer works, pond and water tank cleaning, ground leveling and others); 31 public buildings were constructed, repaired or additions made; 239 small houses were constructed; 22 small dams constructed; streets constructed or repaired in 20 communities; 19 or more bridges constructed or repaired; 2,640 miles of rural roads constructed or repaired.

The U. S. Mission stated: "The people of the State of Bahia, their community and state leaders and Governor Antonio Lomanto Junior, can be proud of the planning and cooperation which resulted in the improvements brought about by the Food for Peace Workfronts Program."

In connection with P. L. 480 food, the Government of Bahia assumed responsibility for financing all expenses for unloading, storage and transportation and accounted for receipt and distribution of the food. Besides U. S. donated food, the State of Bahia purchased food commodities and distributed 443,000 kilos of this food (about 976,800 pounds), in addition to 49,700 kilos (109,340 pounds) of coffee from the IBC.

Typhoid vaccinations were given through 50 teams of local professional people, assisted by U. S. Peace Corps Volunteers and three U. S. Public Health technicians.

Assistance Provided by the U. S. Government

On January 24, the U. S. Mission sent Food for Peace representatives and three tons of CARITAS milk from Rio de Janeiro to Salvador via U. S. Military planes. Limited stocks of other P. L. 480 food already in Salvador were made available, and voluntary agencies were authorized to release their food stocks as needed. Additional grants of P. L. 480 food were made and work front projects authorized.

USAID provided a team of personnel which included sanitation, Peace Corps, Food for Peace and Public Health technicians. The Public Health technicians came from the U. S. and arrived on February 2, 1964. They brought with them jet injectors and three portable generators.

Summary of USG Contributions:

From AID contingency fund

Payment airlift charges by MATS for delivery of food Rio to Salvador	\$3,709
3 generators	600
Other supplies, airlift costs, expenses 3-man health team from USPHS	8,500
	<u>\$12,809</u>

P. L. 480 Food for Peace - Title II

2,833 MT bulgur, flour and dry milk. Of this 1,062 MT were released by the voluntary agencies during the period of acute emergency and were returned to them. The remaining 1,771 MT were consigned to the Governor of Bahia for relief and reconstruction. Over 200 work projects were established and utilized this food. Est. market value

	<u>\$1,300,000</u>
	<u>\$1,312,809</u>

Assistance Provided by U. S. Voluntary Agencies

Release of 1,062 MT P. L. 480 food by Catholic Relief Services and Church World Service/Lutheran World Relief, and aid in distribution.

Wyeth Laboratories through CRS - 400,000 doses typhoid vaccine	\$29,000
Takoma Park, Maryland (Sister City) - cash donation	100
	<u>\$29,100</u>

Assistance Provided by Other Nations - None reported

BRAZIL

Characteristics of the Disaster

Event: Floods
Date-Time: April 1964
Location: Northeast - States of Rio Grande Norte and Ceara
Damage: Number Homeless
15,000

500 homes were damaged or destroyed in one town.

Description of the Disaster:

Torrential rains during the latter part of April inundated four towns between Acu and Macau in the State of Rio Grande Norte and Sobral in the State of Ceara. As a result, there was a shortfall in the food supply.

Action Taken by Local Government

The Brazilian Government Agency SUDENE (Economic Development agency for Northeast Brazil) brought in food supplies for the victims. SUDENE purchased xarque, beans and rice and the Brazilian Air Force provided transportation. On April 24, the State Governments concerned requested assistance from USAID in providing food.

Assistance Provided by U. S. Government

P.L. 480 Food - Title III - from volag reserves and operating stocks were diverted from Recife from Volags - 88 MT. Est. Market value.....\$11,000

USAID Food for Peace Staff members gave direct assistance and helped deliver food to distribution centers. Two Peace Corps volunteer teams of nurses and social workers gave assistance to the flood victims.

USAID purchased and delivered medicines using local currency equivalent of \$4,600

Assistance Provided by U. S. Voluntary Agencies

Catholic Relief Services, Church World Service and Lutheran World Relief diverted US Government P. L. 480 food from their ongoing programs.

Church World Service - Donated 18,424 lbs. of clothing \$18,424

Assistance Provided by Other Nations - None

BRITISH GUIANA

Characteristics of the Disaster

Event: Civil Strife

Date: First Half 1964

Location: East Coast Demerara, Wismar/Mackenzie, West Bank/West Coast Demerara and other areas of the country.

<u>Damages:</u>	<u>No. Killed</u>	<u>No. Injured</u>	<u>No. Displaced</u>	<u>No. Left Unemployed</u>
	150	1,000	13,458	1,342

530 houses were destroyed; 192 farms; 128 businesses.
Estimated value of property destroyed or lost - \$2.9 million.

Description of the Disaster

British Guiana was plagued during the first half of 1964 by widespread conflict and civil strife between the country's two major ethnic groups--East Indians and Africans. The disturbances led to extensive personal violence and property destruction and to the forced and voluntary abandonment of homes, farms and businesses, reaching a peak in June when 744 East Indian families were forced to leave the Wismar/Mackenzie area during two days of rioting, violence and looting. The conflict was initially started by a strike called by an unrecognized sugar workers union which was opposed by the recognized union. The strike, however, was only a part of the problems that led to the disaster.

Action Taken by the Government of British Guiana and Local Organizations

It was estimated that 2,688 families (two thirds of them East Indians and one third Africans) were displaced by the conflict. When the 744 East Indian families were forced to depart their homes in the Wismar/Mackenzie area in June, the Government of British Guiana was galvanized into action to alleviate the sufferings of families impoverished by the displacement. The then Minister of Education, Cooperatives and Social Security established an 11-man ad hoc National Committee for Relief. The General Manager of the Guyana Industrial Development Corporation was named chairman, and serving under him were seven representatives of the government and three representatives of the organized charitable segment of the private sector. The committee was charged "To provide relief as expeditiously as possible to any person who in any part of the British Guiana has suffered as a result of recent disturbances; and to make recommendations to Government of long-term plans for resettlement and rehabilitation of that person."

The Committee functioned from June 24 to October 9, 1964. It established a system and criteria for the identification and enumeration of persons in need; established district relief committees for administering relief in their respective areas; established the amounts of relief to be provided; designated the Social Assistance Department of the Ministry of Education, Cooperatives and Social Security as the relief distributing agency; prepared an application for

food under the UN World Food Program; provided incidental relief directly in special areas. The Chairman of this Committee estimated that the Government of British Guiana disbursed approximately \$300,000 in providing emergency relief to displaced persons. Also, the Committee estimated that relief might have to be continued during most of 1965. The U. S. Mission reported that the Committee fulfilled its role most commendably.

The Committee also made recommendations for rehabilitation including employment, public works projects, small grants and loans; special assistance to shopkeepers and small businessmen; special assistance to displaced farmers, including settlement on existing land development projects; housing programs; relief in payment of taxes and rents; moratoria, where necessary, on loan repayment to the BG Credit Corporation. The Committee's rehabilitation program recommendations were approved by the then Government of British Guiana and a National Rehabilitation Committee was appointed. As of December 1964, no funds had been allocated for this. In December, the new Premier (Burnham) of the GOBG stated this program would be given priority consideration. No further word was available on whether such a rehabilitation program was undertaken.

Almost all charitable organizations and groups in British Guiana undertook to provide some measure of relief to the displaced families. The foremost was the BG Branch of the British Red Cross, which was aided by voluntary contributions from various local sources, estimated at \$16,200. There were also contributions of clothing. Some of the other organizations were Christian Social Council, the Salvation Army, Sanatan Dharma Maha Sabha and church groups of all demoninations.

Assistance Provided by the U. S. Government

USG contributions were made to the BG Branch of the British Red Cross and consisted of: Cash grant from the AID contingency fund under the Ambassador's disaster relief authority and payment of transportation costs of 500 blankets from the American Red Cross.....\$2,000

Also USG authorized BG Red Cross and Seventh Day Adventist Welfare Service to divert P. L. 480 Food for Peace Commodities as follows: 12,585 lbs of dried milk (BG Red Cross); 4,014 pounds dried milk; 11,995 pounds flour; 5,702 pounds cornmeal and 2,282 pounds vegetable oil (all SDAWS) for total of 35,578 pounds with estimated market value of..... 3,700

Under World Food Program, the USG authorized P. L. 480 food commodities, under Title II, for a 6-months feeding program, valued at. 120,000
\$125,700

Assistance Provided by U. S. Voluntary Agencies

Seventh-Day Adventist Welfare Service and American National Red Cross made diversions of P. L. 480 food through the British Guiana Red Cross.

American National Red Cross - 500 blankets, valued at	900
Mennonite Central Committee - 4,250 pounds of clothing	5,110
	<u>\$6,010</u>

Assistance Provided by Other Nations

Government of Canada	\$2,000
Canadian Red Cross	1,000
British Red Cross	1,440
OXFAM (British)	60,000
Trinidad-Tobago Red Cross - small amount of clothing	*
Montserrat Red Cross - small amount of clothing	*
	<hr/>
	\$64,440

* Value not reported

CHILE

Characteristics of the Disaster

Event: Eruption of Villarrica Volcano

Date-Time: March 2, 1964

Location: Southern Chile -- Town of Conaripe

Damages: No. Killed No. Injured No. Homeless

 4 58 800

Description of the Disaster

Villarrica Volcano is about 500 miles south of Santiago, capital of Chile, and in the vicinity of Osorno. It is 9,325 feet high and lies on a volcanic chain that keeps the surrounding area in constant peril. When the volcano erupted on March 2, it was feared that an area within a 60-mile radius, in which about 20,000 people lived, would be in danger. This did not happen but the small village of Conaripe, with a population of 2,000, was wiped out when avalanches triggered by the eruption buried the village. People fled their homes and only mud and water were left where the town once was.

Action Taken by the Government of Chile and Local Organizations

Relief operations were well handled by the GOC, the Chilean Army, Red Cross and Health Service. Supplies were brought in by army trucks, jeeps and oxcarts.

Assistance Provided by the U. S. Government

The U. S. Ambassador dispatched an Air Force Mission plane to the disaster area on March 8 with about one ton of clothing and one-half ton of multi-purpose food. The plane carried with it Mr. Warren Swope, the American Consul. This initial donation was followed by donations from U. S. voluntary agencies in behalf of the people of the United States.

52,170 lbs of P. L. 480 flour, milk, cornmeal, bulgur, wheat and butter oil were authorized from volag stocks with estimated market value of.....\$5,620

Assistance Provided by U. S. Voluntary Agencies

Catholic Relief Services and Church World Service made above P. L. 480 food commodities available from their regular programs.

Catholic Relief Services also made special purchases for the disaster victims, cash donation to reconstruct a school, 2,800 pounds of Canadian milk and 3,600 pounds of used clothing and shoes for total value of.....\$ 5,600

Assistance Provided by Other Nations - None

COSTA RICA

Characteristics of the Disaster

Event: Volcanic Eruption and Expulsion of Ash over extended Period
Also Related Floods and Mud Slides

Date-Time: March 18, 1963/Dec. 10, 1963, all of 1964, early 1965

Location: Meseta Central

Damages: No. Killed No. Injured No. Homeless

Original Eruption	0	0	0
Floods 12/63	13	150	5,000
Eruption 4/64	<u>2</u>	<u>50</u>	<u>-</u>
	15	200	5,000

The agricultural sector bore the brunt of damaging effects of volcanic ash. There was a 6.9 percent decline in national milk production and this loss was valued at \$1 million. 1.7 million pounds of coffee valued at \$500,000 was destroyed and subsequent crops adversely affected. Approximately 85,000 acres of grassland near Mt. Irazu were left unfit for further grazing and other areas were adversely affected, cattle suffered malnutrition and 2,000 head had to be slaughtered while 5,000 more had to be relocated. Potato, corn and tomato crops destroyed valued at \$190,000. Over 500 dwellings were completely destroyed or damaged beyond repair from Cartago floods and mud slides. Industrial machinery suffered from abrasive ash. Commerce and industry were adversely affected and reported an over-all decline in business. A total damage estimate was not given but considering above and input of Costa Rican and US assistance it was in the range from \$5 to \$7 million.

Description of the Disasters:

Mt. Irazu is an 11,260 feet high volcano. It is located in the Cordillera Central, midway between the Atlantic and Pacific coasts. It is about 17 miles east-northeast of San Jose, the capital and largest city of Costa Rica, and 9 miles north-northeast of Cartago. Other volcanoes within six to thirty miles of Irazu are: Turrialba (10,942 feet); Barba (9,610 feet); and Poas (9,055 feet). The Cordillera Central and its volcanoes are north of the Meseta Central (central plateau) which contains about two-thirds of the population of Costa Rica and much of its agriculture. The fertile soil developed on volcanic ash in the Meseta Central and has been a major factor leading to the relatively heavy population in this region.

In prehistoric times Irazu formed cinder cones and poured out hot lava but its eruptions in recent times have produced only fine ash. This is because the magma (molten rock) column within the mountain has receded and rises to the surface only slowly, cooling in the process and dissipating much of its energy through explosions inside the volcano. Since Spanish colonial times, Irazu has erupted approximately every twenty years. Most of these eruptions have been

rather weak and lasted less than a year.

On March 18, 1963, the day the late President Kennedy arrived in San Jose for a meeting of the Central American presidents, Irazu began erupting, but it was not until March 22 that it began pouring out large quantities of volcanic ash over the densely populated central plateau, including the city of San Jose. These eruptions continued intermittently during the rest of 1963, all of 1964 and into 1965. In May of 1965 it was reported that the ash fallout had ceased. The 1963-1965 cycle of eruptions was reported to be among the worst ever experienced. Effects of the ash fallout varied according to the prevailing winds and the time of the year, whether during the rainy or the dry season. Ashfall accumulated on the slopes of the volcano, seriously affecting and in some cases totally destroying the normal vegetative cover of the upper parts of many watershed areas. The loss of vegetative cover caused greatly accelerated rates of runoff and erosion and this in turn created great danger from floods and mudflows. Much of the time only minor amounts of ash were expelled at any one time, but since some of the heaviest emissions of ash occurred during the dry season, prevailing winds carried it over San Jose and the central valley where the deposits caused major problems.

The water supply for San Jose became affected. Sewers and rivers silted up. The continuous dust cloud from Irazu affected an area inhabited by 15 to 20% of the Costa Rican population of 1.5 million. About 225 square miles were covered with the volcanic fallout. Farmers were forced to keep their herds in barns and when winds blew the ash away to cut forage with machetes, wash it by hand and then feed it to their cattle. The coffee crops were damaged as were vegetable crops.

This fall of fresh ash for approximately a two-year period was detrimental to the economy of the country because of its effect on agriculture, livestock and living conditions. There then followed floods and mudslides which caused death and injury and made several thousand people homeless. A description of these subsequent disasters follows:

Toward the end of Costa Rica's long rainy season in December of 1963, the first of the floods and slides roared down from Irazu's slopes carrying boulders the size of small houses on its crest. This occurred during the early hours of the morning of December 10, following a night of high intensity rainfall. The Reventado River, located between San Jose and Cartago overran its banks and destroyed hundreds of homes, damaging many more. Although similar incidents occurred along the Rio Reventado in the past, a variety of qualified scientific sources expressed the opinion that the presence of large quantities of volcanic ash on the slopes of Irazu, accompanied by the heavy rains, greatly increased the disaster. Volcanic ash had impacted the normally porous soil of the region, increasing the volume and rapidity of the run-off. Also ash apparently contributed to the formation of natural dams and to increasing the mass of destructive material carried down by the flood waters. Thirteen persons lost their lives. Approximately 5,000 people in 715 families were affected. Of these, 650 families lost everything and 65 most of their possessions. About 900 people were left unemployed due to destruction of former places of employment.

Other such floods followed. On June 15, 1964, a ten foot head of water washed out the temporary northern railway crossing at Taras-Cartago. Conditions were similar to those above. Two flash floods were reported at Taras-Cartago on July 7 (20 feet high at the measuring point) and on July 8. On August 26, 1964, five flash floods passed through Taras-Cartago, Tres Rios and other towns on the Reventado, Tiribi and tributary rivers. Highest Reventado crest measuring point was 45 feet. Over 100 families had to be evacuated.

Action Taken By The Government of Costa Rica and Local Organizations

On March 22, 1963, the GOOCR declared the region near the volcano a distress area and initiated relief measures. The Government provided transportation of cattle to usable pastures, fodder, veterinarian services and supplies from emergency funds appropriated for this purpose. The government purchased 2,000 head of cattle that had to be slaughtered and 50,000 vaccinations were given to cattle. The Banco Nacional took measures to extend long term credit on favorable terms to livestock owners desiring to move their herds to other areas. The eruptions continued incessantly and on December 4, 1963, when a particularly heavy ashfall occurred during a nine-hour period and visibility fell to as little as 101 yards, the San Jose Governor declared a state of emergency. Over that weekend the ashfall totaled more than three inches. The GOOCR purchased one Wayne Mechanical Street Sweeper at a cost of approximately \$15,000 and ordered 3 additional ones for which merchants and Government agencies pledged the necessary funds. The GOOCR employed up to 300 laborers in the clean-up operation, working in shifts around the clock during periods of very heavy falls. All property owners were requested to keep their own properties clean.

As a result of the floods and mud slides in Cartago on December 10, 1963, emergency feeding programs were instituted by governmental agencies and private charities. At one time 3,152 displaced persons were lodged in 13 public institutions immediately after the flood, and a month later this was down to 1,000 persons living in 7 public institutions. In February other places had to be found for these people due to the beginning of the school term in February and need to use the schools. The Instituto Nacional de Vivienda y Urganismo (INVU) an autonomous institution of the Government of Costa Rica, which operated in the fields of housing and city planning, began soon after the disaster to formulate a program to construct new housing for the victims, supported in this activity by a \$1 million grant from the U. S. Government. On March 7, 1964, a celebration was held on the completion of 100 wooden houses in Loyola, west of Cartago, while 229 others were in various stages of completion. INVU also had plans to extend credit for repair and reconstruction of 111 dwellings damaged by the flood. Some 477 families applied for INVU housing.

Private charity played an important role in feeding and caring for the flood victims during early stages of the disaster. Private business enterprises, well-to-do Costa Ricans and farmers contributed substantial quantities of foodstuffs. The Government provided food to supplement CARE commodities and donated supplies. There was no shortage of food.

After appropriating \$750,000 following the heavy ashfall and subsequent damage to farms, grazing land and general living conditions in San Jose, the Costa Rican Congress was requested to appropriate an additional \$750,000 on Dec. 12 to defray costs of emergency flood assistance to the Cartago area.

Soon after the first mud flows in Cartago, a Civil Defense office was created in the Ministry of the President with broad scope and responsibility, but it was not created by law and lacked permanency. Its sole concern was to control the waters from the Reventado River Watershed and this was a full time job for this office. The GOCR requested U. S. assistance in this flood control work. A team of U. S. Seabees was provided, together with necessary equipment.

A team of UNESCO scientists who were in Costa Rica early in 1964 to study the volcano concurred with the observations of USGS geologist Gerry Eaton and made a series of recommendations to the GOCR on protective measures. The Government began immediate implementation of some of these such as: 1) posting sentries at certain key locations on Irazu; 2) erecting an earthen wall along the lower bank of the Rio Reventado; and 3) making certain engineering studies of the river aimed at possible diversion away from Cartago and other flood preventive measures. The President named Jorge Dengo to oversee the government disaster prevention program with the rank of cabinet minister. Later the Planning Office of the Presidency of Costa Rica collaborated with U. S. Geological Survey scientists, who were funded by AID, in a two-year project to obtain volcanological and geological data.

Assistance Provided by the U. S. Government

In response to a request from the GOCR for technical assistance in formulating plans to cope with the problems created by volcanic ash, a U. S. Army Survey Team was brought in from the Canal Zone, on December 9. It completed its mission and departed on Dec. 15, 1963. The team included a medical doctor, a veterinarian, civil and sanitary engineers and a representative of the American Red Cross. The team spent a large portion of its time in providing relief to disaster victims of the Dec. 10 Cartago flood, which was related to the volcanic activity, assisting with mass typhoid inoculations and in sanitizing the Cartago water system. Under his Disaster Relief Authority the U. S. Ambassador at San Jose authorized the following:

- 10,000 typhoid immunizations with personnel and equipment to administer
- 10,000 smallpox immunizations, etc.
- 200 lbs of calcium hypochlorite
- One H-19 helicopter to assist in emergency operations.
- Total estimated cost.....\$10,000

On February 27, 1964, an Alliance for Progress grant was made for additional disaster relief. The grant was provided on an exceptional basis from the AID Contingency Fund and was for the purpose of supporting the Costa Rican emergency housing program for 4,000 persons made homeless in the Cartago flood. Amount of Grant..... \$1,000,000
In June of 1967, an audit report indicated \$282,000 unexpended with no additional victims to be handled. A Leeds-Hill-Jewett engineering report indicated several small projects as essential to prevent future floods in the area and it was recommended these projects be financed with these remaining grant funds.

In April 1964 AID authorized funds for preliminary engineering studies of the Rio Reventado to be performed by the U. S. Navy (BUDOCKS) team at cost of \$10,100. The U. S. also provided three road sweepers and 500 respirators and two volcanologists to make preliminary study of the eruptions. In May of 1964, 32 U. S. Navy Sea Bees were airlifted to Cartago along with 271 tons of heavy equipment to help this town protect itself from flash floods and landslides by widening the Reventado channel and straightening its course in places. They operated massive cranes and tractors, drove heavy trucks and loaders, repaired equipment and built dikes. The job of the Sea Bees was completed in March of 1965 for which they received the commendation of both the U. S. Embassy and the Government of Costa Rica. The work was financed with funds provided in an Alliance for Progress Grant of.....\$2,000,000. These funds were provided in a formal agreement signed by USAID and the Government of Costa Rica on May 14, 1964. Under the terms of this agreement and as a part of this \$2 million grant when the Sea Bees left, the equipment was to be turned over to the Costan Rican Government. Also in Dec. 1964, AID approved loan funds to GOCR to procure heavy machinery and equipment in US to control continuing damage from the eruptions. This loan amounted to \$1.3 million.

The U. S. also provided the following P. L. 480 food under Titles II and III:

Title II - 12,000 tons of surplus feed grains \$774,900

Title III - CARE, CRS distribution:

17 tons of cheese, flour, butter, rolled wheat and shortening 8,650
\$783,550

U. S. Geological Survey

Following the first observations and consultations by Gerry Eaton, geophysicist and K. J. Murato USGS in September 1963, a two and one-half year study was begun to obtain volcanological and geological data. It was undertaken jointly by the Planning Office of the Presidency of Costa Rica and USAID. AID funded the USGS scientists under an interagency PASA, which for FY 64 amounted to.....\$60,000.

Prior to this eruption little scientific attention had been given to the activity of Costa Rican and other Central American volcanoes. Members of the overall project were H. H. Waldron, engineering geologist of USGS; K. J. Murata, geochemist of USGS and chief of the Survey Team. Costa Rica members were: Gregorio Escalante, geologist of the Office of Civil Defense, and Rodrigo Saenz, engineer of the Dept. of Geology of the Industries Ministry. They received the part-time help of more than a dozen Costa Rican and American technical experts in the basic task. Their final report is due to be issued late in 1967. As part of this over-all study, but separate from it in that it was performed by a different group and the special report was already issued on March 18, 1966, was the Infrared Survey of Irazu Volcano by Stephen J. Gawarecki and Robert M. Moxham, USGS; and Joseph O. Morgan and Dana C. Parker of the University of Michigan. The reports contained results of the thermal study or other volcanos in the area also, and while important to the general study of the area, it was also felt to have significant contribution as a basis for comparison in any future similar surveys of the same region.

In addition to the above at the request of the Pan American Health Organization, two sanitary engineers from USPHS - Dr. Robert F. Hurtin and Dr. Ray McCaldin went to Costa Rica to study the effects of ash residual on the health of the people.

Value Total USG Contributions \$3,853,550

Assistance Provided by U. S. Voluntary Agencies

CARE, Catholic Relief Services, made P. L. 480 food commodities available for Cartago flood victims.

CARE also provided baby food, margarine, tools and books	4,160
American National Red Cross - Cash, medicine and JRC Friendship Boxes	<u>15,900</u>
	20,060

Assistance Provided by Other Nations

Australia - cash	220
Canada - cash	4,600
Colombia - medicines, vaccines and clothing	1,400
Ecuador - cash	100
Chile - medicine, shoes and kitchen utensils	230
Guatemala - medicine, food and clothing	1,400
Nicaragua - cash and construction material	8,840
Peru - cash	730
Sweden - cash	960
Salvador - cash	1,200
Burma - cash	210
Honduras - cash	1,730
Lebanon - cash	50
Panama - food and blankets	<u>1,300</u>
	\$22,970

ECUADOR

Characteristics of the Disaster

Event: Drought

Date-Time: January to May, 1964

Location: Following cities, towns and villages: Tulcan, San Gabriel, El Angel, Otavalo, Atuntaqui, Cotacachi, Cayambe, Quito, Tambillo, Machachi, Sangoliqui, Latacunga, Pujili, Salcedo, Ambato, Pelileo, Banos, Riobamba, Guamote, Colta, Alausi, Canar Azogues, Cuenca, Paute, Gualaceo, Loja, Saraguro, Macara.

Damages: Number Affected by Drought

600,000

2,470,000 acres of land affected

Also, out of 1,000,000 cattle in the affected area, 300,000 were in need of emergency feed.

Description of the Disaster:

Drought conditions were reported in the Inter-Andean Corridor in January of 1964 and sufficient rains did not occur until late April and early May. Within this affected area, a zone known as "The Sierra" traditionally provides the cultivated products for internal consumption in Ecuador. On March 7 it was reported that this zone was already suffering from the following losses in crop production: pastures 38%; wheat 30%; corn 49%; potatoes 45%; rye 44%; French and/or kidney beans 45%. The population in the "Sierra" represents 51% of the country's total and an estimated 600,000 people were affected. There was also an alarming decrease in the production of dairy cattle, milk, meat and hay products due to the pasture losses.

Action Taken by the Government of Ecuador

The GOE officially declared a state of emergency in March due to the drought. The GOE established an organizational structure to handle the situation in the following manner: The Ministry of Development established a National Coordination Committee, which in turn established an Operations Committee consisting of the Ministry of Development, Ministry of Defense, CARE, CRS-CARITAS and U. S. AID Mission representatives. Provincial and County committees were organized. Official decrees were issued prohibiting exportation of feed and food commodities and against the hoarding of food.

The GOE made a formal request to the U. S. Government for approximately 9,000 tons of animal feed and food commodities to meet the emergency need. The USG approved the grant of 1.6 million pounds of P. L. 480 food for human consumptions from U. S. voluntary agency stocks, and 2,000 metric tons of corn for animal

feed. The corn was distributed by the GOE to 100,000 needy farmers to feed their animals. In addition, the GOE purchased 3,000 metric tons of corn, valued at \$167,400; 4,000 metric tons of barley valued at \$204,000; and 13,000 metric tons of wheat valued at \$738,140, for a total expenditure of about \$1,109,540. Military units and state employees followed plans prepared by the National Emergency Commission in assisting the population in the affected areas. The GOE agreed to distribute all commodities received from the USG free to the disaster victims, to pay all costs of unloading, transportation and distribution, and to determine eligibility of recipients. There was some delay in food distribution due to excessive administrative procedures developed on the local scene to insure controls, but in general the feeding program was carried out as planned.

Assistance Provided by the U. S. Government

P. L. 480 Title III Food for Peace

It was agreed that the drought emergency, except for animal feed, could be handled through an expansion of the Title III program and a total of 1,650,000 pounds of P. L. 480 food was provided from CARE, and Catholic Relief Services, stocks valued at.....\$122,600

P. L. 480, Title II, Food for Peace

2,000 tons of corn for animal feed, valued at 123,500

US AID Food for Peace personnel in Ecuador were assigned to each zone. USAID was represented also on the National Emergency Committee and worked closely with the volagencies in establishing techniques and procedures for handling food distribution.

Assistance Provided by U. S. Voluntary Agencies

CARE and Catholic Relief Services/CARITAS assisted in organizing and controlling food distribution.

CARE

Provided 112 water pumps and accessories, valued at \$12,320

Assistance Provided by Other Nations - NONE

PANAMA

Characteristics of the Disaster

Event: Measles Epidemic
Date-Time: October, 1964
Location: Western Panama
Damages: Information not available on number of cases or deaths but 1200 persons were in need of immunization.

Description of Disaster

A measles epidemic threatened 1200 Indians in Western Panama and a World Council of Churches representative requested the assistance of Church World Service in providing vaccine.

Action Taken by the Government of Panama

Not Known

Assistance Provided by the U. S. Government

None requested or given

Assistance Provided by U. S. Voluntary Agencies

Church World Service obtained a donation of 1200 hundred measles immunizations as well as 1200 syringes and CWS paid for airlift shipment of them to Panama. Value of the vaccine was \$2,644 and airlift costs were \$127.68 for a total contribution of..... \$2,772

Assistance Provided by Other Nations - None

PARAGUAY

CHARACTERISTICS OF THE DISASTER

EVENT: Drought/Famine

DATE-TIME: Jan.-Feb. 1964

LOCATION: Chaco Region

DAMAGES: No. People Affected
13,400

DESCRIPTION OF THE DISASTER:

In 1936 a group of 5,000 Mennonite from Germany, Russia and Canada moved into the sparsely inhabited region of Chaco to cultivate the land. They were joined by 6,000 Indians and 1,000 Paraguayans. The area was hard hit by drought during latter part of 1963 and early 1964 there having been no rainfall in nine months. The colonists lost all their crops and there was a serious food shortage in the region.

ACTION TAKEN BY THE GOVERNMENT OF PARAGUAY AND LOCAL ORGANIZATIONS:

Information not available.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Approval was given for distribution of P. L. 480, Title III, food commodities as follows:

1,343,592 pounds of wheat flour, milk, bulgur and butter
oil with an estimated market value of.....\$96,270
The program was extended in September of 1964 to include
446,400 pounds of wheat flour, bulgur and cornmeal 17,767
114,037

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services provided above P. L. 480 food from its stocks and cooperated with the Mennonite Central Committee in verification of needy recipients and with program management and control.

ASSISTANCE PROVIDED BY OTHER NATIONS - None reported.

INDIA

Characteristics of the Disaster

Event: Floods

Date-Time: Summer 1964

Location: Mysore, Punjab, Delhi, Bihar, Maharashtra, Kerala, Rajasthan, Uttar Pardesh, Madhya Pradesh

Damages:

<u>Number Killed</u>	<u>Number Needing Assistance</u>
145	752,210

125,000 houses were damaged; 2,800 head of cattle lost. An estimated 6.1 million acres, including a cropped area of about 3,000,000 acres, were inundated and 18,000 villages were affected.

Description of the Disaster:

By early September more than 40 inches of rain had fallen since June. This was almost double the average for a normal summer and the resulting floods were the worst in 40 years. In the Union Territory of Delhi the Jamuna River burst one barrier after another, breached dike after dike and spilled into low-lying rural areas. About 150 villages and nearly half the people in the Union Territory were encircled by the water. Over 5,000 Army men labored around the clock to plug the dikes with sand bags, stones and clay but they could not prevent pollution of Delhi's water supply leading to a fear of epidemics.

Action Taken by the Indian Government and Local Organizations

The Prime Minister flew over the flooded areas. Relief operations were undertaken by the GOI but specific details except for New Delhi area were not available. The Delhi Administration set its flood control machinery in motion. Four relief camps were organized where more than 1,000 families were housed in tents. Relief grants were provided and medical teams were put into action to inoculate people against possible epidemics. The GOI made an urgent appeal to the USG for food assistance.

Assistance Provided by the U. S. Government

From FAA contingency funds under the Ambassador's Disaster Relief Authority - cash donation. \$ 10,574

P. L. 480, Food For Peace, Title III Commodities

Records indicate the following amounts were diverted from voluntary agencies stocks on a replacement basis:

300,000 lbs of milk powder; 6 million pounds of cornmeal;
450,000 lbs of wheatflour. Estimated market value. 288,000

Assistance Provided by U. S. Voluntary Agencies

Four voluntary agencies---Church World Service, Lutheran World Relief, Catholic Relief Services and CARE--went into operation distributing AID supplied foodstuffs among marooned and displaced people. Volag personnel helped to evacuate villagers and ferried medical teams in motor boats.

<u>Catholic Relief Services</u> - Cash donation		20,291
<u>Lutheran World Relief</u> - Cash donation		3,000
<u>Church World Service</u> - Cash donation	\$5,000	
Aldo 1 millich vitamins and 500,000 water purification tablets.	<u>19,875</u>	<u>24,875</u>
		<u>48,166</u>

Assistance Provided by Other Nations

Australia - cash donation		240
USSR - vaccine		<u>5,000</u>
		<u>5,240</u>

INDIA

Characteristics of the Disaster

Event: Civil Strife
Date-Time: 1964
Location: India/Pakistan - Kashmir
Damages: Number of Deaths Number of Migrants
 Hundreds Over 400,000

Description of the Disaster

Religious differences between the Hindus in India and Moslems in Pakistan have been the bane of the Indian subcontinent causing widespread violence in the past. From 1951 until the end of 1963 there was relative peace between the religious groups except for the quarreling between the two countries over the disputed territory of Kashmir. In December of 1963, the theft of a holy relic in Kashmir started riots and civil strife along the border between East Pakistan and India. As of September 1964 over 400,000 people were involved in movements from one country to the other according to their religious affiliations.

Action Taken by the Governments Concerned

The Government of Pakistan made an appeal to the migrants to return. The Indian authorities were reported to be spending \$20,000 a day to feed and house the displaced persons, and Indian authorities announced the Pakistani appeal in the camps, offering transportation back to the border. However, migrants were reported to be reluctant about returning.

Assistance Provided by the U. S. Government

P. L. 480, Food for Peace, Title II Grant

2,250,000 pounds of NFD milk, est. market value including ocean transport \$466,000

Assistance Provided by U. S. Voluntary Agencies

WARE, Church World Service, Lutheran World Relief and Catholic Relief Services-- all of these agencies which engage in refugee relief in both countries-- assisted the victims of the civil strife and riots by extending the coverage of their ongoing refugee programs.

Church World Service/Lutheran World Relief (through CORAGS)

WCS - Cash donation	\$21,670
LWR - Funds for pumps and wages	1,500
WCS and LWR also provided funds to Bengal Refugee Service for medical services and food distribution	20,000
	<u>\$43,170</u>

Catholic Relief Services

Cash donation from contribution by OXFAM.	\$15,000
Cash donation - own resources	<u>50,375</u>
	65,375

Also sent two staff members to help in Calcutta

Mennonite Central Committee

Cash, clothing, blankets and medicine	<u>7,205</u>
Total Volag contribution.....	\$115,750

Assistance Provided by Other Nations

Australia - Food and Blankets	1,470
New Zealand - cash	315
United Kingdom - Food, clothing, cash	13,990
Canada - Cash, clothing	21,935
Germany - Fed. Republic - cash	25
South Africa - Cash	140
Sweden - vitamins	1,560
Switzerland - Cash, Food	9,990
Belgium - Medicaments	28,430
Korea - Textiles	*
Burma - cash	100
Finland - Cash	500
Netherlands - Baby Food	4,510
Turkey - Blankets, textiles	<u>7,745</u>
	\$90,710

* Value not reported

IRAN

Characteristics of the Disaster

Event: Drought, Sand and Snowstorms

Date-Time: Drought - during 1964; Snowstorm - January, 1964

Location: Drought - Kuzestan; Snowstorms - Azarbaijan, Kurdestan, Kermanshah, Fars, Kerman and Khorasesn.

Damages: No. Victims Requiring Assistance

625,000

Heavy losses occurred in wheat, barley and livestock.

Description of the Disaster:

Drought - These conditions had prevailed in Iran for three years and continued into 1964. Results were sizeable wheat and barley deficits and heavy losses in sheep and goats, which provided the primary source of livelihood in the affected areas.

Snowstorms - The unusual blizzards and heavy snows in January of 1964 left many villages isolated. Roads became impassable. The lives of cattle, sheep and goats, as well as mules, horses and donkeys, were endangered since livestock in Iran depend mainly on grazing. With the deep snow covering the ground and sub-zero temperature freezing everything, livestock had almost completely consumed what little provisions existed in the villages for emergencies. Reports and pleas started pouring in from the provinces and rural areas. Something had to be done, and done immediately, if thousands of livestock were to be saved from starvation.

Action Taken by the Government of Iran

The first thing the GOI had to do was to find a substantial source of animal feed. This problem was soon solved when the United States AID Mission made available to the Iranian Government 2,600 tons of corn. The Ministry of Agriculture came up with 5,000 tons of bran from the stock accumulated in its silos. The Imperial Iranian Air Force volunteered its services in providing airlift. The Bureau of Silos of the Iran Ministry of Agriculture put its workers on overtime to fill grain sacks and load trucks. The Imperial Iranian Air Force made air drop deliveries of 150 tons of corn to isolated areas and also delivered the following quantities of corn to ostan centers: Kermanshah, 200 tons; Kurdestan, 100 tons; Fars, 400 tons; Azarbaijan, 75 tons and Korasan, 100 tons. Agriculture chiefs of the various ostans placed the corn in the hands of farmers and stockmen. An additional 36 tons of USAID corn was airlifted by two C-130 cargo planes to Kerman and Shiraz. The GOI shipped the balance of the corn and bran by trucks.

Assistance by U. S. Government

At request of the Government of Iran the U.S.A.I.D. Mission in Iran made a grant of the following P.L. 480 grain:

<u>P.L. 480, Title II-</u> 2,600 tons corn valued at	\$160,000
In addition CARE made diversion of 1,888,000 lbs of flour from its P.L. 480, Title III stocks. valued at	71 800

Assistance by U. S. Voluntary Agencies

ARE provided above P.L. 480 food and made distribution.

Assistance Provided by Other Nations - None reported.

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NEPAL

Characteristics of the Disaster

Event: Smallpox Epidemic
Date-Time: November 1963 to January 1964
Location: Widespread throughout country
Damages: Number Killed Number of Cases
 1,000 5,000

Description of the Disaster

Smallpox began to reach epidemic proportions in November of 1963 when over 500 persons were reported to have died in the Thimi area and the disease was reported spreading to new areas. The smallpox was of the "variola major" type, the more serious of two main kinds in which one out of 5 persons die. The people of Nepal were resistant to vaccination but after long public discussion in Thimi, many changed this initial opposition and came in for vaccination. A vaccination campaign by HMG dispelled some of the clouds of superstition in connection with vaccinations. In one village an old woman ninety years old came forward holding a stick before the vaccinators and blessed His Majesty for the campaign. She brought her great grandchildren, every one she knew and got every one of them and herself vaccinated on the spot. Very much in contrast to this incident was one in which a teacher of a school in Balambu was reported to have run away on the approach of the vaccination team and told his students to do likewise.

Action Taken by the Government of Nepal

A 17-man emergency committee was formed to persuade the people, with force if necessary, to take vaccinations. Those who entered or left affected towns were urged to be vaccinated, but many persons insisted they would rather die than allow their children and themselves to be vaccinated in the "off-season." Many officials favored legislation making vaccination a compulsory social obligation and such a bill was later introduced but there is no record in files that it was passed. It was reported that the smallpox vaccination campaign was proving to be more successful on the outskirts of towns than in the cities. Within a couple of months, 57,000 persons had been immunized. Assistance was requested from the U. S. in providing vaccine.

Assistance Provided by the U.S. Government:

In response to the Nepal Health Department's request the U.S.A.I.D. Mission sent an urgent request for vaccine to AID Washington. Arrangements were made through the American Red Cross and the American Pharmaceutical Association for a donation of 100,000 doses of vaccine by Wyeth Laboratories and AID agreed to pay for airlift from the emergency fund amounting to..... \$1,200

Assistance Provided by U.S. Voluntary Agencies

The American Red Cross obtained the donation of 100,000 doses of vaccine from Wyeth Laboratories but there was no report made on dollar value.

Assistance by other Nations

None reported

NEPAL

EVENT: Famine
DATE-TIME: 1964
LOCATION: Hill Mountain Areas
DAMAGES: Number of People Affected
Not reported

Description of the Disaster:

As a result of two successive winter droughts in 1962 and 1963, the winter crops grown in the hill mountain areas of Nepal were substantially below normal. There was widespread damage to corn and other summer crops in the late summer of 1963 also. The droughts occurred in areas of Nepal where there is seldom enough to eat under normal conditions.

Action Taken by the Government of Nepal

The GON shipped government-owned stocks of rice that would normally have been sold or consumed in the food deficit area of Kathmandu valley and requested U.S. assistance in the form of 5,000 metric tons of P.L. 480 Title II wheat to replace the rice stocks. Part of this was subsequently shipped to the food deficit areas outside the valley.

Assistance Provided by the U. S. Government

5,000 metric tons of wheat donated under P.L. 480 Title II program, estimated market value, ocean and inland freight\$800,000
Because of the immediate need for this wheat in Nepal, it was not feasible to wait to get the wheat all the way from the United States. Arrangements were made with Department of Agriculture of the Government of India to ship wheat from their P.L. 480, Title II stocks, for later replacement by the U.S. The project was carried out with notable speed. Following discussions with representatives of the Nepalese Government, the firm request for emergency wheat supplies was forwarded by the American Embassy in Kathmandu to Washington, D.C. on May 30. The USG approved the request on June 2 and informed Kathmandu on June 3. Negotiations with the Government of India to send U.S. wheat from there to Nepal were initiated on June 6 and first shipments reached Nepal approximately three weeks later.

Assistance Provided by U. S. Voluntary Agencies - None reported

Assistance Provided by Other Nations - None reported

EAST PAKISTAN

Characteristics of the Disaster

Event: Cyclone

Date-Time: April 12, 1964

Location: Jessore District

<u>Damages:</u>	<u>Number Killed</u>	<u>Number Injured</u>
	300	800

Description of the Disaster

Estimated dollar damage was 1.2 million rupees (\$250,000). The cyclone which struck the Jessore District destroyed and damaged houses, cattle, and crops. Of the 800 injured 200 were admitted to the Narail hospital.

Action Taken by the Government of Pakistan and Local Organizations

The Governor of East Pakistan visited the disaster area. Authorities provided relief supplies and medicines but operations were slow in getting started. Land transport was difficult with supplies being shipped in by launch. At least two camps were set up. The East Pakistan Red Cross supplied nine tons of powdered milk and food, some cloth, vitamins, antibiotic tablets.

Assistance Provided by the U.S. Government

A cash donation was made from the AID contingency fund and the check was presented by the American Consul General to the Governor of East Pakistan, in the amount of.....\$10,000

In accepting the check the Governor stated that "whenever disaster of this nature have struck East Pakistan, the American Government has been the first and foremost in rushing aid", and noted the prompt American help during the previous cyclone at Chittagong.

P.L. 480, Title III, milk powder - 864 pounds, was also provided, with an estimated market value of 134

Assistance Provided by U.S. Voluntary Agencies

CARE and Catholic Relief Services distributed above milk powder. CARE also provided clothing, vitamins and antibiotics and Catholic Relief Services donated some clothing but there is no record of amount and value.

Assistance from Other Nations

None reported

WEST PAKISTAN

Characteristics of the Disaster

Event: Cyclone and Floods

Date-Time: June 12, 1964

Location: Tharparkar, Sargarh and Hyderabad Districts

Damages: Number Killed Number Homeless

450

400,000

60,000 head of cattle were killed. 460,000 acres of crops were damaged and another 250,000 partially damaged. Estimated dollar damage to livestock alone was \$4.1 million.

Description of the Disaster:

The cyclone swept up the North Arabian Sea, narrowly missed Karachi on the coast of West Pakistan, and drove up the Indus Valley where it lashed the districts of Hyderabad, Tharparkar and Sanghar. For 16 hours devastating winds and rain spread death and destruction over a wide area. In the Tharparkar District, a CARE representative reported that while driving along roads, sometimes covered with water, you could see nothing but lakes where once healthy fields of cotton and grain stood. Many dead animals were seen in the fields. The cotton losses were extremely heavy.

Action Taken by the Government of Pakistan and Local Organizations

The Government acted immediately to provide relief supplies for the disaster victims at an estimated cost of ten million rupees (approximately \$2 million), but this was not adequate to meet all the needs. The Government set up relief centres and the Pakistan Red Cross and its Lahore Provincial Branch organized to provide as much assistance as it could, and then made an appeal to the League of Red Cross Societies for additional help.

During the storm, many trees were uprooted, and one of the first concerns of the Government was to clear the highways and those roads that were under water were marked with flags, so that vehicles would not stray off into the mud. Most of the food in the shops was confiscated, and a price limit was set to other commodities. One of the Government's major concerns was to keep the people in the country and away from the cities. To do this, they organized informal camps where people were given temporary shelter. The Government also gave each home owner 75 rupees to purchase bamboo and other construction material to get his home rebuilt. In camps where food could not be cooked by the people themselves, they were served food which had been prepared by the different Union Councils, each taking a different day of the week to prepare food for the needy.

Necessary precautions were taken to inoculate the disaster victims and no outbreak of disease occurred.

Assistance Provided by the U.S. Government

The U.S. Mission made a cash contribution in rupees for the relief of disaster victims from the AID contingency fund, worldwide disaster relief account,

equivalent of.....\$ 10,000

Food for Peace P.L. 480, Title III (CARE)

200,000 pounds of nonfat dry milk, flour and shortening and
75,000 pounds of wheat flour, plus other quantities of food
to feed 200,000 victims. Estimated market value 50,000

The above P.L. 480 food was in the area and was immediately available for
distribution to the disaster victims.

\$ 60,000

Assistance Provided by U.S. Voluntary Agencies

Church World Service

Sent 2 missionaries and a nurse and made a cash donation of 1,000

American National Red Cross

Salk and Flu vaccine valued at \$230,000
Cash donation 10,000 240,000

Catholic Relief Services

Cash donation 9,996
\$250,996

CARE

Distributed P.L. 480 food.

Assistance Provided by Other Nations and International Organizations

OXFAM	\$ 6,980
Canadian Government	9,200
Red Cross Societies of:	
Australia - cash	560
Canada - cash	9,200
Germany (Dem. Rep.) - medicaments	1,160
China	8,100
India - medicaments and textiles	1,060
Iraq - cash	280
Ireland - cash	280
Lebanon - cash	45
Netherlands - food and blankets	3,000
New Zealand - cash	1,400
South Africa - cash	280
Sweden - medicaments	970
Switzerland - cash	2,320
Tanganyika - cash	25
Turkey - blankets, textiles	16,900
United Kingdom - cash	<u>1,400</u>
	\$63,160

SAUDI ARABIA

Characteristics of the Disaster

Event: Floods

Date-Time: April 4, 1964

Location: Nedjaran

<u>Damages:</u>	<u>No. Killed</u>	<u>No. Homeless</u>
	20	1,000

Description of the Disaster

The Nedjaran area of Saudi Arabia was stricken by a flash flood on the night of April 4. Damage was severe along the mountains south of Taif to the Khamis Mushayt-Najran area. An estimated 22 bridges and culverts were washed out between the airfield and the town of Khamis Mushayt. One section of nearly three miles showed no trace of a road having been there. Undercutting of runways and taxiways at the airfield resulted in crumbling of the edges. One part of Taif was without electricity for a short period. Approximately 200 persons were stranded by the flood in which 20 people were killed.

Action Taken by the Government of Saudi Arabia

HALF
INSET
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Information is not available except that the Government of SA requested USG assistance in bringing supplies and food to those isolated by the flood.

Assistance Provided by the U.S. Government

On April 5, the Saudi Arabia Minister of Defense contacted Ambassador Hart and Chief of USMTM in Jidda for help in rescuing flood victims and bringing in relief supplies. A C-130 delivered 22,400 pounds of cargo on April 6 consisting of food rations for 1,000 persons for 2-1/2 days, 1,000 blankets, 13 to 20 tents for 250 people and some medical supplies. The helicopter originally planned for use in rescuing flood victims was cancelled as the persons stranded had been rescued. In addition a C-47 and C-54 was used to bring a USMTM doctor and 1,500 to 2,000 lbs of rations. Costs of these U.S. Military relief operations were reimbursed by AID from the contingency fund, worldwide disaster relief account, as follows:

C-47 and C-54 airlift and rations under the Ambassador's authority	\$3,825
C-130 airlift with 22,400 pounds supplies under AID/W approval	+ 33,265
	\$ 37,090

Following is substance of oral message from the Minister of Defense, to the U.S. Foreign Ministry: "Saudi Arabian Government deeply appreciates prompt action of USG in making available so rapidly supplies for relief of flood victims at Najran."

Assistance by U.S. Voluntary Agencies - None reported

Assistance by Other Nations - None reported.

TURKEY

Characteristics of the Disaster

Event: Flood

Date-Time: March 10, 1964

Location: Western Turkey - Eskisehir

Damages: No. of Homeless
3,000

Description of the Disaster:

No information available, except that the flood occurred in an area with a population of 160,000 leaving 3,000 homeless for whom temporary mass feeding was necessary.

Action Taken by the Government of Turkey

Many of the 3,000 homeless were cared for at five shelters set up in the city. Others were given shelter in private homes of friends. Eskisehir Red Crescent Society helped the flood victims by opening a soup kitchen which served three hot meals a day to the people staying in the five shelters. A distribution point was established also where dry rations were provided to those victims living in private homes. Each beneficiary presented a certification from his muhtar establishing that the bearer was homeless and in need because of the flood.

Several food trade companies gave rice, fresh meat, sausages, and vegetables.

Assistance Provided by the U S. Government

P.L. 480 food commodities were provided for the flood victims, which had an estimated market value of.....\$4,639

Assistance Provided by U. S. Voluntary Agencies

Not reported.

Assistance Provided by Other Nations

Not reported.

TURKEY

Characteristics of the Disaster

Event: Hail & Rain Storm
Date-Time: May 8, 1964
Location: Southern Turkey - Tarsus and Erdemli and their villages
Damages: No. Cared for by Mass Feeding Estimated Dollar Damage to Crops
12,000 \$2.2 Million

Description of the Disaster

A severe hail and rain storm caused extensive crop damage. Crops affected were tomato, squash, beans, corn and eggplant; orange, tangerine and grape. The vegetable damage ran from 75 to 80% while the citrus loss varied from 40 to 50% of the crop. The number of families who lost almost all their marketable crops were approximately 3,000.

Action Taken by the Government of Turkey and Local Organizations:

The provincial government and Turkish Red Crescent sent food for the victims. The agricultural bank in Mersin granted postponement of the payments on seed loans extended to cover crops that had been damaged. Most vegetable farmers were enabled by CARE's timely assistance to purchase seeds for a second planting. Modest savings which under ordinary circumstances would have been spent on food were diverted to a self-help investment of seed.

Assistance Provided by U. S. Government

Provided P. L. 480 food commodities with export market value of..\$27,919

Assistance Provided by U.S. Voluntary Agencies

CARE distributed P.L. 480 food and also aided villagers in purchasing seeds for a second planting of destroyed vegetable crops.

Assistance Provided by Other Nations

None reported.

BURMA

Characteristics of the Disaster

Event: Cholera Outbreak

Location: Countrywide

Date-Time: Reported June 30, 1964 but occurred in 1963

Damages: Many cases reported

Description of the Disaster

There were many cholera cases reported but inasmuch as cholera is endemic in Burma, this outbreak was not regarded as disaster. It was necessary however to bring it under control to prevent a serious epidemic.

Action Taken by the Government of Burma

Treatment and control action was taken by GOB agencies and the Burma Red Cross.

Assistance Provided by the U. S. Government

AID/W Regional Project Funds were authorized for assistance in the cholera project. Arrangments were made for purchase and shipment of 200,000 disposable plastic syringes and needles through the Department of Defense. Air shipment was made by MATS. Cost to AID.....\$20,000

HALF SHEET

This USG assistance was provided too late to assist in the outbreak but the syringes and needles were used in the government's subsequent inoculation campaign.

Assistance Provided by U. S. Voluntary Agencies

None

Assistance Provided by Other Nations

None reported

CHINA (TAIWAN)

Characteristics of the Disaster

Event: Earthquake & Fire

Date-Time: January 18, 1964, 8:06 PM

Location: Pai Ho Township, Tung Shan Township in Tainan Hsien and Chiayi City, Ta Pu Hsiang in Chiayi Hsien

<u>Damages:</u>	<u>No. Killed</u>	<u>No. Injured</u>	<u>No. Homeless</u>	<u>No. Evacuated</u>
	107	2,485 (230 hospitalized)	23,000	37,000

2,658 houses destroyed; 2,530 partially destroyed. 173 houses were destroyed by fire.

Description of the Disaster

The moderate to strong earthquake, registering 6-3/4 on the Richter magnitude scale, struck at a time when most people were still awake. Had the quake hit later, the death toll could well have been much higher. Depth of focus was about 33 kms. Many fires broke out after the quake, apparently started by overturned charcoal stoves and 173 homes were destroyed in this way. Most of the property damage was to flimsily constructed farm houses. Schools were damaged but there was no major damage to industry. The quake was reported to be the worst in this region since Dec. 17, 1941, when 358 persons were killed.

Action Taken by the Government of Taiwan and Local Organizations

Rescue crews and relief agencies worked through most of the night of the quake, the following day and night searching for victims and providing food and shelter for the homeless. Premier C. K. Yen ordered immediate rehabilitation work in the disaster areas.

The Provincial Department of Social Affairs carried out relief work in association with Social Affairs Department of Hsien governments and township offices in the area. Emergency storage was provided by the local government, and use of office space for storage was available in undamaged buildings in Chiayi and Tung Shan and in nearby army camps. The Chinese Army supplied the cooking facilities to make steamed bread from USG donated P.L. 480 flour. The Government provided funds for following specific purposes: \$5,350 given to the families of 107 dead at \$50.00 each; \$5,675 to 227 persons seriously injured at \$25 each; \$41,975 to 23,000 homeless for food costs for 10 days; \$96,100 to 4,805 families whose houses were completely demolished; \$102,850 for 10,285 families whose houses were partially destroyed; \$3.9 for rehabilitation of partially destroyed schools. Total contribution by Government of Taiwan \$4.2 million.

Assistance Provided by the U. S. Government

Immediately after the disaster, the American Ambassador, Director of AID/C and the Food for Peace Officer flew to the area in a U. S. military airplane in order to obtain first hand information on the damage and present some relief supplies which they had brought with them. The following grants from AID Project Funds were made: \$936,000 for classroom construction; \$125,000 for cholera control for a total of.....\$1,061,000
Also relief supplies consisting of a few bales of excess blankets, which were valued at.....500

Balance forwarded.....	\$1,061,500
P.L. 480, Title III, Food for Peace consisting of 500 MT of wheat flour, oil and bulgur, with an export market value of	<u>80,500</u>
	\$1,141,000

AID also loaned \$575,000 for rehabilitation and small industry loans. USAID made the following comments or suggestions concerning U.S. disaster relief supplies: (1) There was a lack of imaginative feeding techniques by CRS or TCS, who were unable to move promptly into the disaster area and set up feeding programs with rudimentary kitchens required to supply cooked food to the victims; (2) it would be helpful in the future for the U. S. Mission to maintain a small stockpile of P.L. 480 food commodities, including crackers, noodles, etc. in various parts of Taiwan for immediate emergency needs. The Mission should have the authority to permit use of these supplies on judgment of the basic need; (3) for the early emergency needs the use of raw commodities (bulgur, flour, and milk powder) are not too effective. Crackers, prepared whole milk, and bread or noodles would be more effectively utilized in the alleviation of human suffering.

Assistance Provided by U. S. Voluntary Agencies

Catholic Relief Services

There were 25 CRS workers aiding in relief operations. In addition CRS made a cash donation (obtained through OXFAM) of \$15,000 and provided used clothing valued at \$15,000 for a total of \$30,000

Church World Service/Lutheran World Relief

Donated used clothing valued at 16,000

American Red Cross

Cash donation 347

Veterans of Foreign Wars in Okinawa - cash 100

\$46,447

Assistance Provided by Other Nations

Korea, Netherlands and Thailand provided medicines, cash, food 1,700

FIJI ISLANDS (British)

Characteristics of the Disaster

Event: Floods

Date-Time: March 22, 1964

Location: Viti Levu

<u>Damages:</u>	<u>Number Killed</u>	<u>Number Homeless</u>	<u>Estimated Dollar Damage</u>
	1	8,000 to 10,000	1.1 Million

Description of the Disaster

Lying east of Australia is a chain of 320 atolls and islands which make up the British Crown Colony of Fiji. Originally populated by a fierce, warlike Malenesian people, the group was once known and feared as the Cannibal Islands but has since become known as Friendly Fiji. About 100 of the islands are inhabited, with the majority of the population living on the principal island of Viti Levu.

In March torrential and continued rains occurred in the mountains of Viti Levu which resulted in the most damaging floods on that island since 1931. Fortunately, only the one island was affected. Water rose in some extreme places to 80 feet above normal. Bridges and roads were washed out and services were disrupted. Several villages were isolated by the floodwaters. Outlying villages in the Nadi area experienced a night of terror when the heavy rain in that district and surrounding hills caused the Nadi River and its tributaries to rise rapidly and swamp them, sometimes within a matter of minutes. Villagers at Nawaka, Vatutu, Moala, Sikituru and Narewa were forced to flee to higher ground without being able to take anything with them. An estimated 8,000 to 10,000 persons were left homeless. Sugarcane crops were damaged and the banana crop suffered a severe setback. There were also heavy losses in livestock. However, the city of Suva, which is the Colony's capital, not being located in the valley, was rarely affected by the floods.

Action Taken by the Local Government and Organizations

The Colonial authorities were unprepared for the disaster. There were inadequate stocks of food, clothing and shelter materials. Apparently there was no contingency planning although the staffs of the Commissioner Western and Commissioner Central, the only two districts involved, swung into action quickly and effectively. They were assisted by an adequate supply of volunteer workers, including members of the Royal Suva Yacht Club who rescued hundreds of stranded individuals in the Rewa delta area. Red Cross workers were active in distribution of food and clothing at the relief centers. Money and relief supplies poured in and were soon adequate for the immediate needs. The general public donated \$105,000 which was matched dollar for dollar by a Fiji Government subsidiary. The Fiji Government spent \$760,000 to restore disrupted services.

Assistance Provided by the U. S. Government

The Colonial Government requested assistance from the USG, either financial or in relief goods. The American Consul requested and received approval from AID/W for a cash donation from the AID contingency fund, worldwide disaster account, to the Fiji Relief Fund in the amount of.....\$10,000

In addition 80 tons of P.L. 480 food for Peace commodities were diverted from the American Samoa Islands through approval by the Office of Territories, U.S. Department of Interior, and the Department of Agriculture. The food was withdrawn from stocks for the domestic school lunch program and was later replaced.
Value of the food.....\$10,600

\$20,600

Assistance Provided by U.S. Voluntary Agencies

American National Red Cross

Gave supplies already on hand in Fiji and made a cash donation through the Hawaii Red Cross for the purchase of cooking pots and men's clothing in the amount of

\$1,000

ANRC also distributed through the British Red Cross Food for Peace.

Catholic Relief Services

Cash donation

5,600

\$6,600

Assistance Provided by Other Nations

Australia

33,000

United Kingdom

21,000

Canada

4,600

New Hebrides

260

\$58,860

HALF
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JAPAN

Characteristics of the Disaster

Event: Earthquake

Date-Time: June 16, 1964, 1302 hours

Location: Niigata

Damages: Number Killed Number Injured Number Homeless

25

376

35,000

8,500 private homes were destroyed by the earthquake and twice that many damaged. 19,577 homes were inundated as an aftermath of the tidal wave. Roads, bridges, port facilities, communications and oil refineries all received extensive damage. Destruction and damage to homes alone was estimated at \$750,000, and to railines \$30 million, while total dollar damaged was placed at about \$280 million.

Description of the Disaster

Registering a very strong 7.7 on the Richter scale of magnitude, this earthquake had its epicenter in the Sea of Japan, about 50 miles off of Niigata -- a port city of 290,000 persons on Honshu, Japan's main island. Niigata was hard hit as was Sado Island, about 25 miles from Niigata, and the closest land mass to the epicenter. Heavy damage was also reported in four other cities up and down the coast in three provinces. The quake shook buildings and caused panic in the streets of Tokyo 200 miles away, but no injuries were reported. A seven foot tidal wave rolling in from the Sea of Japan along a 300 mile area caused flooding further casualties and damage. The earthquake was described by new media as the most serious to hit Japan since World War II. The earth opened in huge cracks, some 30 feet long, buildings fell apart, trees were uprooted, railway tracks were twisted into figure-eights. Water and gas mains snapped in a hundred places. Telephone and electric power lines lay in tangled confusion. Fires broke out. A thermal electric plant exploded. The just completed and beautiful Great Showa Bridge collapsed. Stretches of roadway sank as much as eight feet.

Much of Niigata is land reclaimed from the sea. The quake heaved through the sandy soil of this city as if the solid ground were ocean waves. An eye witness who lived in a four-story apartment house in Niigata reported that her building lunged erratically backward and forward, went too far off center and toppled onto its back. Pictures in the new media bore this out -- one building, seemingly intact, lay over on its back while one across from it was left leaning at an extreme angle. Other buildings in this row of apartments went through a similar gyrations, sinking further down into the earth with each movement. One came to rest with all but two feet of its seven-foot-high entrance buried beneath the earth's surface.

Niigata is the gas and oil capital of Japan. Almost immediately the friction of the quake movements set off explosions and fires. A chain reaction blew up over 90 huge petroleum storage tanks in the ensuing days and spread a thick film of oil and tar over the entire flooded section of the city. In one area of 350 houses, people fled when a flaming river of oil raged out from the exploding oil tanks across the inundated streets to engulf their homes. U.S. Air Force and Japanese cargo aircraft flew through the smoke shrouded skies to drop tons of chemical foam to firefighters on the ground.

Only the higher Southwest section of Niigata escaped with minor damage.

Action Taken by the Government of Japan

Only limited information available. Japan has had long experience in disasters and moves quickly to aid the victims. The Niigata-Sendai regions were declared disaster areas. The Director of the Social Department of the Japanese Red Cross flew to the earthquake scene to make an on the spot survey. Medical teams from the Japanese Red Cross hospitals in surrounding prefectures were dispatched to affected areas. Japanese church groups assisted in feeding, clothing and giving shelter to the victims. Premier Hayato Ikeda ordered immediate measures to move 200 tons of rice and hardtack, 250,000 candles, 50,000 flashlights and water supplies to Niigata. Japanese and American airplanes parachuted emergency supplies to Niigata to fight fire, pestilence and hunger. Fire fighters fought to contain the fires in the oil refineries.

Assistance Provided by the U. S. Government

President Lyndon B. Johnson sent a message of sympathy. There was no request for outside U.S. assistance but the Japanese Ministry of Autonomy called on the U. S. Fifth Air Force to aid emergency fire equipment-already battling the flames and to aid in delivering relief supplies. The U.S. Air Force at Tachikawa responded by sending two helicopters to airdrop fuel and medical supplies and a para-medic team. Also forty drums of firefighting foam and pumps were airdropped. There was no report of cost on this U. S. military operation and no request was made to AID for reimbursement.

Assistance Provided by U. S. Voluntary Agencies

Mennonite Central Committee

Obtained generous gifts from all over Japan to supplement the original MCC donation. MCC opened soup kitchens and set up three relief camps where about 350 families were housed. They distributed 352 foam rubber mattresses, 327 wool blankets and a ton of canned food plus 7 tons of clothing. MCC also maintained a work camp until July 11, 1964.

Estimated market value of supplies donated from MCC resources....\$3,200

Church World Service

Donated cash and 300,000 vitamin tablets with a value of.....12,375

American National Red Cross

Cash donation.....5,000

\$20,575

Assistance Provided by Other Nations

None reported.

PHILIPPINES

Characteristics of the Disaster

Event: Typhoon Winnie (also called Dading)

Date-Time: June 29, 1964

Location: Manila, its environs and South-Central Luzon

<u>Disaster Victims:</u>	<u>No. Killed</u>	<u>No. Injured</u>	<u>No. Homeless</u>
	56	163	924,125

<u>Est. Property Damage:</u>	<u>No. Homes Destroyed or Damaged</u>	<u>Est. Dollar Damage</u>
	90,784	\$ 7,950,000

Description of the Disaster

The weatherman's forecast for June 29 was for intermittent rains and gusty winds becoming stormy later in the afternoon. But sheets of driving rain and angry waves in Manila Bay were a portent to what would unfold later that evening. The full force of Typhoon Winnie struck the area at 10:00 PM. The typhoon had been headed for northern Luzon but swerved off its northwesterly course and knifed across Manila with 118 mph winds. It slashed down trees, blew down houses, twisted sign boards, caused rivers and creeks to overflow and wrought extensive damage over 21 provinces. Rain, driven by the fury of the storm, washed away wooden shacks and palm-thatched huts. Ships riding at anchor were damaged and some 20 light craft at the Manila Yacht Club sank. Several light airplanes were overturned and damaged. Telephone connections were cut off as trees fell on streets cutting power lines, crushing cars, walls and buildings.

There are approximately 18 or 20 typhoons that hit the Philippines annually. Some of them have higher winds than Typhoon Winnie but this typhoon hit straight across Manila and therefore received much more publicity than typhoons hitting rural areas usually do. It was the worst storm to hit Manila since October 20, 1882. The high water receded in 24 to 36 hours so that most of those who had to leave their homes were able to return within two days. Homes that were blown down were mostly of light construction and could be rebuilt rapidly.

Action Taken by the Government of the Philippines and Local Organizations

The President of the Philippines declared 10 million pesos in the Calamity Fund available for victims of the typhoon and asked Congress for an additional 5 million pesos (total about \$3,750,000). Also 1 million pesos (\$250,000) released from Public works contingency fund and 425,000 pesos (about \$106,000) by Agriculture for seeds. The Philippines Red Cross spent 100,000 pesos (\$25,000) and sought another \$25,000 from the government to carry out relief operations.

The Philippines Red Cross carried out direct rescue where indicated, gave immediate relief and surveyed the damaged area. The Social Welfare Administration was also active in relief operations and received funds from the GOP to rebuild houses. The Philippines Red Cross assisted some 500,000 people affected by the disaster and when it became apparent it could no longer handle relief operations without outside assistance, it sought the help of the League of Red Cross Societies, who issued an international appeal for cash or material aid from sister societies throughout the world.

Assistance Provided by the U. S. Government

The U. S. Ambassador authorized a shipment of lumber from Clark Air Force Base in the Philippines for the typhoon victims for which reimbursement was made by A. I. D. in the amount of.....\$1,000

Also, USAID approved release of U.S. voluntary agencies P.L. 480 food stocks for distribution to the needy. This amounted to 575,512 pounds with an estimated market value of.....;.....87,200

U.S. Military and Navy bases received minor requests for assistance which they met from available resources without reimbursement from AID. Type and value were not reported.

\$88,200

Assistance by U. S. Voluntary Agencies

Catholic Relief Services, Church World Service and Seventh-Day Adventists Welfare Service released above mentioned P.L. 480 food for distribution to the disaster victims.

Catholic Relief Services

13,000 pounds of clothing donated valued at 3,846
CRS Program Director of the Philippines made arrangements with commercial bakers and with Sisters of Catholic institutions in Manila to bake thousands of loaves of bread using US P.L. 480 food from CRS stocks for daily distribution to the victims.

CARE

Provided 4,240 pounds of medicine valued at 21,500

Church World Service

Contributed 9,600 pounds of clothing valued at 9,600

American National Red Cross

Cash donation 10,000
Committee on American Relief - Medicine and Food 38,529

\$83,475

Assistance Provided by Other Nations

Governments of:
West Germany \$12,820

Japan 9,945

Australia 26,620

New Zealand 13,810

S. Vietnam - 500 tons rice (est. Value) 60,000

\$123, 195

Balance Forwarded	\$123,195
Red Cross Societies of:	
Australia	1,400
Burma	415
Canada	5,000
Cambodia	280
China	8,130
Finland	750
India	840
Korea	200
Lebanon	45
Malagasy	205
Monaco	460
Netherlands - food	4,500
New Zealand	1,385
Norway	700
Sierra Leone	70
South Africa	280
Spain	1,000
Sweden - Cash and textiles	1,945
Thailand	380
Turkey	1,000
United Kingdom	<u>1,400</u>
	\$ 153,580

SOUTH VIETNAM

Characteristics of the Disaster

Event: Cholera Epidemic

Date-Time: January through April, 1964

Location: Saigon and Mekong Delta Provinces

<u>Disaster Victims:</u>	<u>Number of Cases</u>	<u>Number of Deaths</u>
	10,848	598

Normal death rate in untreated cholera cases ranges from 60 to 74%. New treatment methods reduced this in the Vietnam epidemic to 6%.

Description of the Disaster

The first death from cholera in Saigon occurred on January 12. By January 16, a cholera epidemic was confirmed. By January 24, it had spread to 12 provinces of the populous and embattled Mekong Delta and had taken 300 or more lives. In this delta live the majority of South Vietnam's 14 million people. Provinces affected were: Chuong Thien, Vinhlong, Kien Phong, Kien Hoa and Hau Nghia, all south of Saigon, and An Gian, Kien Giang, Phong Dinh, Long An, Dinh Tuong, Bienhoa and Gia Dinh. One of the alarming aspects of the epidemic was that it was also spreading into areas where the Government had little or no administrative and political apparatus and thus almost no means of combating it.

As treatment and vaccinations were given, the number of cases began to diminish in the Saigon area but new cases were occurring in the provinces throughout most of March. For example, the epidemic first appeared in Gia Dinh province on January 24 and on March 10 six more suspected cases were discovered in this province. But on March 22, it was reported no new cases had occurred in Gia Dinh and that the epidemic was considered halted. An April 24 report indicated there had been 8,118 cases in the Saigon area with 237 deaths and 2,730 cases in the provinces with 361 deaths.

Symptoms of Cholera and its Progressive Stages

The organism responsible for cholera is a bacterium called Vibrio Comma. It thrives in body wastes in warm countries. In epidemics its source can usually be traced to contaminated drinking water. Ordinary water purification kills the organism and proper sanitation keeps it out of water supplies, milk and other foods. Thus the disease which in India in 1943 killed 474,326 people has little chance to become even a minor threat in the United States, but it is still endemic in many of the warm and less developed countries of the Near and Far East. An ancient Chinese description of the disease makes reference to "men in the morning, spirits at night". Cholera can kill its victims in as little as six hours.

The disease is characterized by diarrhea, vomiting and cramps. It spreads very rapidly and if left untreated from 60 to 74% of the victims die. The disease affects the small intestine. The incubation stage varies from a few hours to about five days. Once infected, the victim practically has no control over his bowel movements. The infected person starts to vomit within a few hours and develops muscular cramps and great prostration. In severe forms of

cholera there is extreme dehydration. The body shrinks to a fantastic degree. The skin becomes dry and wrinkled and the face becomes pinched and the eyes are sunken. The limbs of the victim are cold and cyanotic, with all the appearances of impending death. The patient is restless but realizes his condition for the mind is usually clear. In this, the so-called algid stage, the body temperature may fall to 75 degrees F. The body may lose eight or more quarts of water within 24 hours. Red Cells increase to 8 million from a normal amount of 5 million and the white cell count may be as high as 60,000 per cubic centimeter. Most of the deaths occur within the first 24 hours, but if the patient survives the algid stage, the stage of reaction then develops when the blood pressure rises to normal, color returns to the skin, diarrhea begins to lessen and temperature returns to normal, after having first risen to fever stage.

Treatment and Inoculation

Prior to this epidemic in Vietnam, a new treatment for cholera victims had been developed by the U.S. Naval Medical Research Units (NAMRU) and had been used successfully in controlling cholera epidemics the year before in Korea and the Philippines. It was decided to bring in US NAMRU teams and use this same treatment in Vietnam.

The miraculous treatment, dramatic because it is so simple and so effective, did not involve discovery of a new antibiotic or any kind of wonder drug. It is instead an effort to put back into the body that which is lost in the massive diarrhea characteristic of cholera. Victims lose the body fluids quickly and become dehydrated. Even more important, they lose the body salts, or electrolytes, such as sodium bicarbonate. This results in acidosis or excessive acid products in the blood. The treatment simply replaces the fluids or rehydrate the body and electrolytes to restore the alkaline reserve. To do this, infusions of saline solution and sodium bicarbonate are administered intravenously. Because fluid losses are generally great, the infusion rate should be as rapid as possible. This was hard for some medical people to accept, team technicians said, because the maximum rate for other types of intravenous infusions is much slower. The average patient requires 20 liters of normal saline and 2% sodium bicarbonate pyrogen-free solution. (Pyrogen-free water is water free of all impurities which can cause fatal or near-fatal reactions when injected into the bloodstream. Ordinary sterile, distilled water is not pyrogen-free.) The doctor starts out with an infusion of one to two quarts and follows through with more as the occasion warrants.

The other aspect of the treatment, considerably more complex and the actual scientific development which makes the treatment effective, is determination of the amount of fluid loss and thus the amount which must be replaced. It is done by measuring the specific gravity of the blood by the copper sulphate method. Drops of the patient's whole blood and plasma are dropped into graded solutions of copper sulphate with known specific gravities. From this the specific gravity of the blood can be determined, according to a formula, and this determination has been proved an accurate measurement of dehydration of the body.

After the first massive feedings of saline solution and sodium bicarbonate, the dosage for each patient is determined by constant measurement of the blood every few hours and more often the fluids themselves by use of a dip stick. Besides the simple laboratory equipment required for measuring the blood and the intravenous kits needed to administer the solution, a few seemingly primitive but essential items are needed for the cholera treatment. They are an ordinary folding Army type canvas cot with a 9-inch reinforced hole just above the middle, a bucket or pail to be placed under the hole to collect the stool, a dip stick calibrated to measure the stool directly from the pail, and a data sheet kept at the bedside and used to record all fluid intake and output.