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**Donor Expenditures
for
Disaster Relief,
Recovery and
Reconstruction in
the Shelter Sector**

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Donor Expenditures for Disaster Relief, Recovery and Reconstruction in the Shelter Sector

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The views herein are those of the authors and do not necessarily reflect those of the Office of U.S. Foreign Disaster Assistance, the Office of Housing or the U.S. Agency for International Development.

Abstract

This report presents expenditure data from the U.S. Agency for International Development and other donor agencies for relief, recovery, and reconstruction in various categories of the shelter sector following earthquakes, floods, and wind-related disasters over the past two decades. Twenty disaster reconstruction efforts, representing the distribution of the three types of disasters in different parts of the world, were selected for analysis and in-depth research. The shelter sector in this study was defined as buildings and infrastructure and divided into further categories of expenditure. The purpose of this study was to examine the distribution of donor expenditures in the shelter sector and determine which categories of building and infrastructure have been emphasized in reconstruction efforts and merit special consideration for mitigation measures.

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**DONOR EXPENDITURES FOR DISASTER RELIEF, RECOVERY, AND
RECONSTRUCTION IN THE SHELTER SECTOR**

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Investment Priorities for Shelter Sector Hazard Mitigation

INTRODUCTION

During the Fall of 1991, as a part of a general re-organization of the Office of U.S. Foreign Disaster Assistance of the Agency for International Development has established a Prevention, Mitigation, and Preparedness Division. (OFDA/PMP) This new division has begun a major new initiative in international disaster prevention, mitigation and preparedness.

As a part of this initiative, a Memorandum of Understanding has been concluded between the Office of U.S. Foreign Disaster Assistance and the Office of Housing and Urban Programs (PRE/H). This report is a contribution to the background research for the development of a natural disaster mitigation strategy for the shelter sector. Other studies initiated by OFDA/PMP have addressed other aspects of the overall PMP strategy.

STUDY RATIONALE

In order to set priorities for disaster mitigation investment in the shelter sector it would be helpful to understand the actual scale and distribution of losses which might be the targets of mitigation measures.

While it would not be feasible to reassess gross damage estimates for a significant number of historical disasters, it is feasible to document reported donor expenditures for relief, recovery, and reconstruction.

While relief, recovery and reconstruction costs do not necessarily correspond to the value of disaster loss, they do represent the demand on resources resulting from the disaster.

The relationship of donor contribution to total disaster loss is not documented and is apparently subject to wide variation dependent upon local capacity and other political/economic variables. However, donor expenditure is certainly a relevant consideration for donor agencies and governments. It is reasonable to consider the potential impact of donor investment in mitigation on future demand for donor assistance to post-disaster relief, recovery, and reconstruction.

The objective of this study of post-disaster donor expenditures in the shelter sector is intended to indicate the distribution of losses in the various categories of the shelter sector in the three major types of rapid-onset natural disasters.

DISASTER TYPES

This study focuses entirely on rapid-onset natural disasters which cause significant damage to the shelter sector. The three disaster types included are earthquakes, flood, and wind-related. Because of the nature of the data available, further differentiation is not feasible. Earthquake damage is not differentiated by scale of earthquake nor between shaking, ground failure, or fire. Flood damage is not differentiated between relatively slow-onset riverine flood, flash flood or coastal flooding. The wind-related category includes hurricane, typhoon, and cyclone. Distinction is not made between wind and water damage.

THE SHELTER SECTOR: STRUCTURE AND INFRASTRUCTURE CATEGORIES

The term "Shelter sector" is intended to be broadly inclusive of the range of buildings, non-building structures, surface improvements and infrastructure systems which make up the built environment. This broad definition excludes agricultural crop losses and building contents and inventory losses.

In terms of mitigation measures the definition of the shelter sector includes not only the physical artifacts of the built environment, but also the organizations of production, finance, regulation and management of the built environment.

There are various classification systems available for structures and Infrastructure. Generally the building stock is disaggregated in five categories:

- Single Family Residential
- Multi-Family Residential
- Commercial
- Institutional
- Industrial

Infrastructure is typically considered in the following categories:

- Transportation
- Energy
- Water/Sewage
- Communications

Unfortunately, these categories are not uniformly used in the reporting of donor expenditures following disasters. Based on the reporting systems of the donor agencies cited, data has been compiled under the following headings:

- Housing
- Education

Health
Emergency Shelter
Water/Sewage
Power
Transportation
Communications
Urban Infrastructure
Rural Infrastructure
Agriculture

STRUCTURES

Housing

The housing category does not distinguish single family from multi-family or urban from rural. However, it is generally distinct from commercial and industrial construction. For the purposes of this study, housing is assumed to represent both single family and multi-family.

Emergency Shelter

Emergency Shelter Data is taken entirely from OFDA data, where it is specifically identified. Emergency Shelter is defined as that intended to serve up to three months (90 days) following the disaster. While the OFDA contribution to Emergency Shelter does not represent the total expenditure on Emergency Shelter, it does provide a useful reference for the comparison of expenditure between emergency, temporary and permanent housing.

Education

Education refers to educational structures, primarily schools. Schools have particular significance in disasters as they are the locations of concentrated exposure of children. Schools are also often the most widely distributed representation of civil authority, and are used as points of refuge and staging areas for relief and recovery. Educational buildings are also seen to have an important role in general development. Mitigation of damage in educational facilities is generally given very high priority.

Health

Health refers to health related structures, particularly hospitals and clinics. Health facilities play a very important role in the immediate post-disaster period. And are also given high priority as input to general development. Mitigation of damage in health

facilities is generally given very high priority.

INFRASTRUCTURE

Power

Power refers to infrastructure systems including generation, transmission, and storage of electricity and fuels. In most societies, including most developing countries, the electrical power infrastructure is the most critical to continuity of normal life. Dependence upon electrical power has increased dramatically. Many other critical systems are directly dependent on electricity. Water and Sewage systems are often dependant upon electrical pumps. Many Communication and Transportation systems are dependant upon electricity. Damage to other energy systems such as gas and oil pipelines may lead to very serious secondary disasters due to explosion and fire. Mitigation of damage in energy infrastructure, particularly the electrical power system, is given very high priority.

Transportation

Transportation systems include surface transportation, road and rail, water-borne transportation, and air transport. Vulnerability of transportation systems varies by disaster type. Bridges constitute the most valuable transportation structures. Water and wave action also undercut and destroy roads and coastal facilities.

Communications

Communications systems include primarily telephone systems in this case. Disruption to telephone exchanges and transmission lines poses a major problem in the aftermath of disasters. Non-network systems such as radio, television, and microwave are vulnerable at ground-based transmission and receiving facilities. While damage to Communication systems is a serious problem, post-disaster donor expenditure on Communication repair is very limited.

Water/Sewage

Water systems include reservoirs, water treatment and storage facilities, and distribution networks. Sewage systems are the reverse. They include collection networks and treatment facilities. Because these are extended network systems, they are exposed to fracture both at fixed facilities or nodes and along the extended lines of a system. Underground pumping systems are subject to earthquake-induced failure, and both Water and Sewage systems are subject to contamination resulting from floods and tropical

storms. Both are generally dependent on electrical power. Failure of Water and Sewage systems are of critical importance in the cause of secondary health effects.

Urban Infrastructure

This heading is included because it has not been possible from available documentation to further disaggregate its content. It is assumed that this heading includes some combination of Transportation, Power, Water, and Sewage.

Rural Infrastructure

Similarly, this heading is not subject to further reduction from available documentation. It is assumed to represent some combination of Transportation (roads and bridges), Power, and Communications.

Agriculture

Agricultural structures include crop storage, animal barns, and irrigation systems. Reconstruction of these facilities is critical to rural economic survival but aside from floods, expenditures on this category of structures has been very small.

POST-DISASTER PHASES

Where possible, an effort has been made to distinguish between emergency, temporary, and permanent-phase expenditures. Emergency phase includes elements such as tents and generally shelter-related actions initiated within ninety days of the disaster. This includes the bulk of O.F.D.A. expenditures.

Temporary phase includes all those shelter-related activities specifically designated as temporary, usually initiated between ninety days and six months after the disaster. For the purposes of this study, the temporary phase also includes repair and rehabilitation expenditures.

Permanent phase refers to the initiation of new construction of permanent structures to replace structures lost in the disaster or to accommodate victims from the disaster. This area represents a major focus of the study in that great effort was made to distinguish long-term donor agency funding from other relief funding. Permanent phase expenditures attempt to capture Mission and Bureau-initiated projects, which were developed to meet long-term post-disaster recovery needs. These projects were identified through extensive research in A.I.D. project documents. Where possible, structure and infrastructure categories were broken out. In some cases, this break-out was not possible. Particularly in the case of Housing Guaranty (HG) loans it is not possible to estimate the portion

directed post-disaster reconstruction. That information is not available outside the country in question and is virtually impossible to retrieve. In a few cases, the assignment of HG monies to permanent phase reconstruction may represent a distortion of expenditure rates.

DONOR ORGANIZATIONS

The principal donor agencies surveyed for this analysis included:

- U.S. Agency for International Development
- The World Bank
- United Nations Development Programme
- Inter-American Development Bank
- Asian Development Bank

United States Agency for International Development

The primary focus of the study was the U.S. Agency for International Development. Detailed data was made available from the Office of U.S. Foreign Disaster Assistance on all O.F.D.A. post-disaster expenditures for all declared disasters between 1970 and 1990. This data included detailed identification of expenditures which allowed for classification by structure category and phase. This was by far the best data set made available to the study.

In order to pursue follow-up on A.I.D. expenditures on Temporary and Permanent phase Shelter Sector recovery and reconstruction, it was necessary to select 20 representative events for detailed study. Each of these 20 events was traced through Mission project files and through Congressional Reports to identify relevant non-O.F.D.A. project initiatives. Projects were then analyzed to determine the extent to which they dealt with post-disaster reconstruction as well as to determine the structures categories of expenditure. Though this tedious research process was only possible for the 20 representative disasters, it provided the basis for valuable findings about the importance of the Shelter Sector in post-disaster expenditures.

The World Bank

The data provided by the World Bank was of a much more general character. Reports have been prepared which give evidence of the extent of Bank involvement in disaster-related programs. Gross expenditures are available, but only in the case of specific Project titles is it possible to identify the disaster type and the structure category of expenditure. It was not possible to carry out the same level of analysis as was possible with the A.I.D. project documents.

United Nations Development Programme

Information provided by the U.N.D.P. reflected post-disaster expenditures for a number of the 20 disasters also covered by the Office of Foreign Disaster Assistance. U.N.D.P. response to world disasters was found to be as comprehensive as that of O.F.D.A., hence data from the U.N.D.P. reports was included where available.

Inter-American Development Bank

Data was available from the I.D.B. for immediate post-disaster grants for emergency relief, which in most cases included Shelter Sector expenditures. Long-term expenditures for Temporary and Permanent Phase recovery and reconstruction were generally a part of rescheduled existing I.D.B. loans, information on which is only available through recipients of particular loans. In some cases, information on I.D.B. loans was found through U.S.A.I.D. disaster reports or project reports which detailed comprehensive relief and recovery efforts.

Asian Development Bank

Disaster recovery and reconstruction is a relatively new feature in the A.D.B.'s development portfolio. Of the 20 representative disasters, the Asian Development Bank responded to only the Bangladesh floods of 1988.

PRINCIPAL CONCLUSIONS

I. Shelter Sector recovery: The dominant area of donor expenditures

Shelter Sector-related post-disaster expenditures for earthquakes, floods, and tropical storms are in excess of sixty percent of total A.I.D. expenditures.

When the cost of long-term permanent reconstruction are included in the calculation of relief, recovery and reconstruction costs, the shelter sector is clearly the dominant cost component of the three types of disasters considered.

II. Distribution of Shelter Sector donor expenditures

For the 20 representative disasters, disaggregated by structure and infrastructure categories, distribution is as follows:

- Buildings - 55%
- Housing - 39%
- Educational Facilities - 9%
- Health Facilities - 4%
- Emergency Shelter - 3%
- Infrastructure - 45%
- Urban - 15%
- Power - 11%
- Transportation - 8%
- Water/Sewage - 6%
- Rural/Agriculture - 5%

III. Disaggregated Shelter Sector Priorities vary by disaster type

While housing represents a major component in all three disaster types, the dominant structure and infrastructure categories vary by disaster type.

For floods, the three leading expenditure categories are:

- Housing - 34%
- Rural Infrastructure - 31%
- Transportation - 18%

For earthquakes, the three leading expenditure categories are:

Housing - 45%
Urban Infrastructure - 23%
Education and Health Facilities - 16%

For wind-related disasters, the three leading expenditure categories are:

Power - 35%
Housing - 31%
Transportation - 13%

IV. Distribution of Shelter Sector expenditures by phase of varied disaster type

For earthquakes, where 70% of total donor expenditure was shelter sector-related, the distribution by phase was:

Emergency Phase - 9%
Temporary Phase - 14%
Permanent Phase - 47%

For floods, where 63% of total donor expenditure was shelter sector-related, the distribution by phase was:

Emergency Phase - 3%
Temporary Phase - 15%
Permanent Phase - 43%

For wind related disasters, where 49% of total donor expenditure was shelter sector-related, the distribution by phase was:

Emergency Phase - 8%
Temporary Phase - 15.5%
Permanent Phase - 25%

GENERAL OBSERVATIONS RELATED TO MITIGATION INVESTMENT

I. Infrastructure is growing in importance

While Housing remains the dominant category for donor expenditures, Urban Infrastructure, Power, and Transportation appear to be of growing importance. Particularly in recent earthquakes, attention has been focused on urban impacts. There is a growing dependency on infrastructure for essentials of daily life. Infrastructure survival is essential to disaster recovery and reconstruction. Infrastructure design and investment are also generally handled by professionals who are capable of implementing mitigation measures. Infrastructure replacement represents 45% of total donor expenditure.

II. Critical Institutional Structures such as Educational and Health Facilities should be targeted for mitigation investment.

Replacement of health and education facilities represent 13% of total shelter sector donor expenditure. These facilities represent important concentrations of population and their failure often leads to high loss of life. Furthermore, the functions are important to emergency response and long term recovery.

III. Housing remains the dominant area of donor expenditures

While housing expenditures may be somewhat over estimated in this study due to uncertainty over the attribution of HG funds to post-disaster reconstruction, housing remains a dominant focus for humanitarian assistance. This implies that continued effort must be made to influence the safe siting and construction of housing. Particular attention must be paid to mechanisms which will motivate effective mitigation in the informal sector.

IV. Post-disaster reconstruction provides an excellent opportunity for the incorporation of disaster mitigation measures in siting and design of structures and infrastructure.

The provision of donor resources for reconstruction should provide adequate leverage to ensure the incorporation of appropriate mitigation measures. Furthermore, in the aftermath of a disaster, the local public officials and business leaders should be adequately aware of disaster-related loss potential to support a mitigation initiative.

DONOR EXPENDITURE CASE STUDY: PERU FLOODS 1983

In 1983, two severe natural disasters struck Peru. In the central and southern highlands, severe drought caused considerable crop loss and depletion of animal herds. The northern part of Peru, a densely populated and important agricultural coastal plain, received the heaviest rains and floods in well over a century.

The damage was extensive; highways with inadequate culverts were washed away, as were streets, housing, public buildings, electrical lines, and other infrastructure. An estimated 160,000 people were left homeless. Sewerage systems clogged and became unstable. The area's irrigation systems, on which all agriculture depends, were effectively destroyed. Most fields were completely flooded and the crop losses were extreme. The cost of the flood damage in northern Peru, from both production loss and damaged infrastructure, was estimated at close to one billion dollars.

At reconstruction planning meetings, the major donors decided the most expeditious way to reconstruct major public sector infrastructure would be by reprogramming ongoing Inter American Development Bank (IDB) and World Bank credits to the irrigation, transport, electric, and water/sewerage sectors with additional new credits to the same sectors to be made as funds became available. USAID would fill in the gaps in financing needs, but would concentrate on financing medium-sized infrastructure and work with PVO's.

IDB contributed to the rehabilitation and reconstruction effort with some \$100 million in reprogrammed loans for the transportation, electricity, irrigation, water and sewerage sectors. The World Bank reprogrammed \$27 million into the transportation sector and a special allocation of funds to repair the Chira-Piura Irrigation System. The only other donor offering significant reconstruction assistance was the German Government, helping to repair the Tinajones Irrigation System.

USAID was the largest donor, contributing \$180.9 million for the total disaster effort (for both southern and northern Peru), including a \$60 million grant to offset a foreign exchange shortfall to help relieve the balance of payments pressure resulting from the disasters. Also included was \$36.1 million in PL 480 Title I and II food donations.

The main project concerning shelter and infrastructure rehabilitation totalled \$60.2 million, of which \$50,300,000 went specifically to sub-projects in the *Cordes*, departmental (county) development corporations run by the government. Of this amount, approximately 70% or \$35,310,000 went to the northern part of Peru where the flooding took place. These expenditures are outlined below for both the emergency recovery and the permanent reconstruction phases.

Emergency Expenditures by OFDA

<u>Type of Relief</u>	<u>Amount</u>	<u>% of total</u>
Technicians for sewer work	\$9,280	2.4%
Flood Relief	20,000	5.2%
Two suction hose replacements	988	0.25%
Sewer jets and vacuums for cleaning	228,235	59.6%
Spare parts	493	0.12%
78 km of highway	120,000	31.3%
<u>Airlift of water tanks</u>	<u>3,736</u>	<u>0.98%</u>
Total of OFDA Expenditure	\$382,732	100.0%

It should be noted that the figures given by OFDA for expenditures do not correspond with the Project Assistance Completion Report for Project 527-0277, which states that OFDA financed the following activities for approximately \$1 million (no breakdown was given):

- a. 15 collapsible water storage tanks, 3,000 gal. each, lent to the Departmental Development Corporations of Tumbes (12 tanks) and Lambayaque (4 tanks). OFDA subsequently donated the tanks to the Cordes;
- b. Two sewer cleaning machines lent to SENAPA for use in Piura. In their first five and a half months, the machines cleared 68 km of clogged lines and 1,350 sewer marholes. The machines continued to clean clogged lines for over three years. OFDA eventually donated the machines to SENAPA, and they are still in use;
- c. Provisional reopening of the 57 km Piura-Paita Road - providing the City of Piura access to its port. This road had been broken in over 20 places, including the formation of a five km wide lagoon. The reopening involved building an 8 km bypass around the lagoon. This work, which involved considerable landfill, was hindered by the continuing rains, which on several occasions destroyed work already completed. The reopening eventually took three months to achieve, only finishing once the rains ended;
- d. Provisional reopening of the 70 km Huarmaca Road, destruction of which had isolated 55,000 people. This task took three and a half months in difficult terrain;
- e. Clearing and rehabilitating an eight kilometer section of the Ayabaca Road, enabling it to be reopened;
- f. Reconstruction of critical sections, totalling 403 meters, of the city of Tumbes sewerage

system;

g. Rehabilitation of the water systems in 11 small communities in the Bajo-Piura area of the Piura Department and in seven small communities in the Tumbes Department;

h. Provision of assessment and technical assistance by various OFDA-contracted technicians.

Permanent Reconstruction

The permanent reconstruction phase of USAID assistance was the "Disaster Relief and Rehabilitation Project # 527-0277", which included \$35,308,000 for reconstruction sub-projects in the Cordes of Amazonas, Ancash, Cajamarca, Lambayeque, La Libertad, Piura and Tumbes. Each of the seven northern Cordes experienced some measure of damage in the floods, while Tumbes, Piura, and Lambayeque sustained the most significant damage.

Disaster Relief and Rehabilitation Project 527-0277 Expenditures

<u>Sector</u>	<u>Amount</u>	<u>% of Total</u>
Transportation	15,902,120	45.0%
Agriculture (Irrigation systems)	6,974,000	19.8%
Health	64,000	0.18%
Education	519,000	1.5%
Water/ Sewerage	3,470,000	9.8%
Power 2,329,000	6.7%	
Rural Infrastructure (River Defenses)	2,820,000	8.0%
<u>Housing</u>	<u>1,165,000</u>	<u>3.3%</u>
Total Shelter and Infrastructure Expenditures	33,293,240	94.2%
<u>Other non-shelter sub-projects</u>	<u>2,014,760</u>	<u>5.7%</u>
Total DRR Grant for flood region	35,308,000	100.0%

The largest percentage of funds were spent on rehabilitation and reconstruction of roads, bridges and urban streets. Major sections of highways had to be rerouted because of flood damage. In Piura, eleven roads and four bridges were reconstructed, including the Piura-Paita Road linking the city of Piura to its port over 50 km away. This was co-financed with the World Bank. Also, virtually every street in the city of Piura was destroyed.

In Tumbes, the 150 km Pan-American highway was seriously damaged and reconstruction was

divided among donors. USAID financed the rebuilding of a 20 km section. Lambayeque, La Libertad, Ancash, Cajamarca, and Amazonas each had significant urban street and highway reconstruction projects. In Amazonas, USAID contributed \$122,000 to the reconstruction of the airport.

A top priority of the Government of Peru was to restore the coastal area's irrigation system. USAID funded significant irrigation projects in each of the Cordes. The largest projects were in Piura (\$2,473,000) and La Libertad (\$1,000,000). The health sector funds went to rehabilitate hospitals and health posts in Piura. Education funds reconstructed five major schools in Tumbes, thirty small schools in Lambayeque, and assisted other small subprojects in the other Cordes.

The water and sewerage sectors sustained major damage in the floods. Most of the subprojects undertaken by the Cordes in this sector involved cleaning out clogged pipes. The project funded \$2 million for rehabilitation projects in major towns in Piura. Urban and rural rehabilitation projects in Tumbes, Lambayeque, and Ancash were also funded. The nature of the disaster required that subprojects in river defense be undertaken. This consisted of building containing walls and other structures at critical points on almost all of the major rivers in the seven Cordes.

Electrical systems received 6.4% of the project funds for rehabilitation of damaged lines and posts in several communities throughout the north. The housing component of the project provided for the resettlement of families who had lost their houses, loans for the reconstruction of new houses and the rehabilitation of damaged houses. Piura and Tumbes received the greatest proportion of housing assistance.

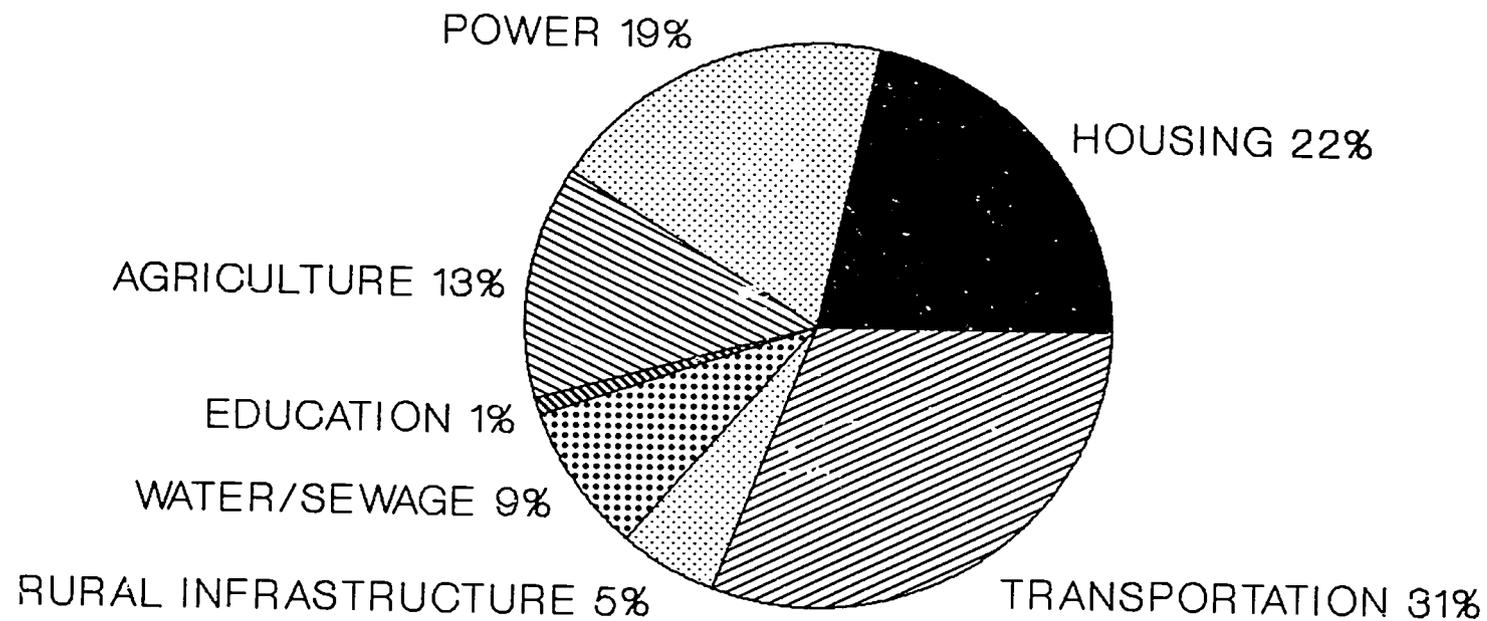
Other sources of funding for the shelter sector, outside of the DRR Project 527-0277 included:

Housing (USAID Grant to PVO's)	\$4,800,000
Housing (Housing Guarantee Loan)	\$1,400,000
Infrastructure	
(Housing Guarantee Loan)	\$12,500,000
Power (\$7,750,000)	
Housing Reconstruction (\$4,000,000)	
Water/Sewerage (\$750,000)	

USAID funded \$4.8 million of relief activities by several PVO's, including a project with CARE for the rehabilitation of 250 houses. \$1.4 million from existing Housing Guarantee Loan 011A provided funds for rehabilitation and reconstruction subloans through the Materials Bank and the savings and loan system.

An amendment to HG 011 for \$12.5 million was used for infrastructure reconstruction. 62% of the funds (\$7,750,000) restored electrical service to approximately 28,000 families at an average cost of \$206. Another 6% (\$750,000), went to replace water and sewerage services for 1,300 families at an average cost of \$570. The remaining 32% (4,000,000) served 8,000 families with rehabilitation or reconstruction loans, averaging \$504.

PERU - FLOOD - 1983 U.S. SHELTER SECTOR ASSISTANCE



TOTAL = \$52,375,972

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PERU - FLOOD ON NORTH COAST (1983)
 KILLED: 364
 AFFECTED: 700,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

WATER (E)	3,736	AIRLIFT OF WATER TANKS	
RURAL INFRASTRUCTURE (E)	20,000	FLOOD RELIEF	
SEWAGE (E)	9,280	TECHNICIANS FOR SEWER WORK	
SEWER EQUIPMENT (E)	988	2 SUCTION HOSE REPLACEMENTS	
SEWER EQUIPMENT (E)	228,235	SEWER JETS AND VACUUMS FOR CLEANING; OCEAN FREIGHT	
SEWER EQUIPMENT (E)	493	SPARE PARTS	
TRANSPORTATION (E)	120,000	78 KM OF HIGHWAY	
SUB-TOTAL: OFDA		382,732	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

TRANSPORTATION (P)	12,002,000	REHABILITATION\REPAIR OF BRIDGES	AID: 527-0277
AGRICULTURAL INFRA (P)	8,367,000	REPAIR OF IRRIGATION SYSTEMS IN COASTAL AREAS	AID: 527-0277
TRANSPORTATION (F)	7,987,000	ROADS IN URBAN AREAS	AID: 527-0277
WATER/SEWAGE (P)	4,268,000	NOTE: \$40.2 MILLION OF 527-0277 IN LOANS; 24.8 IN GRANTS	AID: 527-0277
POWER (P)	3,127,000		AID: 527-0277
RURAL INFRASTRUCTURE (P)	3,085,000	RIVER DEFENSES	AID: 527-0277
HOUSING (P)	1,986,000		AID: 527-0277
RURAL INFRASTRUCTURE (P)	1,141,000	REHABILITATION OF INFRASTRUCTURE	AID: 527-0277
HOUSING (P)	296,000		AID: 527-0277
HOUSING (P)	4,800,000	GRANT TO PVO'S	
HOUSING (P)	1,400,000	HOUSING GUARANTY LOAN (P)	HG-011A
HOUSING (P)	12,500,000	HOUSING GUARANTY LOAN (P)	HG-011B
TOTAL: OTHER U.S.A.I.D.		60,959,000	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 42.4%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

ASSORTED LOANS (P)	67,000,000	INTER-AMERICAN DEVELOPMENT BANK
TRANSPORTATION	N/A	
ELECTRICITY	N/A	
ASSORTED LOANS (P)	80,000,000	INTER-AMERICAN DEVELOPMENT BANK
WATER & SEWAGE	N/A	
IRRIGATION	N/A	
ASSORTED LOANS (P)	27,000,000	WORLD BANK
IRRIGATION REHAB.	N/A	
TRANSPORTATION	N/A	
PETROLEUM PRODUCTION ENHANCEMENT		
ASSORTED LOANS (P)	20,000,000	ANDEAN DEVELOPMENT CORPORATION
RECONSTRUCTION	N/A	
INTERNATIONAL LOANS	194,000,000	

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 255,341,732

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DONOR EXPENDITURE CASE STUDY: EL SALVADOR EARTHQUAKE 1986

On October 10, 1986, an earthquake measuring 5.4 on the Richter scale struck downtown San Salvador. An unusually high level of damage was sustained for an earthquake of such magnitude because of the shallow depth of the quake and the location of the epicenter directly beneath the densely populated city. Over 1,100 people were killed, 20,000 injured and significant damage was sustained in the shelter and infrastructure sectors. The most severe damage was to a 20-block area in downtown San Salvador. The Government of El Salvador estimated the damage at US \$1,030,000,000.

International Assistance

A total of \$436,555,730 from international donors was allocated to various reconstruction projects. In each case, donor expenditures were primarily committed to projects in the shelter and infrastructure sectors.

The World Bank loaned the Government of El Salvador \$102 million, 49% of was spent on projects in the shelter and infrastructure sectors. The Inter American Development Bank provided an emergency grant of \$100,000 for hospital and first aid equipment, and also made \$29 million available through restructuring existing loans. Of the \$29 million, 93% or \$26,187,000 was spent on shelter and infrastructure sector projects.

Other significant donations came from Germany (\$18 million, 94% shelter, infrastructure), Italy (\$100 million, 74% shelter, infrastructure), France (\$36 million, 100% shelter, infrastructure), The European Economic Community (\$8 million, 100% in the health sector), Guatemala (\$2 million, 100% shelter). For further details see Appendix 1.

US Assistance

Rehabilitation and reconstruction expenditures by USAID totalled \$155,052,990. The US provided emergency relief through the Office of Foreign Disaster Assistance in the amount of \$4,752,990 of which 67.5% was shelter and infrastructure. The rehabilitation and reconstruction phases consisted of three grant programs totalling \$150,300,000, of which 86.7 was spent on shelter/infrastructure projects.

Emergency Expenditures for the Shelter Sector (OFDA)

<u>Type of Relief</u>	<u>Amount</u>	<u>% of Total OFDA</u>
Airlift of Plastic Sheeting (213 rolls)	\$11,000	.34
Airlift of Plastic Sheeting from Costa Rica	\$12,100	.38
Airlift of blankets, water tanks, tents	\$36,884	1.15
Airlift of 230 rolls of Plastic Sheeting	\$11,000	.34

Plastic Sheeting	\$544,016	16.96
Ocean Transport (710 rolls, plastic sheet.)	\$15,000	.47
Airlift of tents, blankets, water tanks	\$100,000	3.12
3,000 gallon water tanks	\$86,472	2.70
Water Restoration Project (commodities)	\$290,000	9.04
<u>Power Restoration Project (AID/LAC Funds)</u>	<u>\$2,100,000</u>	<u>65.49</u>
Total	\$3,206,472	100.0

Temporary Expenditures (USAID)

The temporary component of the USAID's assistance consisted of a \$50 million grant, 80% of which went to projects in the shelter and infrastructure sectors.

USAID Temporary Rehabilitation Grant (519-0331)

<u>Type of Rehabilitation</u>	<u>Amount</u>	<u>% of Total</u>
Employment Generation/Rubble Removal	2,200,000	4.4
Temporary Shelter	4,460,000	8.9
Slum Rehabilitation	3,340,000	6.7
Home Repair/Reconstruction	21,562,078	43.1
<u>Restoration of Public Services</u>	<u>8,437,922</u>	<u>16.9</u>
Subtotal Shelter/infrastructure	\$40,000,000	80.0%
<u>Non-shelter (micro business credit)</u>	<u>10,000,000</u>	<u>20.0%</u>
Total Grant	\$50,000,000	100.0%

The employment generation and rubble removal component generated over 897,000 person-days of work to remove some 115,000 cubic meters of rubble. Funds were provided for the cost of heavy equipment. Temporary shelter provided packages of building materials for the construction of temporary shelters to an estimated 32,495 families whose homes were damaged or destroyed by the earthquake. As of September 30, 1987, 34,498 families had received goods.

Funds used for slum rehabilitation were spent to repair or reconstruct small civil works subprojects such as retaining walls, curbing, drainage structures, side walks and other small scale infrastructure in twelve out of San Salvador's eighty slum areas.

Of the Home Repair and Reconstruction component, \$19 million was programmed for the use of home owners, to finance the repair or initiate the reconstruction of their homes. The funds were channelled through 17 existing banks and savings and loans with maximum loans of \$4,000. As of June, 1987, 6,184 loans had been approved.

\$8.4 million was programmed for the immediate repair and restoration of public services, principally for the construction of up to 825 temporary classrooms and the repair of 400 damaged classrooms, construction of temporary medical facilities and water and sewerage restoration. Other public works included municipal structures and critically needed government buildings.

In addition to the \$50 million temporary rehabilitation project, USAID contributed a \$300,000 grant to the Municipality of San Salvador. These funds were used to continue and expand the municipal government's program of supplying roofing and roof support materials to families in slum areas. An estimated 34,000 people benefitted from this program during the temporary rehabilitation phase.

Permanent Reconstruction

The third phase of USAID relief assistance was a grant for \$100 million, including \$90 million for shelter sector related activities and \$10 million for micro-business recovery. The proposed project budget was as follows:

USAID Permanent Reconstruction Expenditures (Project 519-0333)

<u>Type of Reconstruction</u>	<u>Amount (\$ millions)</u>	<u>% of Total</u>
1. Housing Reconstruction/Rehabilitation		
a. Repair/Reconstruction of Individual Housing	18.0	
b. Reconstruction/Rehab. of Meson properties	14.0	
c. Relocation and Resettlement	12.0	
d. Repair/Reconstruction of Tugurios	<u>1.0</u>	
Subtotal	\$45.0	45%
2. Support for Private Sector Services		
a. Restoration of Private Health Care Services	5.0	
b. Reconstruction of Private Schools	5.0	
c. Credit to businesses ***	<u>10.0</u>	
Subtotal	20.0	20%
3. Restoration of Public Sector Services		
a. Construction/Upgrading of Public Schools	8.0	
b. Reconstruction of Public Buildings	8.0	
c. Demolition of Buildings	3.0	
d. Public Sector Services (Municipal & GOES)	<u>7.0</u>	
Subtotal	26.0	26%
4. Technical Assistance	5.0	

5. Contingencies/ Inflation	3.8
6. <u>Evaluation</u>	<u>0.2</u>
 Total	 \$100.0

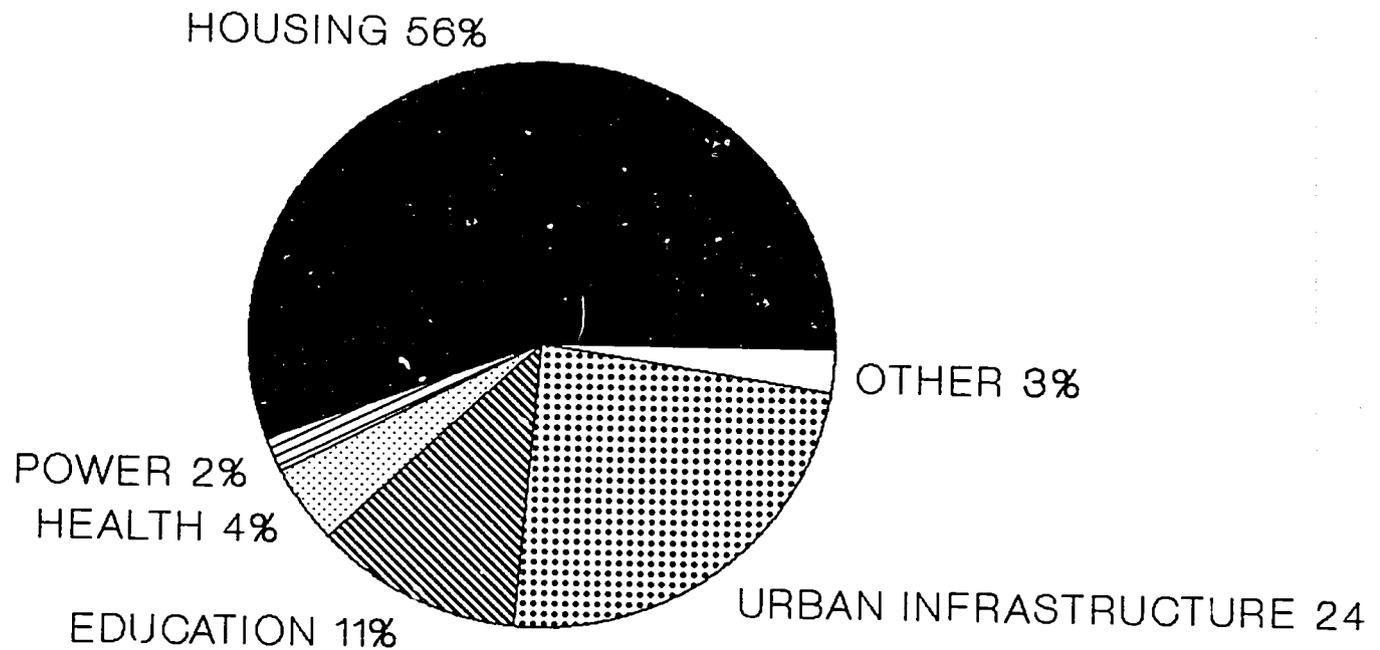
*** not shelter sector

The Housing Reconstruction component assisted families with credit for home repairs, upgrading *tugurios* (slum areas) through provision of sanitation and removal of hazards, repair and reconstruction of multi-family units, materials and service repair to slum dwellers, and relocation of certain families for whom return to their homes was impossible. \$18 million was available in mortgage credits to 5000 owners and renters of single family homes. \$5 million was available to repair *mesones* or multi-family tenement homes which housed 1,300 families, while \$7 million funded the construction of new low-cost condo type apartments to replace the *mesones*.

Funds were also provided to three private voluntary organizations for projects. World Relief received \$615,000 to provide shelter for 1,000 low income families. The Cooperative Housing Foundation (CHF) handled 190 loans for repair and reconstruction in the San Marcos area for \$200,000, constructed 60 units of mesones for \$250,000 as a cooperative housing test pilot, and 200 units of low cost housing for families in slum areas or tugurios for \$200,000. USAID contributed \$885,000 out of the \$1 million CHF needed for the projects. A local PVO was the third beneficiary of AID funds for Housing.

Repairs to private educational facilities and medical clinics which were seriously damaged by the earthquake. Several public schools were repaired or replaced, as were central government buildings. Funding was also allocated for repairs to key municipal facilities and streets, and for restoration of basic public services and utilities. The El Salvador water company (ANDA) received \$1.5 million to repair the water distribution system including San Salvador's water system, 68% of which was damaged. A critical component of the public services restoration was the repair of the Comalpa Airport/San Salvador Highway which was a major lifeline of supplies to the city. USAID contributed \$2.2 million for the highway project. \$2.4 million was provided for repair of public health facilities. The health sector was largely financed by other International donors who contributed upwards of \$61 million for the reconstruction of four major hospitals and other health clinics.

EL SALVADOR - EARTHQUAKE - 1987 U.S. SHELTER SECTOR ASSISTANCE



TOTAL = \$133,506,472

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EL SALVADOR - SAN SALVADOR EARTHQUAKE (1987)

KILLED: 1,100

AFFECTED: 500,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	11,000	AIRLIFT: 213 ROLLS PLASTIC SHEETING	
EMERGENCY SHELTER	12,170	AIRLIFT: PLASTIC SHEETING DONATED BY GOCR	
EMERGENCY SHELTER	36,884	BLANKETS, WATER TANKS, TENTS	
EMERGENCY SHELTER	11,000	AIRLIFT: 230 ROLLS PLASTIC SHEETING	
EMERGENCY SHELTER	544,016	PLASTIC SHEETING	
EMERGENCY SHELTER	15,000	TRANSPORT: OCEAN FREIGHT OF 710 ROLLS PLASTIC SHEETING TO PANAMA	
EMERGENCY SHELTER	100,000	AIRLIFT: TENTS, BLANKETS, WATER TANKS	
WATER (E)	86,472	3,000-GALLON TANKS	
WATER (E)	290,000	RELIEF EQUIPMENT AND ACCESSORIES FOR WATER RESTORATION	
POWER (E)	2,100,000	AID/LAC FUNDS; ELECTRICAL PROJECTS	
SUB-TOTAL: OFDA		3,206,472	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

EMERGENCY SHELTER	300,000	EMERGENCY SHELTER: ZINC, LUMBER, NAILS	AID: 519-0330
HOUSING (T)	4,460,000	TEMPORARY SHELTER	AID: 519-0331
HOUSING (T)	3,340,000	SLUM REHABILITATION	AID: 519-0331
HOUSING (T)	21,562,078	REHABILITATION OF MULTI-FAMILY HOUSING; HOME REPAIR/RECONSTRUCTION	AID: 519-0331
INFRASTRUCTURE REPAIR (T)	1,745,271	PUBLIC SERVICES RESTORATION	AID: 519-0331
HEALTH (T)	956,000		
EDUCATION (T)	2,321,701	SCHOOL RECONSTRUCTION	
WATER (T)	1,200,000		
ELECTRICITY (T)	600,722	PUBLIC LIGHTING	
INFRASTRUCTURE REPAIR (T)	119,228	STRUCTURAL STEEL	
INFRASTRUCTURE REPAIR (T)	720,000		
BRIDGES (T)	765,000		
INFRASTRUCTURE REPAIR (T)	2,200,000	RUBBISH CLEAN UP	AID: 519-0331
HOUSING (P)	18,000,000	REPAIR/RECONSTRUCTION OF INDIVIDUAL HOUSING	AID: 519-0333
HOUSING (P)	14,000,000	RECONSTRUCTION/REHABILITATION OF MESON PROPERTIES	AID: 519-0333
HOUSING (P)	12,000,000	RELOCATION & RESETTLEMENT	AID: 519-0333
HOUSING (P)	1,000,000	REPAIR & RECONSTRUCTION OF MULTI-FAMILY HOUSING	AID: 519-0333
INFRASTRUCTURE (P)	8,000,000	RECONSTRUCTION OF PUBLIC BUILDINGS	AID: 519-0333
INFRASTRUCTURE (P)	3,000,000	DEMOLITION OF BUILDINGS	AID: 519-0333
INFRASTRUCTURE (P)	7,000,000	PUBLIC SECTOR SERVICES	AID: 519-0333
INFRASTRUCTURE (P)	5,000,000	TECHNICAL ASSISTANCE	AID: 519-0333
INFRASTRUCTURE (P)	4,000,000	CONTINGENCIES/EVALUATION	AID: 519-0333
HEALTH (P)	5,000,000	RESTORATION OF PRIVATE HEALTH CARE SERVICES	AID: 519-0333
EDUCATION (P)	5,000,000	RECONSTRUCTION OF PRIVATE SCHOOLS	AID: 519-0333
EDUCATION (P)	8,000,000	CONSTRUCTION OF PUBLIC SCHOOLS	AID: 519-0333
TOTAL: OTHER U.S.A.I.D.		130,300,000	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 81.9%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

WATER/SEWAGE	49,258	U.N.D.P.	
INTERNATIONAL ORGS.	49,258		
ASSORTED LOANS (P)	102,000,000	WORLD BANK	
EARTHQUAKE RECONSTRUCT	N/A	WORLD BANK	
FOURTH EDUCATION PROJ	N/A	WORLD BANK	
ASSORTED LOANS (P)	18,000,000	FEDERAL REPUBLIC OF GERMANY	
ASSORTED LOANS (P)	29,000,000	INTER-AMERICAN DEVELOPMENT BANK	
ASSORTED LOANS (P)	100,000,000	ITALY	
ASSORTED LOANS (P)	36,000,000	FRANCE	
HEALTH SECTOR LOAN (P)	8,000,000	EUROPEAN ECONOMIC COMMUNITY	
SHELTER LOAN (P)	8,000,000	CENTRAL AMERICAN BANK FOR ECONOMIC INTEGRATION	
SHELTER LOAN (P)	2,000,000	GUATEMALA	
INTERNATIONAL LOANS:	303,000,000		

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 436,555,730

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EL SALVADOR EARTHQUAKE - INTERNATIONAL DONOR RESPONSE (in millions)

	SHELTER	EDUCATION	HEALTH	UTILITIES	INDUSTRY	PUBLIC BLDGs.	MISC.	TOTAL
DAMAGE ESTIMATE	234	62	97	107	207	53	114	874
DONORS								
WORLD BANK	20	12		4	12	14	40	102
WEST GERMANY	2		15		1			18
IDB	5		3	19	2			29
ITALY	22		32	20	3			100
FRANCE			20	16			23	36
E.E.C.			8					8
CABEI	8							8
GUATEMALA	2							2
SUBTOTAL	59	12	78	59	18	14	63	303
UNFINANCED DAMAGE	175	50	19	48	189	39	51	571
AID REHABILITATION	28	3	1	2	12	1	3	50
AID RECONSTRUCTION	45	16	5	7	10	8	9	100
UNMET NEEDS	102	31	13	39	167	30	39	421

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References

USAID Audit Report of Project 519-0333, Audit of the Restoration of Public Services Component of the Earthquake Reconstruction Project for the year ended 9/30/89, AID Office of Inspector General, Regional Inspector General for Audit, Tegucigalpa.

AID Contract Grant, Operational Program Grant no: 519-0333-G-00-0073-00 to World Relief to carry out a housing and community improvement construction project, 16 January 1990.

AID Contract Grant 519-0333 to Cooperative Housing Foundation to carry out housing construction of 450 apartment houses. 12 February 1990. USAID Bureau for Latin American Countries.

AID Contract Grant Operational Program Grant to Habitat Foundation for housing Reconstruction in San Salvador, 12 January 1990.

Baier, Kraig, USAID Officer, AID/LAC, Phone Conversation about USAID Mission operations with regard to Earthquake Reconstruction, 8/1/91.

Assessment Report: Estimated Damages to housing Sector caused by the October, 1986 Earthquake and suggested reconstruction strategies. Fred Cuny and Paul Thompson, INTERTECT. October 30, 1986, USAID, office of U.S. Foreign Disaster Assistance.

Audit Report of AID Assistance to Government of El Salvador for Earthquake Relief, Rehabilitation, and Reconstruction, FY '87.

Grant to San Salvador Mayor's Office to purchase roofing and roof support materials for self-help reconstruction of slum housing, AID/LAC.

Project Paper 519-0333 AID/LAC September 22, 1987. Reconstruction Project.

DONOR EXPENDITURE CASE STUDY: JAMAICA - HURRICANE GILBERT 1988

Hurricane Gilbert hit Jamaica on September 12, 1988, creating the island's worst calamity this century. The eastern and western coastal areas of the island were hardest hit, while southern and central areas were less damaged. The capital city, Kingston, was moderately damaged, while shantytowns surrounding the city sustained much greater damage. The Government of Jamaica estimated a total loss of US\$ 0.75 - 1 billion.

Hurricane Gilbert caused significant damage to the shelter and infrastructure sectors throughout the island. Approximately, forty-five percent of the existing housing stock was damaged, primarily roof damage, including 10,000 homes which were destroyed.
(see table on Housing Damage)

In the power sector, electrical distribution was disrupted due to downed lines and uprooted poles throughout the island, which caused further disruptions to water distribution, hospital services and manufacturing production. The water supply and sewerage system suffered significant damage in some areas, as well as several minor breaks throughout the island. Of immediate concern was the water supply to the densely populated Kingston and Montego Bay areas.

Shelter Sector Expenditures

The major contributors to the relief and recovery efforts following Hurricane Gilbert were the US Agency for International Development, the World Bank, and the Inter American Development Bank.

Donor expenditures in the shelter and infrastructure sectors during the relief and reconstruction efforts totalled more than \$ 55 million (US).

International Donors

Figures for loans to the Government of Jamaica by the World Bank were not available for this study. However, it is known that the loans were specified for emergency reconstruction of import facilities, water supply and sewerage technical assistance, and rehabilitation projects in the power sector.

The Inter American Development Bank (IDB) has not made information about the rescheduling of existing loans for disaster reconstruction available for this study. However, it is IDB policy to give emergency grants following major disasters (at the time of Hurricane Gilbert in 1988, the amount of the emergency grant was \$200,000).

The IDB contributed two emergency grants to the Government of Jamaica, each totalling \$200,000. The first grant of September 16, 1988 was for construction materials, food and water for the victims of the hurricane. The second grant of October 21, 1988 was for additional resources to supplement

the projects of the first grant.

US Government Response

Grants from the USAID totalling \$56,551,559 (98.5 % of which was in the shelter and infrastructure sectors) facilitated recovery operations the three phases of emergency relief, temporary rehabilitation and permanent reconstruction.

The immediate objectives of the emergency relief effort were to meet basic survival needs and provide shelter. of the total OFDA emergency expenditures, 65.2% went for repair in the shelter of infrastructure sectors.

The most common damage to the shelter sector was partial or total roof loss to houses, community and industry buildings. Expenditure for roofing material, including transport of material, accounted for over 70% of shelter and infrastructure relief (46.3% of total emergency relief).

A power and light team from Florida was flown in to begin preliminary assessments of the damage to the power sector at a cost of \$110,250 or 10.9% of the shelter/infrastructure expenditure. Relief for the water sector included 18 3,000 gallon water tanks which were provide for emergency water supply.

Emergency Relief Expenditures (OFDA)

<u>Type of Relief</u>	<u>Amount</u>	<u>% of Total Funds</u>
Airlift of Power & Light Team	110,250	7.1
Transport of Plastic Sheeting	4,260	.27
Plastic Sheeting	85,231	5.4
Zinc Transport (increased cost)	9,983	.64
Airlift of roofing materials	100,000	6.4
Roofing Materials	101,692	6.6
Roofing Materials	506,551	32.6
Replacement of 18 Water Tanks	38,202	2.4
Airlift of field hospital	33,000	2.1
<u>Airlift of 320 tents & expert</u>	<u>22,000</u>	<u>1.4</u>
SubTotal (shelter/infra expenditure)	1,011,169	65.2
<u>Other (non shelter)</u>	<u>540,390</u>	<u>34.0</u>
Total Emergency Relief	1,551,559	100.0

Temporary Expenditures

For the temporary rehabilitation phase, the USAID provided a \$20 million operational program grant to the Government of Jamaica, which was subsequently increased to \$25 million. Only those activities which could realistically be completed within the 150 day Emergency Rehabilitation period authorized by USAID were included in this program. Longer term activities were delayed for funding under the FY1989 Reconstruction Program (described below).

The goal of this project was to provide a short term rehabilitation program of limited assistance needed to restore disaster victims to self-sufficiency.

USAID Emergency Rehabilitation Expenditures (OPG 532-0185)

<u>Sector of Rehabilitation</u>	<u>Amount US\$</u>	<u>% of Total Grant</u>
Power Sector	10,763,383	43.0
Housing Sector	7,033,459	28.0
Water Sector	2,075,786	8.0
Telecommunications	486,000	1.9
<u>Health Sector</u>	<u>873,733</u>	<u>3.6</u>
Total (Shelter/Infrastructure)	21,232,361	84.9
Agriculture	603,751	2.4
NGO's	2,658,485	11.0
<u>Miscellaneous</u>	<u>284,402</u>	<u>1.1</u>
Total *	25,000,000	100.0

* 97% disbursed by January, 1990

Power

Jamaica's power transmission and distribution system was seriously damaged in Kingston, Montego Bay and in rural areas throughout the island. While the capacity to generate electricity was not seriously affected, 250 miles of power distribution lines needed repairs. The grant finances equipment and work crews to repair the damage, and logistics and equipment support to the Jamaica Public Service Company Limited to restore the system. Electrical power transmission and distribution services were restored within eighty days, thirty days ahead of schedule.

Water

The potable water distribution system was significantly disrupted by the Hurricane. In support of the Jamaica National Water Commission's efforts to fully restore the water supply, USAID financed some 80% of pipes, fittings, and pumps used to repair broken main distribution lines, water/sewerage plants, and small and large pipelines. Chlorination equipment, water quality testing equipment and stand-by generators were also financed.

Non-shelter

The grant also assisted in non-shelter and infrastructure sectors. In the health sector, USAID financed the restocking of critical medical supplies and equipment, as well as vehicles for a mosquito spraying operation to prevent an outbreak of Dengue fever. In the agriculture sector, the grant provided seed and related inputs to farmers for replanting damaged crops.

Relief and rehabilitation programs of non-governmental organizations were also supported. The National Development Foundation of Jamaica, which assists small businesses with capital loans, received \$1 million for loans to businesses that sustained losses as a result of Hurricane Gilbert. The Kingston Restoration Company received \$500,000 to provide basic food staples, materials for essential repairs to damaged housing units in Kingston, and Medical services through a neighborhood health station.

The Council of Voluntary Social Services/ United Way of Jamaica received a \$1 million grant to procure and provide food, building materials and medical supplies & equipment to various private voluntary organizations involved in relief and rehabilitation activities.

Permanent Reconstruction Expenditures

The final stage of USAID assistance to Jamaica in the recovery from Hurricane Gilbert, was a \$30 million operational program grant consisting of three components: Rehabilitation of infrastructure, recovery of agriculture and business, and disaster preparedness and relief for the poor. The goal of the project was to remedy damage caused by the hurricane "in a way which mitigates damage that might be caused by future hurricanes."

USAID Permanent Reconstruction Expenditures (OPG 532-0158)

<u>Sector of Reconstruction</u>	<u>Amount</u>	<u>% of Total Grant</u>
Power	10,539,172	36.6
Telecommunication	500,000	1.7
Water	4,657,484	16.2
Education	3,254,438	11.2

<u>Administration of Justice</u>	<u>433,091</u>	<u>1.5</u>
Subtotal (Shelter/Infrastructure)	19,384,185	67.3
Agriculture Credit	4,650,000	16.1
JAMPRO (Small Business Recovery)	462,141	1.6
Disaster Preparedness	306,824	1.1
National Development Foundation	2,000,000	6.9
<u>United Way</u>	<u>2,000,000</u>	<u>6.9</u>
Subtotal (non-shelter/ infrastructure)	9,418,965	32.7
Total	28,803,150*	100.0

* Expenditures of \$30,000,000 Project Grant as of February 28, 1990 Audit.

Power

The power sector received over \$10 million to provide an integrated and standardized data base for the transmission and distribution system. The data base would assist the Jamaica Public Services Company Limited (JPS) in identifying the extent and location of future damage. Equipment and technical assistance were also funded for rehabilitation of the current fleet of JPS vehicles and procurement of specialized vehicles to supplement those procured under OPG 532-0185. The JPS communication system was upgraded and the JPS Disaster Preparedness Plan was revised and expanded.

Communications

The project also funded a grant to the Jamaica Telephone Company of \$500,000 for ongoing repairs to the system and commodities including specialized vehicles.

Water/Sewerage

The Water/Sewerage Sector received just under \$5 million for the continuation of the restoration effort begun under grant 532-0185 and for longer term rehabilitation of the water/sewerage system to make them less susceptible to future natural hazards. The project provided commodities and labor for repair and replacement of system equipment. Standby generators at main water/sewerage stations were added to lessen dependency on electrical systems vulnerable to disasters.

Education

most of the schools on the island were adversely affected by the hurricane. Under the permanent

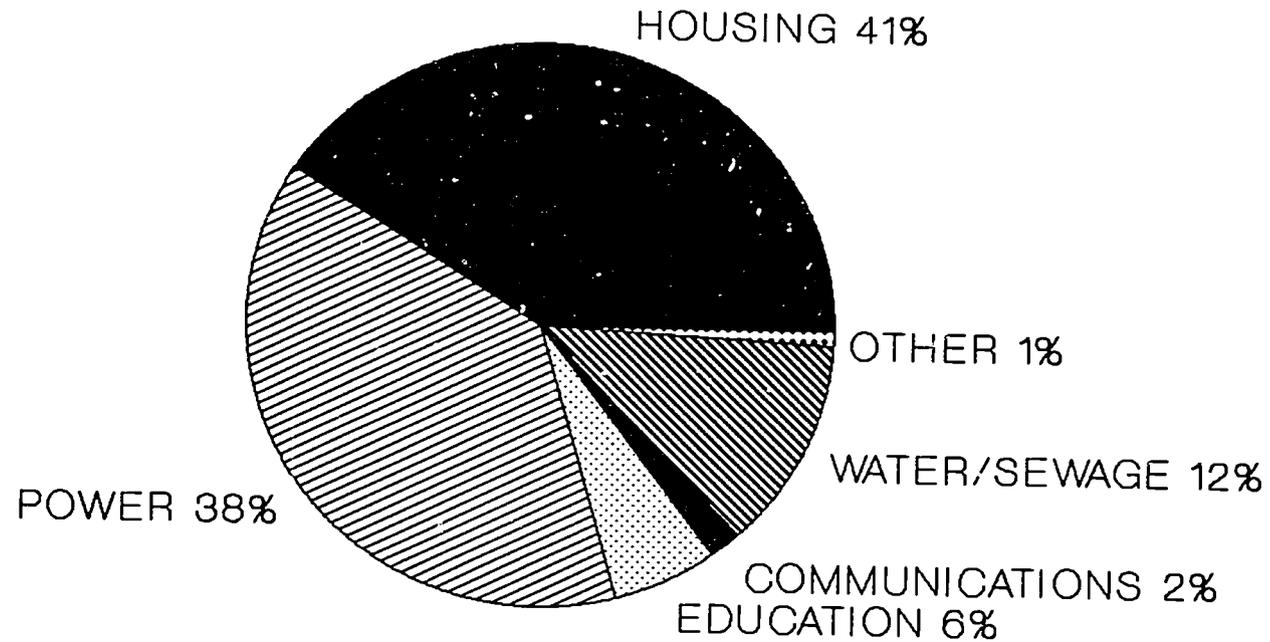
reconstruction project, the school system received approximately \$3,180,000 to finance repairs for roofs and gutters, replacement of windows and doors, improvements to water supply and sanitary systems, minor repairs to electrical installations, and instructional materials such as blackboards.

Funding was also provided to the Administration of Justice for repair of damaged courthouses.

Housing Guaranty Loan

In addition to the \$30 million operational program grant for the permanent reconstruction phase, \$15 million was accelerated through Jamaica Housing Guaranty Loan 013. By 1991, \$5.4 million had been liquidated for the following projects: \$1.2 million in Prefab Housing, \$2.3 million to the National Water Commission for water system improvement, \$1.9 million for infrastructure upgrading.

JAMAICA - HURRICANE - 1988 U.S. SHELTER SECTOR ASSISTANCE



TOTAL = \$55,691,116

JAMAICA - HURRICANE GILBERT (1988)

KILLED: 49

AFFECTED: 810,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	4,260	TRANSPORT: TO REPLACE PLASTIC SHEETING	
HOUSING (E)	9,983	TRANSPORT: INCREASE IN COST OF AIR FREIGHT FOR ZINC	
HOUSING (E)	100,000	AIRLIFT OF ROOFING MATERIALS	
EMERGENCY SHELTER	22,000	TRANSPORT: AIRLIFT OF 320 TENTS AND PAUL BELL	
EMERGENCY SHELTER	85,231	PLASTIC SHEETING	
HOUSING SUPPLIES (E)	101,692	ROOFING MATERIALS	
HOUSING SUPPLIES (E)	506,551	ROOFING MATERIALS	
POWER (E)	110,250	FLORIDA POWER & LIGHT TEAM	
WATER (E)	38,202	REPLACEMENT OF 18 3,000-GALLON WATER TANKS	
HEALTH (E)	33,000	AIRLIFT OF FIELD HOSPITAL	
SUB-TOTAL: OFDA	1,011,169		

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

POWER (T)	10,763,383		AID: 532-0185
POWER (P)	10,539,172	DATA BASE, EQUIPMENT, TECH ASSIST, LINE UPGRADING	AID: 532-0158
HOUSING (T)	7,033,459		AID: 532-0185
WATER (T)	2,075,786		AID: 532-0185
WATER (P)	4,657,484		AID: 532-0158
COMMUNICATIONS (T)	486,000		AID: 532-0185
URBAN RESTORATION (T)	370,225		AID: 532-0185
EDUCATION (P)	3,254,438	REFURBISHING BUILDINGS	AID: 532-0158
HOUSING (P)	15,000,000	HOUSING GUARANTY LOAN	HG-013
TOTAL: OTHER U.S.A.I.D.	54,179,947		

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 54.5%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

ASSORTED LOANS		WORLD BANK	
EMERGENCY RECONST. (P)	N/A	EMERGENCY RECONSTRUCTION IMPORT PROJECT	
WATER/SEWAGE (P)	N/A	WATER SUPPLY AND SEWERAGE TECHNICAL ASSISTANCE	
POWER (P)	N/A	FOURTH POWER PROJECT	
EMERGENCY SHELTER	200,000	INTER-AMERICAN DEVELOPMENT BANK	
INTERNATIONAL LOANS	200,000		
TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 55,391,116			

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Ministry of Construction (Housing)

ESTIMATE OF DAMAGE FROM HURRICANE GILBERT

September 18, 1988

Parish	No Damage		Minor Struc Damage		Minor Roof Damage		Major Roof Damage		Loss of Roof		Loss of Structure		
	No. Units	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Kingston &													
St. Andrew	144,575	39%	56,384	0%	578	22%	32,096	27%	39,614	10%	14,458	1%	1,446
St. Catherine	73,041	54%	39,442	1%	730	15%	10,956	18%	13,147	11%	8,035	1%	730
Clarendon	44,555	69%	30,609	1%	579	12%	5,347	13%	5,792	3%	1,337	2%	891
Manchester	30,575	74%	22,595	1%	336	20%	6,115	3%	917	2%	612	0%	0
St. Elizabeth	29,658	64%	19,129	1%	386	24%	7,148	6%	1,868	4%	1,127	0%	0
Westmoreland	29,202	64%	18,572	1%	321	11%	3,358	10%	2,949	10%	2,833	4%	1,168
Hanover	14,681	40%	5,828	1%	191	9%	1,351	16%	2,320	26%	3,788	8%	1,204
St. James	32,278	60%	19,367	3%	968	9%	2,905	16%	5,164	11%	3,551	1%	323
Trelawny	16,346	57%	9,317	3%	490	5%	817	20%	3,269	11%	1,798	4%	654
St. Ann	29,779	80%	23,823	1%	298	9%	2,680	5%	1,489	3%	893	2%	596
St. Mary	25,273	85%	21,381	0%	0	1%	253	4%	1,036	8%	2,072	2%	531
Portland	17,999	61%	10,997	1%	216	19%	3,330	7%	1,242	7%	1,260	5%	954
St. Thomas	20,748	10%	2,054	2%	498	6%	1,224	29%	5,934	45%	9,274	9%	1,764
Total	508,710	55%	279,498	1%	5,591	15%	77,580	17%	84,741	10%	51,038	2%	10,261

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USAID Jamaica Hurricane Reconstruction Project, Grant Agreement 532-0158, February 15, 1989.

Second Interim Audit Report on USAID Project 532-0158. December 31, 1990.

KEY TO APPENDICES

The data base consists of shelter sector expenditures by the Office of Foreign Disaster Assistance and A.I.D. projects, as well as international assistance following twenty representative disasters. The representative disasters include earthquakes, hurricanes or floods which occurred between 1970 - 1990. Furthermore, all twenty disasters were declared as such by the local United States Ambassador in each respective country.

Fifty-two earthquakes occurred between 1970 - 1990 which warranted response from the United States Office of Foreign Disaster Assistance. 181 floods occurred within this twenty-year span, as well as 101 hurricanes, cyclones, typhoons and tropical storms which likewise received such attention from O.F.D.A.

Of the above 334 natural disasters, six earthquakes, six floods and eight hurricanes have been examined in this report. These representative disasters warranted significant attention from O.F.D.A., and fourteen were followed by post-disaster attention from other A.I.D. offices. Among the twenty representative include earthquakes in El Salvador (1987), Guatemala (1976), and Nicaragua (1973), Hurricanes Hugo (1989), Gilbert (1988), and Fifi (1975), and floods in Bangladesh (1988), Tunisia (1983), and Peru (1983).

Two nations are included twice in the survey (Peru - flood, earthquake; Philippines - typhoon, flood) due to differing causes of the disasters as well as the differing types of post-disaster assistance. The Caribbean is treated as one entity in two separate hurricanes (Hugo - 1989, Allen - 1980). However, St. Vincent is treated as its own entity apart from other Caribbean nations in post-Hurricane Allen efforts, as was done by A.I.D. Finally, three typhoons which took place in a period of two months are combined as one (Philippines - 1984).

The data set was constructed using data received from the Office of Foreign Disaster Assistance, united with information gained through A.I.D. documents available through the A.I.D. Document Center. The latter information was gathered via extensive investigation into A.I.D. projects in the respective countries through the annual Congressional Presentation, project files, evaluations and audits, and miscellaneous papers.

Detailed information on post-disaster shelter sector loans was not readily available from the World Bank, the Inter-American Development Bank, and the Asian Development Bank. However, Lessons Learned from Emergency Lending: Divisional Working Paper No. 1990-15 from the Environment Department of the World Bank served as an initial starting point for seeking out such information elsewhere. Where such information is given, such figures come from A.I.D. documents rather than World Bank or IDB documents. Information on United Nations post-disaster expenditures comes from the U.N.D.P.

Official U.S. post-disaster shelter sector assistance is detailed in this principal data set. O.F.D.A.-funded assistance is listed first, followed by A.I.D. grants and loans and Housing Guaranty

Loans. The percentage of shelter-related aid relative to all post-disaster aid from A.I.D. immediately follows. Where shelter sector assistance from other donors has been encountered in A.I.D. documents as well as documents from international donors, such assistance is detailed. Finally, loans from international financial institutions and other governments are detailed where such data was available. In many cases, such loans could not be broken down by sector and are thus listed in their entirety.

Fourteen of the twenty representative disasters were followed by A.I.D. disaster-related projects, while information on World Bank, Inter-American Development Bank and Asian Development Bank emergency lending is provided for nine of the representative disasters.

The proportion of shelter related aid relative to all post-disaster aid from A.I.D. ranges from a low of 7.0% (Bangladesh flood, 1988) to a high of 96.8% (Turkey earthquake, 1977). The greatest expenditures for each of the three categories include: earthquake, El Salvador; hurricane, Jamaica; flood, Peru. 81.9% of all post-disaster official U.S. expenditures in El Salvador were allocated to shelter sector activities. In the cases of Jamaica and Peru, such post-disaster expenditure proportions are 55.0% and 75.8%, respectively.

APPENDIX 1

Official U.S. post-disaster shelter sector assistance is broken down into twelve categories. These categories include: emergency shelter, housing, power, transportation, education, health, communications, water & sewage, urban infrastructure, rural infrastructure, and agriculture. This information was attained through extensive research into A.I.D. post-disaster project files. The percentages listed represent expenditures within that category relative to all shelter sector expenditures. Below, the representative disasters are broken into their respective types: floods, hurricanes, earthquakes.

Housing/emergency shelter entails the overall single greatest shelter sector post-disaster expenditure, followed by urban infrastructure and power. Following floods, however, transportation and agricultural infrastructure receives high levels of expenditures, particularly in Peru and the Philippines. Transportation receives a high level of assistance following hurricanes, as one notes especially in Honduras and the Dominican Republic. Educational infrastructure received very high levels of assistance following earthquakes in Guatemala and El Salvador.

In general, one sees that earthquakes receive a significantly larger quantity of post-disaster shelter sector and non-shelter sector expenditures than floods or hurricanes.

APPENDIX 2

Graphic representations of information presented in Appendices 3 through 6.

APPENDIX 3

Official U.S. post-disaster shelter sector assistance is broken down by phase as defined by A.I.D. Total A.I.D. assistance is listed, followed by the percentage of each phase's shelter sector expenditures relative to all U.S. government assistance.

Sixty-five percent of post-disaster shelter sector assistance following the twenty disasters came more than 150 days after the disaster strike date. The largest proportion of permanent phase post-disaster shelter sector expenditures came following earthquakes, which likewise received the largest quantity of emergency phase funding.

APPENDIX 4

Official U.S. post-disaster shelter sector assistance is broken down between O.F.D.A. and other offices of U.S.A.I.D. Total U.S. Government assistance is likewise listed, followed by the percentage of each phase's shelter sector expenditures relative to all official U.S. Government assistance. Appendix 4-C indicates disaster expenditures deflated to 1970 prices.

APPENDIX 5

This lists all disasters declared by the local U.S. Ambassador during the time period 1970 - 1990. The O.F.D.A. disaster number is given, as well as the geographic region, country and type of disaster.

One notes several nations as disaster-prone over the past twenty years. The Philippines experienced fourteen typhoons and tropical storms, an earthquake and two floods. Peru suffered four earthquakes and six floods. India was struck by fifteen disasters over the twenty-year span, including an earthquake, six cyclones and eight floods.

APPENDIX 6

Actual O.F.D.A. assistance expenditures as presented by the Office of U.S. Foreign Disaster Assistance.

PERU - EARTHQUAKE & LANDSLIDE (1970)
 KILLED: 66,794
 AFFECTED: 3,027,909

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	3,150,000	INCLUDES THE FOLLOWING ITEMS:	
MEDICINES	N/A		
TENTS\COTS\BLANKETS	N/A		
WATER CONTAINERS	N/A		
DISASTER EXPERTS	N/A		
WATER PURIFICATION UNIT	N/A		
MEDICAL SUPPLIES	N/A	INCLUDES 2 PACKAGED DISASTER HOSPITALS	
ASSESSMENT TEAM	N/A		
TRANSPORT	N/A		
SUB-TOTAL: OFDA	3,150,000		

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

HOUSING (T)	1,950,000	RECONSTRUCTION GRANTS	AID: 527-0065
POWER (T)	400,000	RECONSTRUCTION GRANTS: GENERATORS	AID: 527-0065
HEALTH (P)	400,000	RECONSTRUCTION GRANTS	AID: 527-0065
EDUCATION (P)	2,540,000	EDUCATION GRANT	AID: 527-0065
RURAL HOUSING\INFRAST (P)	2,500,000	AID LOAN	AID: 527-0118
RURAL HOUSING\INFRAST (P)	500,000	AID LOAN	AID: 527-0118
URBAN INFRASTRUCTURE (P)		AID LOAN	AID: 527-0137
HOUSING	1,250,532	AID LOAN	AID: 527-0137
WATER\SEWAGE	10,593,341	AID LOAN	AID: 527-0137
POWER	5,856,615	AID LOAN:	AID: 527-0137
URBAN INFRASTRUCTURE	8,059,526	AID LOAN:	AID: 527-0137
HOUSING (P)	28,300,000	HOUSING GUARANTY LOAN (P)	HG-005
TOTAL: OTHER U.S.A.I.D.	62,350,014		

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 59.8%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

URBAN INFRASTRUCTURE (T)	116,161	U.N.D.P.	
URBAN INFRASTRUCTURE (P)	1,121,037	U.N.D.P.	
INTERNATIONAL ORGS.	1,237,198		
ASSORTED LOANS (P)	35,000,000	INTER-AMERICAN DEVELOPMENT BANK	
TRANSPORTATION	N/A		
COMMUNICATIONS	N/A		
AGRICULTURE	N/A		
ENERGY	N/A		
EDUCATION	N/A		
HOUSING	N/A		
WATER	N/A		
ASSORTED LOANS (P)	30,000,000	WORLD BANK	
ROAD RECONSTRUCTION PROJECT			
INTERNATIONAL LOANS	65,000,000		
TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION	\$ 131,737,212		

2/8

MICARAGUA - MANAGUA EARTHQUAKE (1973)

KILLED: 10,000

AFFECTED: 400,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	3,000,000	GRANT FOR TEMPORARY SHELTER PROGRAM
EMERGENCY SHELTER	42,000	COTS
EMERGENCY SHELTER	28,000	BLANKETS
EMERGENCY SHELTER	389,676	TENTS
WATER (E)	6,775	PUMPS AND FITTINGS

SUB-TOTAL: OFDA 3,466,451

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

URBAN INFRASTRUCTURE (T)	15,000,000	AID LOAN: NO BREAKDOWN GIVEN	AID: 524-0101
RUBBISH REMOVAL			AID: 524-0101
RESTORATION OF MAJOR DRAINAGE CANALS			AID: 524-0101
TRANSPORTATION			AID: 524-0101
REPAIR OF MUNICIPAL BUILDINGS			AID: 524-0101
HOUSING (T)	3,000,000		AID: 524-0116
URBAN INFRASTRUCTURE (P)	16,000,000	AID LOAN	AID: 524-0107
HEALTH (P)	10,800,000	AID LOAN	AID: 524-0107
TRANSPORTATION (P)	2,000,000	AID LOAN	AID: 524-0140
URBAN INFRASTRUCTURE (P)	2,000,000	AID LOAN	AID: 524-0140
HEALTH\SCHOOLS (P)	3,000,000	AID LOAN: RECONSTRUCTION OF PUBLIC FACILITIES	AID: 524-0140
LOW-COST HOUSING		AID RECONSTRUCTION GRANT	AID: 524-0116
HOUSING (P)	9,800,000	"	AID: 524-0116
ON-SITE INFRASTRUC (P)	2,500,000	" - WATER & SEWAGE	AID: 524-0116
HOME IMPROVE CREDIT (P)	700,000	"	AID: 524-0116
COMMUNITY DEVELOP (P)	700,000	"	AID: 524-0116
TECHNICAL ASSIST (P)	300,000	"	AID: 524-0116

TOTAL: OTHER U.S.A.I.D. 65,800,000

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 65.5%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

URBAN INFRASTRUCTURE (E)	21,544	U.N.D.P.
URBAN INFRASTRUCTURE (T)	381,844	U.N.D.P.
URBAN INFRASTRUCTURE (P)	414,456	U.N.D.P.

INTERNATIONAL ORGS. 817,844

ASSORTED LOANS (P)	16,700,000	INTER-AMERICAN DEVELOPMENT BANK
EDUCATION		
COMMUNICATIONS		
BUILDING MATERIALS		
ASSORTED LOANS (P)	20,000,000	WORLD BANK
EARTHQUAKE RECONSTRUCTION PROJECT		
SECOND MANAGUA WATER SUPPLY PROJECT		
COMMUNICATIONS (P)	1,000,000	CENTRAL AMERICAN BANK FOR ECONOMIC INTEGRATION
URBAN RECONSTRUCTION (P)	2,000,000	LOAN FROM GOVERNMENT OF BRAZIL

INTERNATIONAL LOANS 39,700,000

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 109,784,295

137

THE PHILIPPINES - FLOOD IN CENTRAL AND NORTHERN LUZON (1973)
KILLED: 653
AFFECTED: 2,400,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

TRANSPORTATION (E)	55,000	RELIEF AID UNABLE TO BREAK DOWN: \$5,820,000	
SUB-TOTAL: OFDA	55,000		

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

URBAN INFRASTRUCTURE (T)	13,356,000	AID SUPPORTING ASSISTANCE: DISASTER RECOVERY PROGRAM	
AGRICULTURE INFRASTR (T)	5,275,000	AID SUPPORTING ASSISTANCE: DISASTER RECOVERY PROGRAM	
EDUCATION (P)	4,361,000	AID SUPPORTING ASSISTANCE: DISASTER RECOVERY PROGRAM	
HOUSING (P)	8,000,000	AID SUPPORTING ASSISTANCE: DISASTER RECOVERY PROGRAM	

TOTAL: OTHER U.S.A.I.D. 30,992,000

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 49.1%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

TRANSPORTATION (P)	3,600,000	LOAN: ASIAN DEVELOPMENT BANK	
TRANSPORTATION (P)	68,000,000	LOAN: WORLD BANK	

INTERNATIONAL LOANS 71,600,000

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 102,647,000

HONDURAS - HURRICANE FIFI (1975)

KILLED: 8,000

AFFECTED: 600,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

INFRASTRUCTURE REPAIR (E)	1,000,000	REPAIR OF INFRASTRUCTURE	
INFRASTRUCTURE REPAIR (E)	200,000	REPAIR OF INFRASTRUCTURE	
MUNICIPAL RECONSTRUCT (E)	655,000	MUNICIPAL FACILITIES RECONSTRUCTION	
EMERGENCY SHELTER	30,034	2,000 SHEETS, WATER CANS, PORTABLE KITCHENS; ETC.	
EMERGENCY SHELTER	21,265	TENTS	
HOUSING (E)	485,000		CARE
SUB-TOTAL: OFDA		2,391,299	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

TRANSPORTATION (P)	2,400,000		AID: 522-0133
EDUCATION (P)	2,000,000	RENOVATION OF SCHOOLS (P)	AID: 522-0133
EDUCATION (P)	1,500,000	RENOVATION OF SCHOOLS (P)	AID: 522-0115
HOUSING (P)	663,025	RECONSTRUCTION OF HOMES	AID: 522-0115
TOTAL: OTHER U.S.A.I.D.		6,563,025	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 26.4%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 8,954,324

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GUATEMALA - GUATEMALA CITY EARTHQUAKE (1976)
KILLED: 23,000
AFFECTED: 3,750,000

SERVICE	COS:	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

HOUSING (E)	7,000		
HOUSING (E)	186,086	TENTS, MEDICAL SUPPLIES, GENERATORS, WATER TANKS	
HEALTH (E)	58,036	TRANSPORT OF 6 PACKAGED DISASTER HOSPITALS	
EDUCATION (E)	13,032	WOOD FOR SCHOOL FURNITURE	
COMMUNITY INFRASTRUCT (E)	60,833	CLEAN/REPAIR VILLAGE STREETS, STORM DRAINS, AND SEWAGE DISPOSAL FACILITIES	
HOUSING (E)	2,986,990	50,000 SHEETS OF ROOFING; 204 MT OF NAILS FOR CLASSROOM REPAIR	
COMMUNITY INFRASTRUCT (E)	291,661	TOOL KITS, WHEELBARROWS, SHOVELS, PICKS AND OTHER TOOLS	
HOUSING (E)	750,000	HELPED CONSTRUCT 27,000 HOUSES AND SHELTERS	
HOUSING (E)	68,607	RECONSTRUCTION PLAN FOR EL PROGRESSO	
SUB-TOTAL: OFDA		4,422,245	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

HOUSING (T)	5,193,008	ROOFING MATERIALS	AID: 520-0241
RUBBISH REMOVAL (T)	165,000	AID LOAN	AID: 520-0236
EDUCATION/HEALTH (T)	2,986,990		AID: 520-0241
COMMUNITY INFRASTRUCT (T)	13,836		AID: 520-0241
HOUSING (T)	447,200	MODEL HOUSING/SEISMIC-RESISTANT CONSTRUCTION	AID: 520-0241
HOUSING (T)	291,661		AID: 520-0241
HOUSING (T)	750,000		AID: 520-0241
HOUSING (T)	926,000	IN-COUNTRY TRANSPORTATION FOR VOLAGS	AID: 520-0241
TRANSPORTATION (T)	7,713,688	ROAD REPAIR	AID: 520-0241
COMMUNITY INFRASTRUCT (T)	1,685,475	MODEL HOUSING, WATER SYSTEMS, RECONSTRUCT MATERIALS, TRANSPORT OF	AID: 520-0241
WATER (P)	698,945	REPAIR OF POTABLE WATER SYSTEMS IN 80 TOWNS	AID: 520-0236
WATER (P)	1,265,000	AID LOAN	AID: 520-0236
POWER (P)	900,000	AID LOAN: ELECTRICITY	AID: 520-0236
SEWAGE (P)	238,000	AID LOAN	AID: 520-0236
TRANSPORTATION (P)	157,000	AID LOAN: STREET REPAIR	AID: 520-0236
EDUCATION (P)	6,000,000		AID: 520-0229
EDUCATION (P)	5,200,000		AID: 520-0029
TOTAL: OTHER U.S.A.I.D.		34,631,803	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 51.6%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

HOUSING (T)	509,827	U.N.D.P.	
HOUSING (T)	652,235	U.N.D.P.	
HOUSING (E/T)	16,045,000	U.S. NGOS	
HOUSING (E/T)	714,000	UNDRO: ROOFING SHEETS, WATER, HOUSING RECONSTRUCTION	
HOUSING (E/T)	5,080,000	RED CROSS SOCIETIES	
COMM. RECONSTRUCT (E/T)	3,454,000	RED CROSS SOCIETIES	
INTERNATIONAL ORGS.		26,455,062	
ASSORTED LOANS	34,200,000	INTER-AMERICAN DEVELOPMENT BANK	
TRANSPORTATION	N/A		
WATER	N/A		
EDUCATION	N/A		
HEALTH (P)	28,000,000	INTER-AMERICAN DEVELOPMENT BANK	
HOUSING (P)	20,000,000	INTER-AMERICAN DEVELOPMENT BANK	
EDUCATION/TRANSPORT (P)	6,500,000	WORLD BANK	
HOUSING (P)	20,000,000	WORLD BANK	
INTERNATIONAL LOANS		108,700,000	

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 174,209,110

TURKEY - EARTHQUAKE IN NORTHEAST PROVINCES (1977)

KILLED: 3,921

AFFECTED: 150,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

HOUSING (E)	20,314	HEATERS	
HOUSING (E)	550,000	AIRLIFT: TENTS AND HEATERS	
HOUSING (E)	70,000	AIRLIFT: 500 TENTS FOR LORCS	
HOUSING (E)	1,950,425	TENTS, 2,240 HEATERS AND 800 GAS CANS	
HOUSING (E)	700,000	SMALL GENERAL-PURPOSE TENTS	
HOUSING (E)	1,800,000	STEEL ROOFING, NAILS, ETC.	
HOUSING (E)	4,400,000	REHABILITATION GRANT TO CARE	

SUB-TOTAL: OFDA 9,490,739

TOTAL: OTHER U.S.A.I.D. 0

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 96.8%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

RELIEF/RECONSTRUCT (T)	20,000	U.N.D.P.	
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INTERNATIONAL ORGS. 20,000

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 9,510,739

27

SUCAN - FLOOD IN GEZIRA PROVINCE (1973)
KILLED: 34
AFFECTED: 100,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	160,048	PLASTIC SHEETING	
EMERGENCY SHELTER	710,000	TENTS	

SUB-TOTAL: OFDA 870,048

TOTAL: OTHER U.S.A.I.D. 0

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 28.2%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 870,048

INDIA - MONSOON FLOODS (1978)
KILLED: 3,800
AFFECTED: 32,000,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	122,303	GRANT TO WORLD VISION	
EMERGENCY SHELTER	300,000	BLANKETS, FUEL, COOKING UTENSILS, ETC.	
EMERGENCY SHELTER	915,123	GRANT TO CRS	
EMERGENCY SHELTER	923,500	GRANT TO CARE	

SUB-TOTAL: OFDA 2,260,926

TOTAL: OTHER U.S.A.I.D. 0

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 68.4%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 2,260,926

DOMINICAN REPUBLIC - HURRICANES DAVID & FREDERICK (1978)
KILLED: 1,400
AFFECTED: 1,200,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

WATER (E)	8,307		
POWER (E)	400,000	RESTORE ELECTRIC POWER	
POWER (E)	49,597	RESTORE ELECTRIC POWER	
EMERGENCY SHELTER	538,000	SHELTER PROGRAM	
EMERGENCY SHELTER	46,248	TENTS	
EMERGENCY SHELTER	4,7	NAILS	
EMERGENCY SHELTER	9,	COTS	
HOUSING (E)	3,000,000	SPECIAL CONGRESSIONAL APPROPRIATION	
HOUSING (E)	250,000		
SUB-TOTAL: OFDA		4,306,196	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

HOUSING (T)	2,178,000	THROUGH NGOS	AID: 517-0145
HOUSING (T)	106,900		AID: 517-0145
TRANSPORTATION (P)	10,000,000	LOAN: EMERGENCY ROAD REHABILITATION	AID: 517T033
POWER (T)	3,049,677	ELECTRICITY	AID: 517-0145
POWER (T)	4,027,863	ELECTRICITY	AID: 517-0145
TOTAL: OTHER U.S.A.I.D.		19,362,440	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 52.0%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

ASSORTED LOANS	N/A	WORLD BANK	
EMERGENCY ROAD RECONSTRUCTION PROJECT			
SECOND ROAD MAINTENANCE/RECONSTRUCTION PROJECT			
INTERNATIONAL LOANS	N/A		

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 23,668,636

CARIBBEAN - HURRICANE ALLEN (1960)

KILLED: 9
 AFFECTED: 70,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

INFRASTRUCTURE REPAIR (E)	3,448	SAWS TO CLEAR ROADS	
EMERGENCY SHELTER	8,767	FOR TEMPORARY ROOFING	
EMERGENCY SHELTER	16,137	COTS	
EMERGENCY SHELTER	50,000	FOR REPAIR OF COMFORT STATIONS	
EMERGENCY SHELTER	60,000	FOR HOUSING REPAIR	
EMERGENCY SHELTER	42,671	TENTS	
HOUSING (E)	85,737	(T); 16,500 PIECES LUMBER AND 2,000 LBS. NAILS	
HOUSING (E)	100,000	ESF FUNDS; LUMBER	
HOUSING (E)	58,284	(T); CORRUGATED STEEL	

SUB-TOTAL: OFDA 425,044

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

BARBADOS	HU HOUSING (T)	340,000	HURRICANE ALLEN	AID: 538-0058
ST LUCIA	HU HOUSING (T)	100,000	HURRICANE ALLEN	AID: 538-0058

SUB-TOTAL: OTHER U.S.A.I.D. 440,000

PROPORTION / SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 48.3%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 865,044

41

ST. VINCENT - HURRICANE ALLEN (1980)

KILLED: 0

AFFECTED: 20,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

HOUSING (E)	25,000	LOCAL PURCHASE OF HOUSING REPAIR SUPPLIES; HURRICANE ALLEN	
SEWAGE (E)	3,663	ENGINEERS: TO CHECK SEWAGE SYSTEM AND WHARF	AID
SEWAGE (E)	650,000	ESF FUNDS; PROJECT FOR REPAIR OF KINGSTOWN SEWAGE OUTFALL, GORSE	
TRANSPORTATION (E)	2,821	CHAINSAWS WITH EXTRA CHAINS AND BARS; TO CLEAR ROADS	
SUB-TOTAL: OFDA		681,484	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

80 ST VINCENT	HU HOUSING (T)	160,000	AID: 538-0058
80 ST VINCENT	HU RURAL INFRASTRUCT (T)	250,000	SEA WALL RECLAMATION AID: 538-0058
80 ST VINCENT	HU SEWAGE (T)	300,000	SEWAGE REPAIR AID: 538-0058
80 ST VINCENT	HU RURAL INFRASTRUCT (T)	45,000	EROSION CONTROL AID: 538-0058
SUB-TOTAL: OTHER U.S.A.I.D.		755,000	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 36.4%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 1,436,484

42

YEMEN - DHAR EARTHQUAKE (1983)
KILLED: 1,507
AFFECTED: 400,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

POWER (E)	44,000	GENERATORS	
EMERGENCY SHELTER	1,203,850	TENTS	
WATER (E)	15,843 (D);	3,000-GALLON TANKS	

SUB-TOTAL: OFDA 1,263,693

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

HOUSING (T)	3,000,000	HOME REPAIR LOANS - E.S.F.	AID: 279-0055
HOUSING (P)	3,000,000	HOME REPAIR LOANS - PL 480 TITLE I MONETIZATION	AID: 279-0077

TOTAL: OTHER U.S.A.I.D. 6,000,000

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 89.4%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 7,263,693

PERU - FLOOD ON NORTH COAST (1983)
 KILLED: 364
 AFFECTED: 700,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM C.F.D.A.

WATER (E)	3,736	AIRLIFT OF WATER TANKS	
RURAL INFRASTRUCTURE (E)	20,000	FLOOD RELIEF	
SEWAGE (E)	9,280	TECHNICIANS FOR SEWER WORK	
SEWER EQUIPMENT (E)	988	2 SUCTION HOSE REPLACEMENTS	
SEWER EQUIPMENT (E)	228,235	SEWER JETS AND VACUUMS FOR CLEANING; OCEAN FREIGHT	
SEWER EQUIPMENT (E)	493	SPARE PARTS	
TRANSPORTATION (E)	120,000	78 KM OF HIGHWAY	
SUB-TOTAL: OFDA		382,732	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

TRANSPORTATION (P)	12,002,000	REHABILITATION\REPAIR OF BRIDGES	AID: 527-0277
AGRICULTURAL INFRA (P)	8,367,000	REPAIR OF IRRIGATION SYSTEMS IN COASTAL AREAS	AID: 527-0277
TRANSPORTATION (P)	7,987,000	ROADS IN URBAN AREAS	AID: 527-0277
WATER/SEWAGE (P)	4,268,000	NOTE: \$40.2 MILLION OF 527-0277 IN LOANS; 24.8 IN GRANTS	AID: 527-0277
POWER (P)	3,127,000		AID: 527-0277
RURAL INFRASTRUCTURE (P)	3,085,000	RIVER DEFENSES	AID: 527-0277
HOUSING (P)	1,986,000		AID: 527-0277
RURAL INFRASTRUCTURE (P)	1,141,000	REHABILITATION OF INFRASTRUCTURE	AID: 527-0277
HOUSING (P)	296,000		AID: 527-0277
HOUSING (P)	4,800,000	GRANT TO PVO'S	
HOUSING (P)	1,400,000	HOUSING GUARANTY LOAN (P)	HG-011A
HOUSING (P)	12,500,000	HOUSING GUARANTY LOAN (P)	HG-011B
TOTAL: OTHER U.S.A.I.D.		60,959,000	

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 42.4%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

ASSORTED LOANS (P)	67,000,000	INTER-AMERICAN DEVELOPMENT BANK
TRANSPORTATION	N/A	
ELECTRICITY	N/A	
ASSORTED LOANS (P)	80,000,000	INTER-AMERICAN DEVELOPMENT BANK
WATER & SEWAGE	N/A	
IRRIGATION	N/A	
ASSORTED LOANS (P)	27,000,000	WORLD BANK
IRRIGATION REHAB.	N/A	
TRANSPORTATION	N/A	
PETROLEUM PRODUCTION ENHANCEMENT		
ASSORTED LOANS (P)	20,000,000	ANDEAN DEVELOPMENT CORPORATION
RECONSTRUCTION	N/A	
INTERNATIONAL LOANS	194,000,000	

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 255,341,732

TUNISIA - FLOOD IN COASTAL AREAS (1983)

KILLED: 117

AFFECTED: 30,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

WATER (E)	5,346	AIRLIFT: WATER PURIFICATION	
WATER (E)	150,818	AIRLIFT: WATER PURIFICATION	
WATER (E)	80,969	PUMPS & HOUSING	
SEWER EQUIPMENT (E)	229,208		
SEWER EQUIPMENT (E)	30,859		
TRANSPORTATION (E)	4,000	BRIDGE EXPERTS	
TRANSPORTATION (E)	75,000	BRIDGES	
TRANSPORTATION (E)	233,283	CULVERTS	

SUB-TOTAL: OFDA 809,483

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

HOUSING (T)	565,000	HOUSING REPAIR: E.S.F.	
HOUSING (P)	400,000	HOUSING RECONSTRUCTION: E.S.F.	
HOUSING (P)	2,100,000	HOUSING GUARANTY LOAN	

AID: 664-0329

AID: 664-0329

HG: 004

TOTAL: OTHER U.S.A.I.D. 3,065,000

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 62.2%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 3,874,483

THE PHILLIPINES - TYPHOONS IKE & AGNES (1984 & 1985)
KILLED: 1,924
AFFECTED: 2,264,067

SERVICE	COST	COMMENTS	PROVIDER
SHELTER-RELATED ASSISTANCE FROM O.F.D.A.			
EDUCATION (E)	774,000	SCHOOL REPAIR PROJECT	
POWER (E)	865,500	TO RESTORE ELECTRIC POWER	
HOUSING (E)	40,000	PBSP = PHILIPPINE BUSINESS FOR SOCIAL PROGRESS	
EDUCATION (E)	432,103	SCHOOL REPAIR PROJECT; ORIGINAL COST WAS \$521,603	
WATER (E)	1,008		
POWER (E)	500,000	RURAL ELECTRIFICATION	
SUB-TOTAL: OFDA		2,612,611	
TOTAL: OTHER U.S.A.I.D.		0	
PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 38.3%			
<hr/>			
TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 2,612,611			

SOLOMON ISLANDS - CYCLONE NAMU (1986)

KILLED: 101

AFFECTED: 90,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	17,497	OCEAN FREIGHT FOR PLASTIC SHEETING	
EMERGENCY SHELTER	75,000	AIRLIFT FOR PLASTIC SHEETING	
EMERGENCY SHELTER	137,946	PLASTIC SHEETING	
WATER (E)	31,291	TO OPERATE WPU'S	
WATER (E)	19,496	3,000-GAL. CAPACITY TANKS	
WATER (E)	7,000	WATER EXPERTS	
WATER (E)	0	WATER PURIFICATION UNITS ON LOAN	
HOUSING (E)	50,000	5 SAWMILLS	
HOUSING (E)	100,000		
HOUSING (E)	22,000		
HOUSING (E)	100,000	INCREASE IN GRANT	

SUB-TOTAL: OFDA 560,230

TOTAL: OTHER U.S.A.I.D. 0

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 46.9%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 560,230

EL SALVADOR - SAN SALVADOR EARTHQUAKE (1987)
 KILLED: 1,100
 AFFECTED: 500,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	11,000	AIRLIFT: 213 ROLLS PLASTIC SHEETING	
EMERGENCY SHELTER	12,100	AIRLIFT: PLASTIC SHEETING DONATED BY GOCR	
EMERGENCY SHELTER	36,884	BLANKETS, WATER TANKS, TENTS	
EMERGENCY SHELTER	11,000	AIRLIFT: 230 ROLLS PLASTIC SHEETING	
EMERGENCY SHELTER	544,016	PLASTIC SHEETING	
EMERGENCY SHELTER	15,000	TRANSPORT: OCEAN FREIGHT OF 710 ROLLS PLASTIC SHEETING TO PANAMA	
EMERGENCY SHELTER	100,000	AIRLIFT: TENTS, BLANKETS, WATER TANKS	
WATER (E)	86,472	3,000-GALLON TANKS	
WATER (E)	290,000	RELIEF EQUIPMENT AND ACCESSORIES FOR WATER RESTORATION	
POWER (E)	2,100,000	AID/LAC FUNDS; ELECTRICAL PROJECTS	

SUB-TOTAL: OFDA 3,206,472

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

EMERGENCY SHELTER	300,000	EMERGENCY SHELTER: ZINC, LUMBER, NAILS	AID: 519-0330
HOUSING (T)	4,460,000	TEMPORARY SHELTER	AID: 519-0331
HOUSING (T)	3,340,000	SLUM REHABILITATION	AID: 519-0331
HOUSING (T)	21,562,078	REHABILITATION OF MULTI-FAMILY HOUSING; HOME REPAIR/RECONSTRUCTION	AID: 519-0331
INFRASTRUCTURE REPAIR (T)	1,745,271	PUBLIC SERVICES RESTORATION	AID: 519-0331
HEALTH (T)	966,000		
EDUCATION (T)	2,321,701	SCHOOL RECONSTRUCTION	
WATER (T)	1,200,000		
ELECTRICITY (T)	600,722	PUBLIC LIGHTING	
INFRASTRUCTURE REPAIR (T)	119,228	STRUCTURAL STEEL	
INFRASTRUCTURE REPAIR (T)	720,000		
BRIDGES (T)	765,000		
INFRASTRUCTURE REPAIR (T)	2,200,000	RUBBISH CLEAN UP	AID: 519-0331
HOUSING (P)	18,000,000	REPAIR/RECONSTRUCTION OF INDIVIDUAL HOUSING	AID: 519-0333
HOUSING (P)	14,000,000	RECONSTRUCTION/REHABILITATION OF MESON PROPERTIES	AID: 519-0333
HOUSING (P)	12,000,000	RELOCATION & RESETTLEMENT	AID: 519-0333
HOUSING (P)	1,000,000	REPAIR & RECONSTRUCTION OF MULTI-FAMILY HOUSING	AID: 519-0333
INFRASTRUCTURE (P)	8,000,000	RECONSTRUCTION OF PUBLIC BUILDINGS	AID: 519-0333
INFRASTRUCTURE (P)	3,000,000	DEMOLITION OF BUILDINGS	AID: 519-0333
INFRASTRUCTURE (P)	7,000,000	PUBLIC SECTOR SERVICES	AID: 519-0333
INFRASTRUCTURE (P)	5,000,000	TECHNICAL ASSISTANCE	AID: 519-0333
INFRASTRUCTURE (P)	4,000,000	CONTINGENCIES/EVALUATION	AID: 519-0333
HEALTH (P)	5,000,000	RESTORATION OF PRIVATE HEALTH CARE SERVICES	AID: 519-0333
EDUCATION (P)	5,000,000	RECONSTRUCTION OF PRIVATE SCHOOLS	AID: 519-0333
EDUCATION (P)	8,000,000	CONSTRUCTION OF PUBLIC SCHOOLS	AID: 519-0333

TOTAL: OTHER U.S.A.I.D. 130,300,000

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 81.9%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

WATER/SEWAGE 49,258 U.N.D.P.

INTERNATIONAL ORGS. 49,258

ASSORTED LOANS (P)	102,000,000	WORLD BANK
EARTHQUAKE RECONSTRUCT	N/A	WORLD BANK
FOURTH EDUCATION PROJ	N/A	WORLD BANK
ASSORTED LOANS (P)	18,000,000	FEDERAL REPUBLIC OF GERMANY
ASSORTED LOANS (P)	29,000,000	INTER-AMERICAN DEVELOPMENT BANK
ASSORTED LOANS (P)	100,000,000	ITALY
ASSORTED LOANS (P)	36,000,000	FRANCE
HEALTH SECTOR LOAN (P)	8,000,000	EUROPEAN ECONOMIC COMMUNITY
SHELTER LOAN (P)	8,000,000	CENTRAL AMERICAN BANK FOR ECONOMIC INTEGRATION
SHELTER LOAN (P)	2,000,000	GUATEMALA

INTERNATIONAL LOANS 303,000,000

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 436,555,730

48

JAMAICA - HURRICANE GILBERT (1988)
 KILLED: 49
 AFFECTED: 810,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

EMERGENCY SHELTER	4,260	TRANSPORT: TO REPLACE PLASTIC SHEETING	
HOUSING (E)	9,983	TRANSPORT: INCREASE IN COST OF AIR FREIGHT FOR ZINC	
HOUSING (E)	100,000	AIRLIFT OF ROOFING MATERIALS	
EMERGENCY SHELTER	22,000	TRANSPORT: AIRLIFT OF 320 TENTS AND PAUL BELL	
EMERGENCY SHELTER	85,231	PLASTIC SHEETING	
HOUSING SUPPLIES (E)	101,692	ROOFING MATERIALS	
HOUSING SUPPLIES (E)	506,551	ROOFING MATERIALS	
POWER (E)	110,250	FLORIDA POWER & LIGHT TEAM	
WATER (E)	38,202	REPLACEMENT OF 18 3,000-GALLON WATER TANKS	
HEALTH (E)	33,000	AIRLIFT OF FIELD HOSPITAL	
SUB-TOTAL: OFDA	1,011,169		

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

POWER (T)	10,763,383		AID: 532-0185
POWER (P)	10,539,172	DATA BASE, EQUIPMENT, TECH ASSIST, LINE UPGRADING	AID: 532-0158
HOUSING (T)	7,033,459		AID: 532-0185
WATER (T)	2,075,786		AID: 532-0185
WATER (P)	4,657,484		AID: 532-0158
COMMUNICATIONS (T)	486,000		AID: 532-0185
URBAN RESTORATION (T)	370,225		AID: 532-0185
EDUCATION (P)	3,254,438	REFURBISHING BUILDINGS	AID: 532-0158
HOUSING (P)	15,000,000	HOUSING GUARANTY LOAN	AID: 532-0158
TOTAL: OTHER U.S.A.I.D.	54,179,947		HG-013

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 54.5%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

ASSORTED LOANS		WORLD BANK
EMERGENCY RECONST. (P)	N/A	EMERGENCY RECONSTRUCTION IMPORT PROJECT
WATER/SEWAGE (P)	N/A	WATER SUPPLY AND SEWERAGE TECHNICAL ASSISTANCE
POWER (P)	N/A	FOURTH POWER PROJECT
EMERGENCY SHELTER	200,000	INTER-AMERICAN DEVELOPMENT BANK
INTERNATIONAL LOANS	200,000	

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION @ 55,391,116

49

BANGLADESH - NATION-WIDE FLOODING (1988)
 KILLED: 2,379
 AFFECTED:45,000,000

SERVICE COST COMMENTS
 =====

SHELTER-RELATED ASSISTANCE FROM J.F.D.A.

EMERGENCY SHELTER	17,028	SHELTER ASSESSMENT
EMERGENCY SHELTER	292,220	PLASTIC SHEETING
WATER (E)	53,194	26 3,000-GALLON WATER TANKS

SUB-TOTAL: OFDA 362,442

TOTAL: OTHER U.S.A.I.D. 0

PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT 7.0%

SHELTER-RELATED ASSISTANCE FROM INTERNATIONAL ORGANIZATIONS

EMERGENCY FLOOD ASSIST. 50,290 U.N.D.P.

INTERNATIONAL ORGS. 50,290

ASSORTED LOANS	N/A	WORLD BANK
FLOOD CONTROL (P)	N/A	2ND SMALL SCALE FLOOD CONTROL, DRAINAGE & IRRIGATION PROJECT
FLOOD REHAB (P)	N/A	SECOND FLOOD REHABILITATION PROJECT
RURAL INFRA (P)	N/A	RURAL ROADS & MARKETS IMPROVEMENT AND MAINTENANCE PROJECT
ASSORTED LOANS		ASIAN DEVELOPMENT BANK
FLOOD CONTROL (P)	14,300,000	FLOOD CONTROL/IRRIGATION
TRANSPORTATION (P)	40,000,000	FLOOD DAMAGE RESTORATION - ROADS AND RAILWAYS
FLOOD REHAB (P)	40,000,000	RURAL INFRASTRUCTURE

INTERNATIONAL LOANS N/A

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 94,712,732

CARIBBEAN - HURRICANE HUGO (1989)
 KILLED: 21
 AFFECTED: 50,000

SERVICE	COST	COMMENTS	PROVIDER
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SHELTER-RELATED ASSISTANCE FROM O.F.D.A.

WATER (E)	38,400	2 TANKS: MONTERRAT; 1: ST. KITTS; 4: NEVIS; 9: ANTIGUA	
EMERGENCY SHELTER INFRASTRUCTURE (E)	108,965	PLASTIC SHEETING - 268 ROLLS: MONTERRAT; 36: ST. KITTS; 14: NEVIS; 31: ANTIGUA	
	1,799	5 CHAIN SAW KITS FOR MONTERRAT; 2 TO NEVIS	
POWER (E)	106,762	POWER RESTORATION PROJECT ON ST. KITTS AND NEVIS	
POWER (E)	482,440	28 CREWMEN TO RESTORE POWER ON ST. KITTS AND NEVIS	
POWER (E)	1,000,000	POWER RESTORATION PROJECT FOR ST. KITTS AND NEVIS	
HOUSING (E)	84,000	588 TONS OF ZINC SHEETING TO MONTERRAT, KITTS, NEVIS, ANTIGUA, BVI	
SUB-TOTAL: OFDA		1,822,366	

OTHER U.S.A.I.D. ASSISTANCE TO SHELTER SECTOR

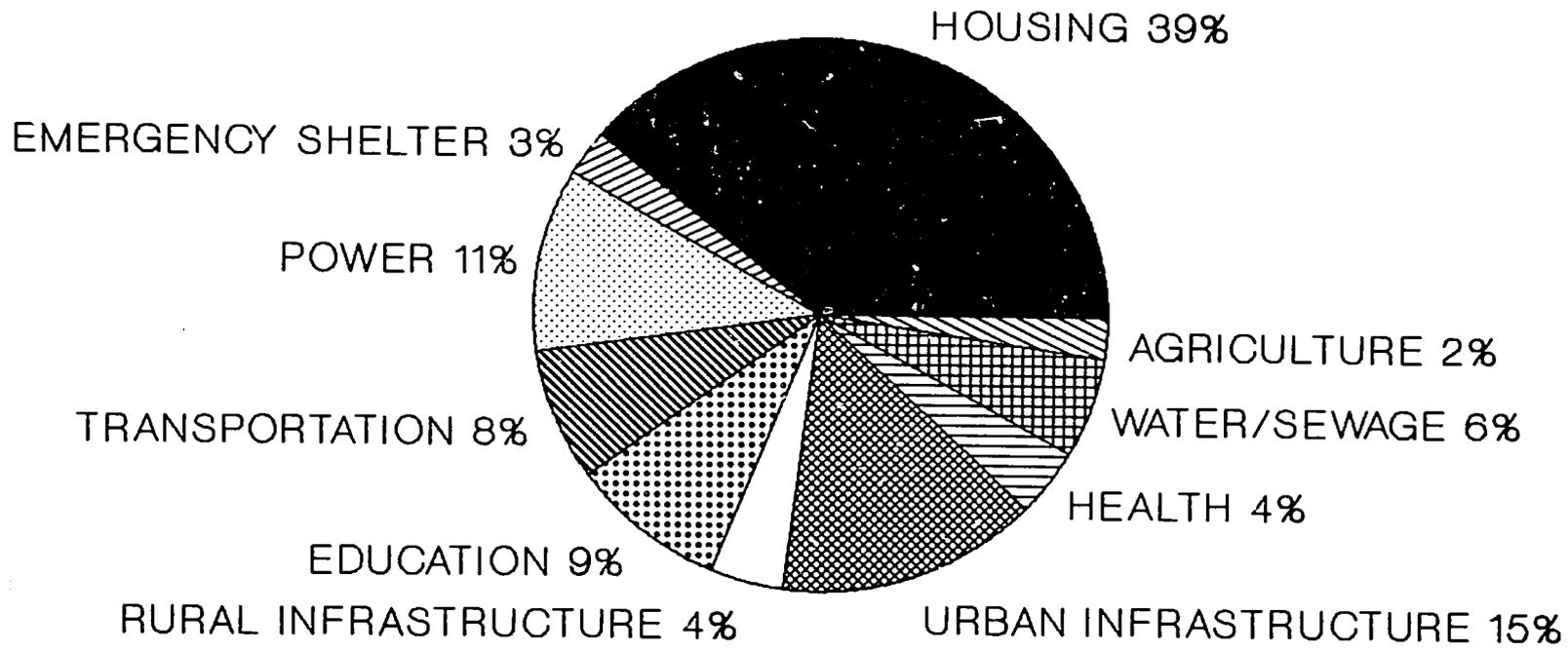
TRANSPORTATION (E)	185,000	CLEARANCE OF LAND SLIDES	AID: 538-0175
INFRASTRUCTURE (T)	16,000	DOCKS & BOATSHED REPAIR	AID: 538-0175
TRANSPORTATION (E)	50,000	REPAIR OF BRIDGES	AID: 538-0175
TRANSPORTATION (E)	265,000	SEA COAST DEFENSES	AID: 538-0175
POWER (E)	2,430,000		AID: 538-0175

TOTAL: OTHER U.S.A.I.D. 2,946,000

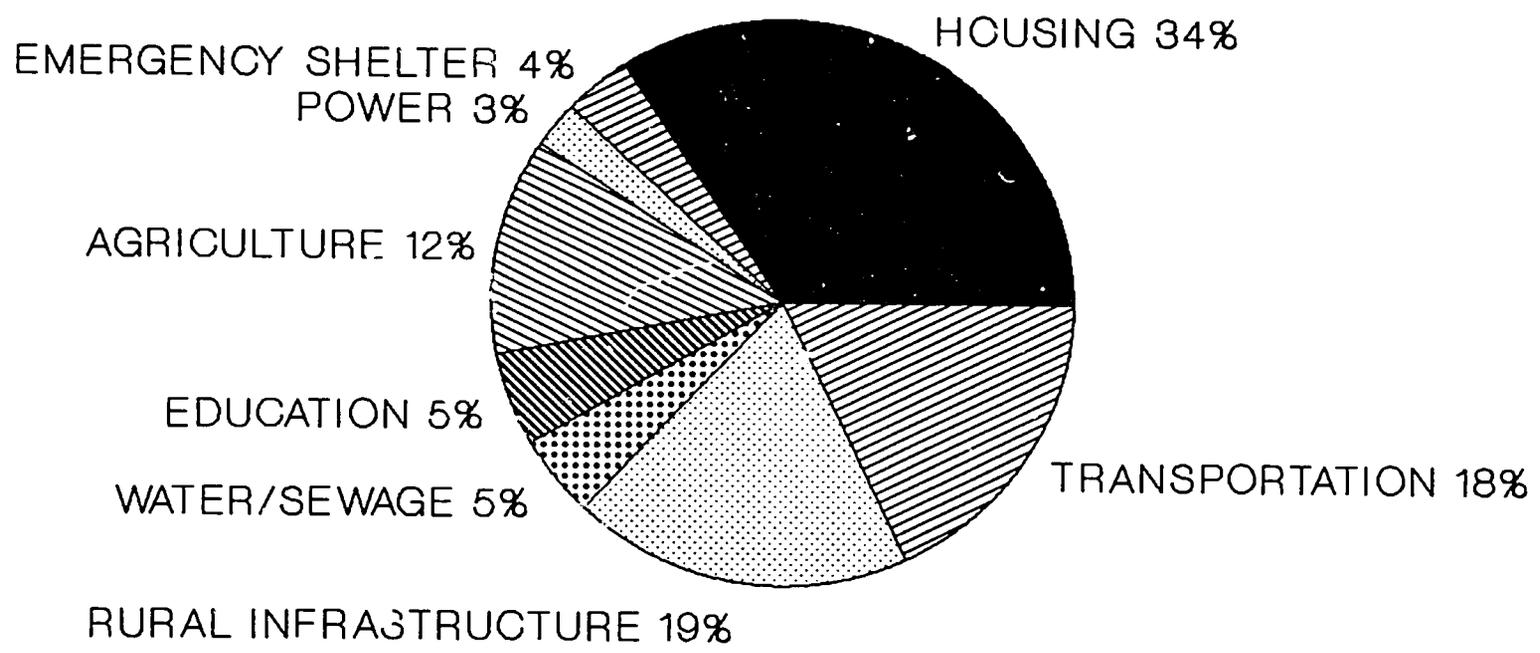
PROPORTION OF SHELTER-RELATED AID TO ALL AID FROM U.S. GOVERNMENT - 67.3%

TOTAL DOCUMENTED EXTERNAL ASSISTANCE TO SHELTER SECTOR RECONSTRUCTION \$ 4,768,366

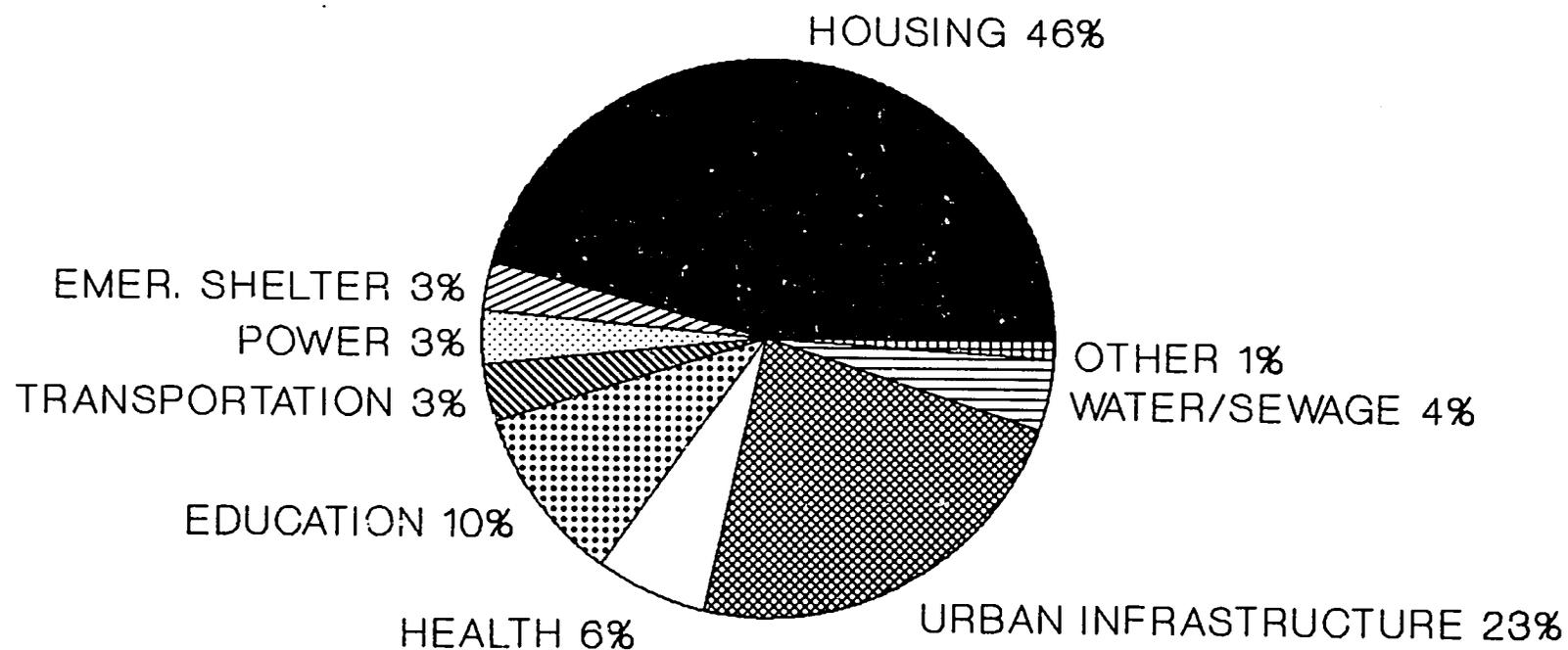
20 REPRESENTATIVE DISASTERS 1970 - 1990 SHELTER-SECTOR RELATED AID



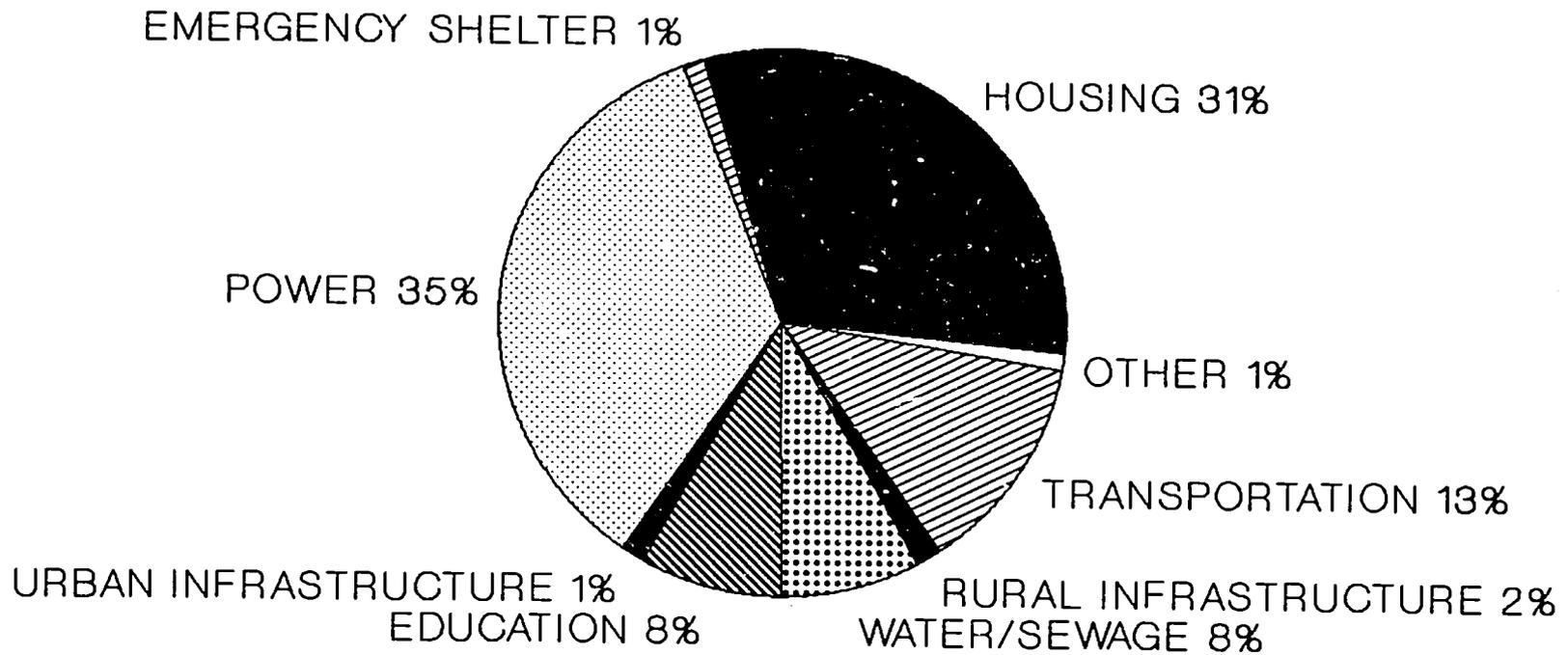
6 MAJOR FLOODS 1970 - 1990 SHELTER-SECTOR RELATED AID



6 MAJOR EARTHQUAKES 1970 - 1990 SHELTER-SECTOR RELATED AID



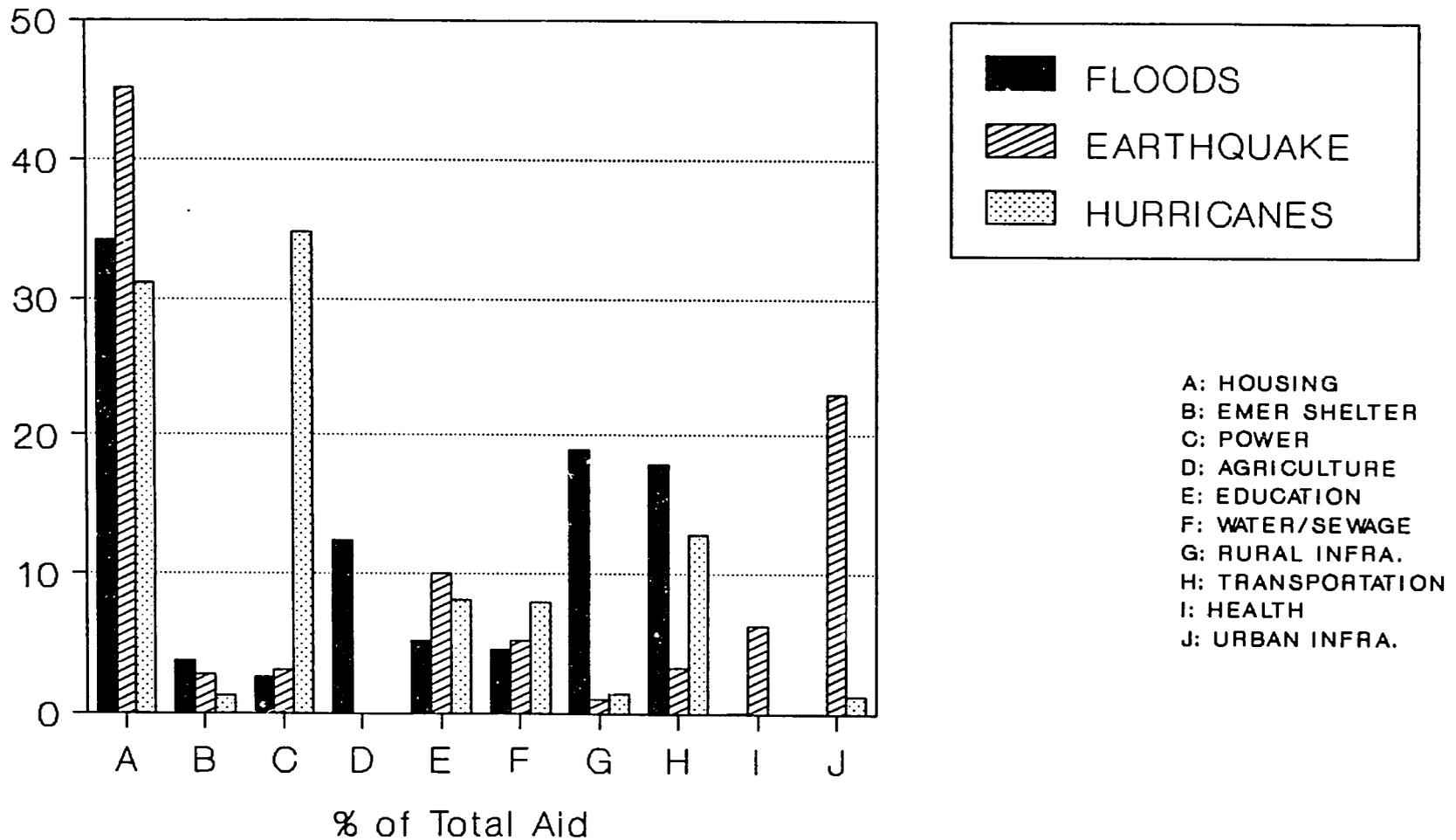
8 MAJOR HURRICANES
1970 - 1990
SHELTER-SECTOR RELATED AID



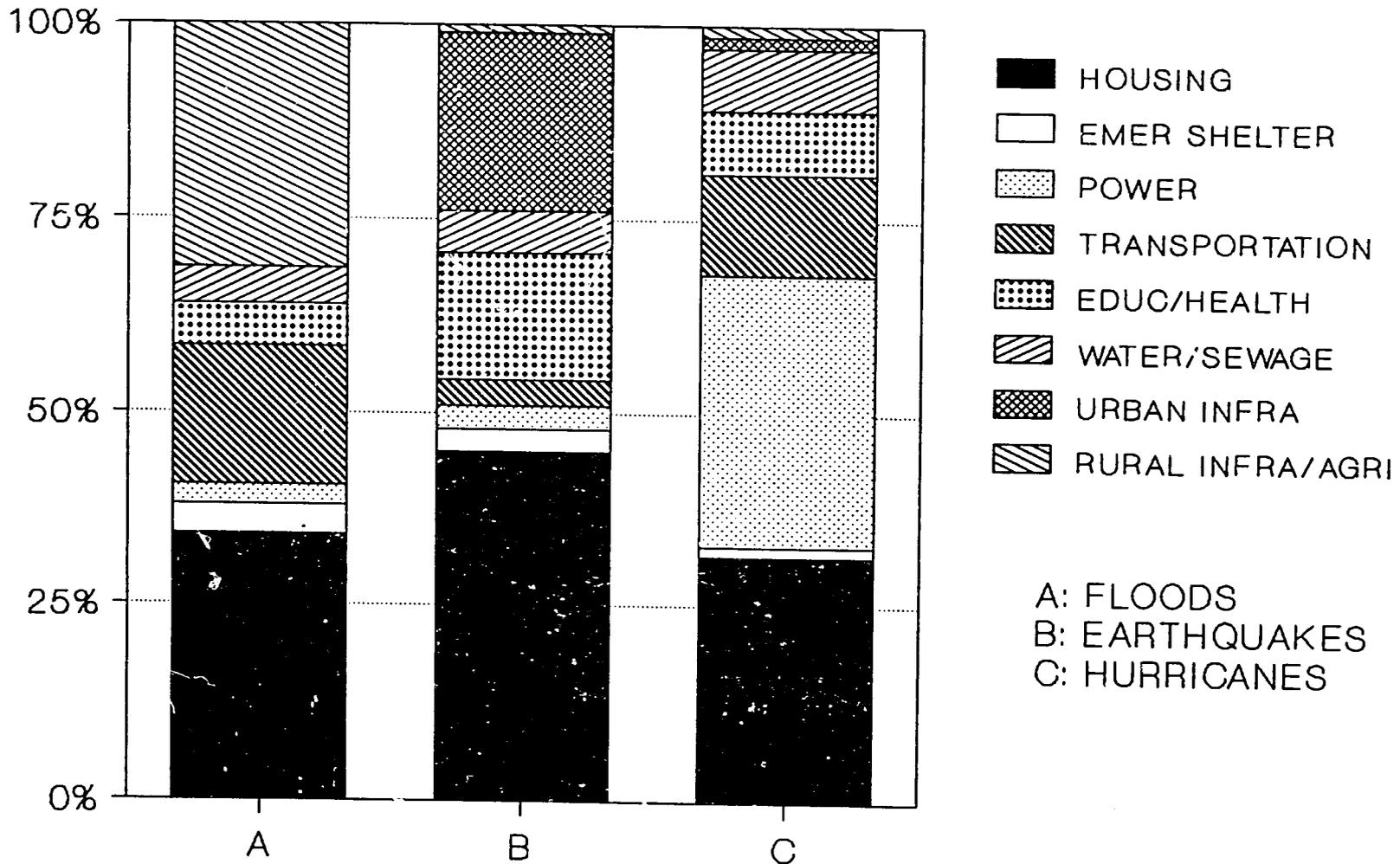
20 REPRESENTATIVE DISASTERS

1970 - 1990

SHELTER-SECTOR RELATED AID



20 REPRESENTATIVE DISASTERS 1970 - 1990



APPENDIX 3 - A

NOTE: THE FOLLOWING DETAILS INDICATE THE THREE PHASES IN WHICH U.S GOVERNMENT ASSISTANCE WAS DELIVERED TO COUNTRIES SUFFERING MAJO EARTHQUAKES.

COUNTRY			TOTAL	SHELTER AS % OF ALL AID	
70 PERU	EQ	EMERGENCY	\$3,150,000	2.9%	
70 PERU	EQ	TEMPORARY	\$2,350,000	2.1%	
70 PERU	EQ	PERMANENT	\$60,000,014	54.8%	
TOTAL U.S.G. ASSISTANCE			\$109,507,014		
73 NICARAGUA	EQ	EMERGENCY	\$3,466,451	3.3%	
73 NICARAGUA	EQ	TEMPORARY	\$18,000,000	17.0%	
73 NICARAGUA	EQ	PERMANENT	\$47,800,000	45.2%	
TOTAL U.S.G. ASSISTANCE			\$105,670,790		
76 GUATEMALA	EQ	EMERGENCY	\$21,100,397	34.5%	
76 GUATEMALA	EQ	TEMPORARY	\$0	0.0%	
76 GUATEMALA	EQ	PERMANENT	\$13,925,000	22.7%	
TOTAL U.S.G. ASSISTANCE			\$61,233,211		
77 TURKEY	EQ	EMERGENCY	\$9,490,739	96.8%	
77 TURKEY	EQ	TEMPORARY	\$0	0.0%	
77 TURKEY	EQ	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$9,808,178		
83 YEMEN A.R.	EQ	EMERGENCY	\$1,263,693	15.6%	
83 YEMEN A.R.	EQ	TEMPORARY	\$3,000,000	36.9%	
83 YEMEN A.R.	EQ	PERMANENT	\$3,000,000	36.9%	
TOTAL U.S.G. ASSISTANCE			\$8,122,562		
87 EL SALVADOR	EQ	EMERGENCY	\$3,506,472	2.2%	
87 EL SALVADOR	EQ	TEMPORARY	\$40,000,000	24.5%	
87 EL SALVADOR	EQ	PERMANENT	\$90,000,000	55.2%	
TOTAL U.S.G. ASSISTANCE			\$163,068,688		
			EMERGENCY	\$41,977,752	9.2%
			TEMPORARY	\$63,350,000	13.8%
			PERMANENT	\$214,725,014	46.9%
TOTAL U.S.G. ASSISTANCE			\$457,410,443		

APPENDIX 3 - B

NOTE: THE FOLLOWING DETAILS INDICATE THE THREE PHASES IN WHICH U.S. GOVERNMENT ASSISTANCE WAS DELIVERED TO COUNTRIES SUFFERING MAJOR FLOODS.

COUNTRY			TOTAL	SHELTER AS % OF ALL AID	
73 PHILIPPINES	FL	EMERGENCY	\$55,000	0.1%	
73 PHILIPPINES	FL	TEMPORARY	\$18,631,000	29.5%	
73 PHILIPPINES	FL	PERMANENT	\$12,361,000	19.5%	
TOTAL U.S.G. ASSISTANCE			\$63,258,300		
78 SUDAN	FL	EMERGENCY	\$870,048	28.2%	
78 SUDAN	FL	TEMPORARY	\$0	0.0%	
78 SUDAN	FL	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$3,083,011		
78 INDIA	FL	EMERGENCY	\$2,260,926	68.4%	
78 INDIA	FL	TEMPORARY	\$0	0.0%	
78 INDIA	FL	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$3,307,734		
83 PERU	FL	EMERGENCY	\$383,732	0.6%	
83 PERU	FL	TEMPORARY	\$2,820,000	4.1%	
83 PERU	FL	PERMANENT	\$49,173,240	71.2%	
TOTAL U.S.G. ASSISTANCE			\$69,110,000		
83 TUNISIA	FL	EMERGENCY	\$809,483	13.0%	
83 TUNISIA	FL	TEMPORARY	\$565,000	9.1%	
83 TUNISIA	FL	PERMANENT	\$2,500,000	40.1%	
TOTAL U.S.G. ASSISTANCE			\$6,231,717		
88 BANGLADESH	FL	EMERGENCY	\$362,442	7.0%	
88 BANGLADESH	FL	TEMPORARY	\$0	0.0%	
88 BANGLADESH	FL	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$5,165,316		
			EMERGENCY	\$4,741,631	3.2%
			TEMPORARY	\$22,016,000	14.7%
			PERMANENT	\$64,034,240	42.6%
TOTAL U.S.G. ASSISTANCE			\$150,156,078		

APPENDIX 3 - C

NOTE: THE FOLLOWING DETAILS INDICATE THE THREE PHASES IN WHICH U.S. GOVERNMENT ASSISTANCE WAS DELIVERED TO COUNTRIES SUFFERING MAJOR HURRICANES, CYCLONES OR TYPHOONS.

COUNTRY			TOTAL	SHELTER AS % OF ALL AID	
75 HONDURAS	HU	EMERGENCY	\$2,391,299	7.1%	
75 HONDURAS	HU	TEMPORARY	\$0	0.0%	
75 HONDURAS	HU	PERMANENT	\$6,563,025	19.3%	
TOTAL U.S.G. ASSISTANCE			\$33,917,894		
79 DOMIN REPUB	HU	EMERGENCY	\$4,306,196	9.5%	
79 DOMIN REPUB	HU	TEMPORARY	\$9,362,440	20.6%	
79 DOMIN REPUB	HU	PERMANENT	\$10,000,000	22.0%	
TOTAL U.S.G. ASSISTANCE			\$45,476,621		
80 CARIBBEAN	HU	EMERGENCY	\$425,044	23.7%	
80 CARIBBEAN	HU	TEMPORARY	\$440,000	24.6%	
80 CARIBBEAN	HU	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$1,790,981		
80 ST. VINCENT	HU	EMERGENCY	\$681,484	17.3%	
80 ST. VINCENT	HU	TEMPORARY	\$755,000	19.1%	
80 ST. VINCENT	HU	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$3,943,149		
84 PHILIPPINES	TY	EMERGENCY	\$2,612,611	38.3%	
84 PHILIPPINES	TY	TEMPORARY	\$0	0.0%	
84 PHILIPPINES	TY	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$6,827,111		
86 SOLOMON IS.	CY	EMERGENCY	\$560,230	46.9%	
86 SOLOMON IS.	CY	TEMPORARY	\$0	0.0%	
86 SOLOMON IS.	CY	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$1,194,429		
88 JAMAICA	HU	EMERGENCY	\$1,011,169	1.0%	
88 JAMAICA	HU	TEMPORARY	\$20,728,850	20.5%	
88 JAMAICA	HU	PERMANENT	\$33,951,094	33.5%	
TOTAL U.S.G. ASSISTANCE			\$101,229,638		
89 CARIBBEAN	HU	EMERGENCY	\$4,752,366	67.1%	
89 CARIBBEAN	HU	TEMPORARY	\$16,000	0.2%	
89 CARIBBEAN	HU	PERMANENT	\$0	0.0%	
TOTAL U.S.G. ASSISTANCE			\$7,085,239		
			EMERGENCY	\$16,740,399	8.3%
			TEMPORARY	\$31,302,293	15.5%
			PERMANENT	\$50,514,119	25.1%
TOTAL U.S.G. ASSISTANCE			\$122,070,548		

APPENDIX 4 - A

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE AS A PERCENTAGE OF ALL ASSISTANCE FROM THE U.S. GOVERNMENT.

COUNTRY			TOTAL	% SHELTER RELATED	
70	PERU	EQ	OFDA	\$3,150,000	
70	PERU	EQ	OTHER A.I.D.	\$62,350,014	
70	PERU	EQ	TOTAL U.S. GOVERNMENT	\$109,507,014	59.8%
73	NICARAGUA	EQ	OFDA	\$3,466,451	
73	NICARAGUA	EQ	OTHER A.I.D.	\$65,800,000	
73	NICARAGUA	EQ	TOTAL U.S. GOVERNMENT	\$105,670,790	65.5%
73	PHILIPPINES	FL	OFDA	\$55,000	
73	PHILIPPINES	FL	OTHER A.I.D.	\$30,992,000	
73	PHILIPPINES	FL	TOTAL U.S. GOVERNMENT	\$63,258,300	49.1%
75	HONDURAS	HU	OFDA	\$2,391,299	
75	HONDURAS	HU	OTHER A.I.D.	\$6,563,025	
75	HONDURAS	HU	TOTAL U.S. GOVERNMENT	\$33,917,894	26.4%
76	GUATEMALA	EQ	OFDA	\$393,594	
76	GUATEMALA	EQ	OTHER A.I.D.	\$34,631,803	
76	GUATEMALA	EQ	TOTAL U.S. GOVERNMENT	\$61,205,090	57.2%
77	TURKEY	EQ	OFDA	\$9,490,739	
77	TURKEY	EQ	OTHER A.I.D.	\$0	
77	TURKEY	EQ	TOTAL U.S. GOVERNMENT	\$9,808,178	96.8%
78	SUDAN	FL	OFDA	\$870,048	
78	SUDAN	FL	OTHER A.I.D.	\$0	
78	SUDAN	FL	TOTAL U.S. GOVERNMENT	\$3,083,011	28.2%
78	INDIA	FL	OFDA	\$2,260,926	
78	INDIA	FL	OTHER A.I.D.	\$0	
78	INDIA	FL	TOTAL U.S. GOVERNMENT	\$3,307,734	68.4%
79	DOMIN REPUB	HU	OFDA	\$4,306,196	
79	DOMIN REPUB	HU	OTHER A.I.D.	\$19,362,440	
79	DOMIN REPUB	HU	TOTAL U.S. GOVERNMENT	\$45,476,621	52.0%
80	CARIBBEAN	HU	OFDA	\$425,044	
80	CARIBBEAN	HU	OTHER A.I.D.	\$440,000	
80	CARIBBEAN	HU	TOTAL U.S. GOVERNMENT	\$1,790,981	48.3%
80	ST. VINCENT	HU	OFDA	\$681,484	
80	ST. VINCENT	HU	OTHER A.I.D.	\$755,000	
80	ST. VINCENT	HU	TOTAL U.S. GOVERNMENT	\$3,943,149	36.4%
83	YEMEN A.R.	EQ	OFDA	\$1,263,693	
83	YEMEN A.R.	EQ	OTHER A.I.D.	\$6,000,000	
83	YEMEN A.R.	EQ	TOTAL U.S. GOVERNMENT	\$8,122,562	89.4%

APPENDIX 4 - A (continued)

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE AS A PERCENTAGE OF ALL ASSISTANCE FROM THE U.S. GOVERNMENT.

COUNTRY			TOTAL	% SHELTER RELATED	
83	PERU	FL	OFDA	\$383,732	
83	PERU	FL	OTHER A.I.D.	\$51,993,240	
83	PERU	FL	TOTAL U.S. GOVERNMENT	\$69,110,000	75.8%
83	TUNISIA	FL	OFDA	\$809,483	
83	TUNISIA	FL	OTHER A.I.D.	\$3,065,000	
83	TUNISIA	FL	TOTAL U.S. GOVERNMENT	\$6,231,717	62.2%
84	PHILIPPINES	TY	OFDA	\$2,612,611	
84	PHILIPPINES	TY	OTHER A.I.D.	\$0	
84	PHILIPPINES	TY	TOTAL U.S. GOVERNMENT	\$6,827,111	38.3%
86	SOLOMON IS.	CY	OFDA	\$560,230	
86	SOLOMON IS.	CY	OTHER A.I.D.	\$0	
86	SOLOMON IS.	CY	TOTAL U.S. GOVERNMENT	\$1,194,429	46.9%
87	EL SALVADOR	EQ	OFDA	\$3,206,472	
87	EL SALVADOR	EQ	OTHER A.I.D.	\$130,300,000	
87	EL SALVADOR	EQ	TOTAL U.S. GOVERNMENT	\$163,068,688	81.9%
88	JAMAICA	HU	OFDA	\$1,011,169	
88	JAMAICA	HU	OTHER A.I.D.	\$54,679,947	
88	JAMAICA	HU	TOTAL U.S. GOVERNMENT	\$101,229,638	55.0%
88	BANGLADESH	FL	OFDA	\$362,442	
88	BANGLADESH	FL	OTHER A.I.D.	\$0	
88	BANGLADESH	FL	TOTAL U.S. GOVERNMENT	\$5,165,316	7.0%
89	CARIBBEAN	HU	OFDA	\$1,822,366	
89	CARIBBEAN	HU	OTHER A.I.D.	\$2,946,000	
89	CARIBBEAN	HU	TOTAL U.S. GOVERNMENT	\$7,085,239	67.3%
			OFDA	\$39,522,979	
			OTHER A.I.D.	\$469,878,469	
			TOTAL U.S. GOVERNMENT	\$809,003,462	63.0%

APPENDIX 4 - B

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE AS A PERCENTAGE OF ALL ASSISTANCE FROM THE U.S. GOVERNMENT FOR THE FOLLOWING EARTHQUAKES.

COUNTRY			TOTAL	% SHELTER RELATED	
70	PERU	EQ	OFDA	\$3,150,000	
70	PERU	EQ	OTHER A.I.D.	\$62,350,014	
70	PERU	EQ	TOTAL U.S. GOVERNMENT	\$109,507,014	59.8%
73	NICARAGUA	EQ	OFDA	\$3,466,451	
73	NICARAGUA	EQ	OTHER A.I.D.	\$65,800,000	
73	NICARAGUA	EQ	TOTAL U.S. GOVERNMENT	\$105,670,790	65.5%
76	GUATEMALA	EQ	OFDA	\$393,594	
76	GUATEMALA	EQ	OTHER A.I.D.	\$34,631,803	
76	GUATEMALA	EQ	TOTAL U.S. GOVERNMENT	\$61,205,090	57.2%
77	TURKEY	EQ	OFDA	\$9,490,739	
77	TURKEY	EQ	OTHER A.I.D.	\$0	
77	TURKEY	EQ	TOTAL U.S. GOVERNMENT	\$9,808,178	96.8%
83	YEMEN A.R.	EQ	OFDA	\$1,263,693	
83	YEMEN A.R.	EQ	OTHER A.I.D.	\$6,000,000	
83	YEMEN A.R.	EQ	TOTAL U.S. GOVERNMENT	\$8,122,562	89.4%
87	EL SALVADOR	EQ	OFDA	\$3,206,472	
87	EL SALVADOR	EQ	OTHER A.I.D.	\$130,300,000	
87	EL SALVADOR	EQ	TOTAL U.S. GOVERNMENT	\$163,068,688	81.9%
			OFDA	\$20,970,949	
			AID PROJECTS	\$299,081,817	
			TOTAL U.S. GOVERNMENT	\$457,382,322	70.0%

APPENDIX 4 - B (continued)

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE AS A PERCENTAGE OF ALL ASSISTANCE FROM THE U.S. GOVERNMENT FOR THE FOLLOWING FLOODS.

COUNTRY			TOTAL	% SHELTER RELATED
73 PHILIPPINES	FL	OFDA	\$55,000	
73 PHILIPPINES	FL	OTHER A.I.D.	\$30,992,000	
73 PHILIPPINES	FL	TOTAL U.S. GOVERNMENT	\$63,258,300	49.1%
78 SUDAN	FL	OFDA	\$870,048	
78 SUDAN	FL	OTHER A.I.D.	\$0	
78 SUDAN	FL	TOTAL U.S. GOVERNMENT	\$3,083,011	28.2%
78 INDIA	FL	OFDA	\$2,260,926	
78 INDIA	FL	OTHER A.I.D.	\$0	
78 INDIA	FL	TOTAL U.S. GOVERNMENT	\$3,307,734	68.4%
83 PERU	FL	OFDA	\$383,732	
83 PERU	FL	OTHER A.I.D.	\$51,993,240	
83 PERU	FL	TOTAL U.S. GOVERNMENT	\$69,110,000	75.8%
83 TUNISIA	FL	OFDA	\$809,483	
83 TUNISIA	FL	OTHER A.I.D.	\$3,065,000	
83 TUNISIA	FL	TOTAL U.S. GOVERNMENT	\$6,231,717	62.2%
88 BANGLADESH	FL	OFDA	\$362,442	
88 BANGLADESH	FL	OTHER A.I.D.	\$0	
88 BANGLADESH	FL	TOTAL U.S. GOVERNMENT	\$5,165,316	7.0%
		OFDA	\$4,740,631	
		AID PROJECTS	\$86,050,240	
		TOTAL U.S. GOVERNMENT	\$150,156,078	60.5%

APPENDIX 4 - B (continued)

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE AS A PERCENTAGE OF ALL ASSISTANCE FROM THE U.S. GOVERNMENT FOR THE FOLLOWING HURRICANES, TYPHOONS AND CYCLONES.

COUNTRY			TOTAL	% SHELTER RELATED	
75	HONDURAS	HU	OFDA	\$2,391,299	
75	HONDURAS	HU	OTHER A.I.D.	\$6,563,025	
75	HONDURAS	HU	TOTAL U.S. GOVERNMENT	\$33,917,894	26.4%
79	DOMIN REPUB	HU	OFDA	\$4,306,196	
79	DOMIN REPUB	HU	OTHER A.I.D.	\$19,362,440	
79	DOMIN REPUB	HU	TOTAL U.S. GOVERNMENT	\$45,476,621	52.0%
80	CARIBBEAN	HU	OFDA	\$425,044	
80	CARIBBEAN	HU	OTHER A.I.D.	\$440,000	
80	CARIBBEAN	HU	TOTAL U.S. GOVERNMENT	\$1,790,981	48.3%
80	ST. VINCENT	HU	OFDA	\$681,484	
80	ST. VINCENT	HU	OTHER A.I.D.	\$755,000	
80	ST. VINCENT	HU	TOTAL U.S. GOVERNMENT	\$3,943,149	36.4%
84	PHILIPPINES	TY	OFDA	\$2,612,611	
84	PHILIPPINES	TY	OTHER A.I.D.	\$0	
84	PHILIPPINES	TY	TOTAL U.S. GOVERNMENT	\$6,827,111	38.3%
86	SOLOMON IS.	CY	OFLA	\$560,230	
86	SOLOMON IS.	CY	OTHER A.I.D.	\$0	
86	SOLOMON IS.	CY	TOTAL U.S. GOVERNMENT	\$1,194,429	46.9%
88	JAMAICA	HU	OFDA	\$1,011,169	
88	JAMAICA	HU	OTHER A.I.D.	\$54,679,947	
88	JAMAICA	HU	TOTAL U.S. GOVERNMENT	\$101,229,638	55.0%
89	CARIBBEAN	HU	OFDA	\$1,822,366	
89	CARIBBEAN	HU	OTHER A.I.D.	\$2,946,000	
89	CARIBBEAN	HU	TOTAL U.S. GOVERNMENT	\$7,085,239	67.3%
			OFDA	\$13,810,399	
			AID PROJECTS	\$84,746,412	
			TOTAL U.S. GOVERNMENT	\$201,465,063	48.9%

APPENDIX 4 - C

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE ADJUSTED FOR INFLATION. (BASE YEAR=1970)

COUNTRY			TOTAL	% SHELTER RELATED
70	PERU	EQ OFDA - REAL	\$3,150,000	
70	PERU	EQ AID PROJECTS - REAL	\$62,350,014	
70	PERU	EQ TOTAL U.S.G. - REAL	\$109,507,014	59.8%
70	PERU	EQ TOTAL U.S.G. - NOMINAL	\$109,507,014	
73	NICARAGUA	EQ OFDA - REAL	\$2,888,709	
73	NICARAGUA	EQ AID PROJECTS - REAL	\$54,833,333	
73	NICARAGUA	EQ TOTAL U.S.G. - REAL	\$88,058,992	65.5%
73	NICARAGUA	EQ TOTAL U.S.G. - NOMINAL	\$105,670,790	
73	PHILIPPINES	FL OFDA - REAL	\$45,833	
73	PHILIPPINES	FL AID PROJECTS - REAL	\$25,826,667	
73	PHILIPPINES	FL TOTAL U.S.G. - REAL	\$52,715,250	49.1%
73	PHILIPPINES	FL TOTAL U.S.G. - NOMINAL	\$63,258,300	
75	HONDURAS	HU OFDA - REAL	\$1,741,660	
75	HONDURAS	HU AID PROJECTS - REAL	\$4,780,062	
75	HONDURAS	HU TOTAL U.S.G. - REAL	\$24,703,492	26.4%
75	HONDURAS	HU TOTAL U.S.G. - NOMINAL	\$33,917,894	
76	GUATEMALA	EQ OFDA - REAL	\$272,383	
76	GUATEMALA	EQ AID PROJECTS - REAL	\$23,966,646	
76	GUATEMALA	EQ TOTAL U.S.G. - REAL	\$42,356,464	57.2%
76	GUATEMALA	EQ TOTAL U.S.G. - NOMINAL	\$61,205,090	
77	TURKEY	EQ OFDA - REAL	\$6,207,154	
77	TURKEY	EQ AID PROJECTS - REAL	\$0	
77	TURKEY	EQ TOTAL U.S.G. - REAL	\$6,414,767	96.8%
77	TURKEY	EQ TOTAL U.S.G. - NOMINAL	\$9,808,178	
78	SUDAN	FL OFDA - REAL	\$528,905	
78	SUDAN	FL AID PROJECTS - REAL	\$0	
78	SUDAN	FL TOTAL U.S.G. - REAL	\$1,874,171	28.2%
78	SUDAN	FL TOTAL U.S.G. - NOMINAL	\$3,083,011	
78	INDIA	FL OFDA - REAL	\$1,374,423	
78	INDIA	FL AID PROJECTS - REAL	\$0	
78	INDIA	FL TOTAL U.S.G. - REAL	\$2,010,781	68.4%
78	INDIA	FL TOTAL U.S.G. - NOMINAL	\$3,307,734	
79	DOMIN REPUB	HU OFDA - REAL	\$2,409,735	
79	DOMIN REPUB	HU AID PROJECTS - REAL	\$10,835,165	
79	DOMIN REPUB	HU TOTAL U.S.G. - REAL	\$25,448,585	52.0%
79	DOMIN REPUB	HU TOTAL U.S.G. - NOMINAL	\$45,476,621	

APPENDIX 4 - C (continued)

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE ADJUSTED FOR INFLATION. (BASE YEAR=1970)

COUNTRY				TOTAL	% SHELTER RELATED
80	CARIBBEAN	HU	OFDA - REAL	\$217,860	
80	CARIBBEAN	HU	AID PROJECTS - REAL	\$225,525	
80	CARIBBEAN	HU	TOTAL U.S.G. - REAL	\$917,981	48.3%
80	CARIBBEAN	HU	TOTAL U.S.G. - NOMINAL	\$1,790,981	
80	ST. VINCENT	HU	OFDA - REAL	\$349,300	
80	ST. VINCENT	HU	AID PROJECTS - REAL	\$336,981	
80	ST. VINCENT	HU	TOTAL U.S.G. - REAL	\$2,021,091	36.4%
80	ST. VINCENT	HU	TOTAL U.S.G. - NOMINAL	\$3,943,149	
83	YEMEN A.R.	EQ	OFDA - REAL	\$546,580	
83	YEMEN A.R.	EQ	AID PROJECTS - REAL	\$2,595,156	
83	YEMEN A.R.	EQ	TOTAL U.S.G. - REAL	\$3,513,219	89.4%
83	YEMEN A.R.	EQ	TOTAL U.S.G. - NOMINAL	\$8,122,562	
83	PERU	FL	OFDA - REAL	\$165,974	
83	PERU	FL	AID PROJECTS - REAL	\$22,488,426	
83	PERU	FL	TOTAL U.S.G. - REAL	\$29,891,869	75.8%
83	PERU	FL	TOTAL U.S.G. - NOMINAL	\$69,110,000	
83	TUNISIA	FL	OFDA - REAL	\$350,122	
83	TUNISIA	FL	AID PROJECTS - REAL	\$1,325,692	
83	TUNISIA	FL	TOTAL U.S.G. - REAL	\$2,695,379	62.2%
83	TUNISIA	FL	TOTAL U.S.G. - NOMINAL	\$6,231,717	
84	PHILIPPINES	TY	OFDA - REAL	\$1,072,941	
84	PHILIPPINES	TY	AID PROJECTS - REAL	\$0	
84	PHILIPPINES	TY	TOTAL U.S.G. - REAL	\$2,803,742	38.3%
84	PHILIPPINES	TY	TOTAL U.S.G. - NOMINAL	\$6,827,111	
86	SOLOMON IS.	CY	OFDA - REAL	\$218,498	
86	SOLOMON IS.	CY	AID PROJECTS - REAL	\$0	
86	SOLOMON IS.	CY	TOTAL U.S.G. - REAL	\$465,846	46.9%
86	SOLOMON IS.	CY	TOTAL U.S.G. - NOMINAL	\$1,194,429	
87	EL SALVADOR	EQ	OFDA - REAL	\$1,214,573	
87	EL SALVADOR	EQ	AID PROJECTS - REAL	\$49,356,061	
87	EL SALVADOR	EQ	TOTAL U.S.G. - REAL	\$61,768,442	81.9%
87	EL SALVADOR	EQ	TOTAL U.S.G. - NOMINAL	\$163,068,688	
88	JAMAICA	HU	OFDA - REAL	\$371,207	
88	JAMAICA	HU	AID PROJECTS - REAL	\$20,073,402	
88	JAMAICA	HU	TOTAL U.S.G. - REAL	\$37,162,128	55.0%
88	JAMAICA	HU	TOTAL U.S.G. - NOMINAL	\$101,229,638	

APPENDIX 4 - C (continued)

NOTE: THE FOLLOWING INDICATES OFDA AND OTHER U.S.A.I.D. SHELTER-SECTOR RELATED ASSISTANCE ADJUSTED FOR INFLATION. (BASE YEAR=1970)

COUNTRY		TOTAL	% SHELTER RELATED
88	BANGLADESH FL	OFDA - REAL	\$132,182
88	BANGLADESH FL	AID PROJECTS - REAL	\$0
88	BANGLADESH FL	TOTAL U.S.G. - REAL	\$1,883,777
88	BANGLADESH FL	TOTAL U.S.G. - NOMINAL	\$5,165,316
89	CARIBBEAN HU	OFDA - REAL	\$641,452
89	CARIBBEAN HU	AID PROJECTS - REAL	\$1,036,959
89	CARIBBEAN HU	TOTAL U.S.G. - REAL	\$2,493,924
89	CARIBBEAN HU	TOTAL U.S.G. - NOMINAL	\$7,085,239
		OFDA - REAL	\$23,899,492
		AID PROJECTS - REAL	\$280,080,088
		TOTAL U.S.G. - REAL	\$498,706,912
		TOTAL U.S.G. - NOMINAL	\$809,003,462

APPENDIX 5 - A WIND-RELATED DISASTERS

NOTE: THE FOLLOWING LISTS ALL HURRICANES, TYPHOONS, AND CYCLONES FROM 1970-1990 WHICH, AS DETERMINED BY THE CHIEF OF THE U.S DIPLOMATIC MISSION, WARRANTED A U.S. GOVERNMENT RESPONSE.

DISNO	REGION	COUNTRY	DISNO	REGION	COUNTRY
70042	AFRICA	MADAGASCAR	82035	AFRICA	CAPE VERDE IS.
72019	AFRICA	MADAGASCAR	70013	CA	EL SALVADOR
72020	AFRICA	MAURITIUS	70014	CA	GUATEMALA
75020	AFRICA	MAURITIUS	72008	CA	NICARAGUA
75022	AFRICA	MADAGASCAR	75012	CA	HONDURAS
76016	AFRICA	MADAGASCAR	75013	CA	BELIZE
79019	AFRICA	MAURITIUS	77001	CA	MEXICO
80012	AFRICA	MAURITIUS	78031	CA	BELIZE
82009	AFRICA	MADAGASCAR	78032	CA	HONDURAS
82010	AFRICA	MAURITIUS	89003	CA	COSTA RICA
83010	AFRICA	COMOROS	71003	CARB	MARTINIQUE
84014	AFRICA	MAURITIUS	79037	CARB	DOMINICA
84019	AFRICA	SWAZILAND	79038	CARB	DOMINICAN REP.
84021	AFRICA	MOZAMBIQUE	79039	CARB	MARTINIQUE
84023	AFRICA	SOUTH AFRICA	79041	CARB	HAITI
84026	AFRICA	MADAGASCAR	80026	CARB	ST. LUCIA
84031	AFRICA	MADAGASCAR	80027	CARB	HAITI
85023	AFRICA	COMOROS	80028	CARB	ST. VINCENT
86012	AFRICA	MADAGASCAR	80029	CARB	JAMAICA
71022	ASIA	BANGLADESH	87053	CARB	BERMUDA
72009	ASIA	INDIA	87091	CARB	DOMINICAN REP.
78003	ASIA	INDIA	88056	CARB	JAMAICA
79007	ASIA	SRI LANKA	88058	CARB	HAITI
79030	ASIA	INDIA	88092	CARB	CAYMAN ISLANDS
82006	ASIA	INDIA	89054	CARB	CARIBBEAN
83004	ASIA	INDIA	89055	CARB	DOMINICA
84006	ASIA	INDIA	85003	AFRICA	CAPE VERDE IS.
85038	ASIA	BANGLADESH	85028	AFRICA	MOZAMBIQUE
73008	PACIFIC	FIJI	87050	AFRICA	GUINEA BISSAU
73010	PACIFIC	KIRIRATI	74008	ASIA	PHILIPPINES
74011	PACIFIC	FIJI	89005	ASIA	PHILIPPINES
75024	PACIFIC	FIJI	89037	ASIA	BANGLADESH
78019	PACIFIC	TONGA	74005	CARB	JAMAICA
79023	PACIFIC	FIJI	75010	CARB	TRINIDAD TOBAGO
80015	PACIFIC	FIJI	87028	PACIFIC	TOKELAU
82011	PACIFIC	TONGA	87019	SA	ARGENTINA
83019	PACIFIC	FIJI	70024	ASIA	CHINA, REP. OF
83025	PACIFIC	FIJI	71010	ASIA	PHILIPPINES
85017	PACIFIC	FIJI	71015	ASIA	PHILIPPINES
85018	PACIFIC	VANUATU	71019	ASIA	PHILIPPINES
85026	PACIFIC	FIJI	73011	ASIA	PHILIPPINES
85032	PACIFIC	SOLOMON ISLANDS	77019	ASIA	CHINA, REP. OF
86018	PACIFIC	SOLOMON ISLANDS	81022	ASIA	KOREA, REP. OF
87005	PACIFIC	FIJI	84037	ASIA	PHILIPPINES
87006	PACIFIC	COOK ISLANDS	85008	ASIA	PHILIPPINES
87011	PACIFIC	VANUATU	86026	ASIA	PHILIPPINES
87022	PACIFIC	TUVALU	86037	ASIA	PHILIPPINES
88010	PACIFIC	VANUATU	87043	ASIA	KOREA, REP. OF
89022	PACIFIC	WESTERN SAMOA	87046	ASIA	PHILIPPINES
			88006	ASIA	PHILIPPINES
			89006	ASIA	PHILIPPINES
			89010	ASIA	PHILIPPINES

APPENDIX 5 - B EARTHQUAKES

NOTE: THE FOLLOWING LISTS ALL EARTHQUAKES FROM 1970-1990 WHICH, AS DETERMINED BY THE CHIEF OF THE U.S DIPLOMATIC MISSION, WARRANTED A U.S. GOVERNMENT RESPONSE.

DISNO	REGION	COUNTRY	DISNO	REGION	COUNTRY
*****			*****		
81001	AFRICA	ALGERIA	77012	EUR	ROMANIA
84016	AFRICA	GUINEA	79027	EUR	YUGOSLAVIA
75018	ASIA	PAKISTAN	80011	EUR	AZORES
76025	ASIA	INDONESIA	81005	EUR	ITALY
76028	ASIA	INDONESIA	81010	EUR	GREECE
76029	ASIA	PHILIPPINES	84009	EUR	TURKEY
80025	ASIA	NEPAL	86038	EUR	GREECE
81009	ASIA	INDONESIA	89016	EUR	SOVIET UNION
88045	ASIA	INDIA	89090	EUR	SOVIET UNION
88046	ASIA	NEPAL	72024	NE	IRAN
89012	ASIA	CHINA, P. REP.	83005	NE	YEMEN ARAB REP.
89049	ASIA	INDONESIA	77017	PACIFIC	TONGA
73012	CA	NICARAGUA	87012	PACIFIC	PAPUA NEW GUINEA
73024	CA	COSTA RICA	70023	SA	PERU
76017	CA	GUATEMALA	70050	SA	PERU
82027	CA	EL SALVADOR	71013	SA	COLOMBIA
83024	CA	COSTA RICA	71024	SA	ECUADOR
85046	CA	MEXICO	72002	SA	CHILE
86002	CA	GUATEMALA	75015	SA	PERU
87001	CA	EL SALVADOR	77002	SA	ECUADOR
70044	EUR	TURKEY	80009	SA	COLOMBIA
71049	EUR	TURKEY	81017	SA	PERU
76008	EUR	TURKEY	83022	SA	COLOMBIA
76022	EUR	ITALY	85025	SA	CHILE
76031	EUR	ITALY	86096	SA	VENEZUELA
77006	EUR	TURKEY	87021	SA	ECUADOR

APPENDIX 5 - C FLOODS

NOTE: THE FOLLOWING LISTS FLOODS FROM 1970-1990 WHICH, AS DETERMINED BY THE CHIEF OF THE U.S. DIPLOMATIC MISSION, WARRANTED A U.S. GOVERNMENT RESPONSE.

DISNO	REGION	COUNTRY	DISNO	REGION	COUNTRY
70020	AFRICA	TUNISIA	89046	ASIA	KOREA, REP. OF
70021	AFRICA	ALGERIA	89050	ASIA	CHINA, P. REP.
70037	AFRICA	MOROCCO	89051	ASIA	PHILIPPINES
71009	AFRICA	BENIN	70036	CA	COSTA RICA
72018	AFRICA	BOTSWANA	70045	CA	COSTA RICA
73017	AFRICA	TUNISIA	70046	CA	PANAMA
73023	AFRICA	ALGERIA	71023	CA	COSTA RICA
74003	AFRICA	CEN. AFRICAN REP	71036	CA	PANAMA
74017	AFRICA	ALGERIA	72029	CA	PANAMA
74019	AFRICA	TANZANIA	73030	CA	GUATEMALA
75009	AFRICA	NIGER	74007	CA	PANAMA
75014	AFRICA	RWANDA	76027	CA	NICARAGUA
75021	AFRICA	MOZAMBIQUE	80003	CA	HONDURAS
76009	AFRICA	SUDAN	80008	CA	BELIZE
76023	AFRICA	ETHIOPIA	80010	CA	NICARAGUA
77010	AFRICA	MOZAMBIQUE	81002	CA	NICARAGUA
78001	AFRICA	DJIBOUTI	81006	CA	COSTA RICA
78006	AFRICA	SOMALIA	82001	CA	HONDURAS
78008	AFRICA	ZAMBIA	82021	CA	NICARAGUA
78009	AFRICA	DJIBOUTI	82022	CA	HONDURAS
78024	AFRICA	SUDAN	82033	CA	EL SALVADOR
80001	AFRICA	EGYPT	82034	CA	GUATEMALA
81012	AFRICA	DJIBOUTI	85004	CA	PANAMA
83003	AFRICA	TUNISIA	87003	CA	PANAMA
83035	AFRICA	SENEGAL	88011	CA	COSTA RICA
83040	AFRICA	SUDAN	71014	CARB	BARBADOS
84041	AFRICA	MAURITANIA	72027	CARB	HAITI
85020	AFRICA	LESOTHO	79028	CARB	JAMAICA
85021	AFRICA	MOZAMBIQUE	79036	CARB	JAMAICA
87054	AFRICA	SOUTH AFRICA	86021	CARB	HAITI
88003	AFRICA	LESOTHO	86022	CARB	JAMAICA
88042	AFRICA	SUDAN	86039	CARB	ST. VINCENT
88052	AFRICA	NIGER	87004	CARB	HAITI
88055	AFRICA	BURKINA FASO	88050	CARB	DOMINICAN REP.
88059	AFRICA	BENIN	71016	EUR	ITALY
89015	AFRICA	GABON	76002	EUR	ROMANIA
89029	AFRICA	MALAWI	79014	EUR	PORTUGAL
89032	AFRICA	DJIBOUTI	79018	EUR	PORTUGAL
89052	AFRICA	MALI	82007	EUR	PORTUGAL
89053	AFRICA	GHANA	83002	EUR	SPAIN
70011	ASIA	LAOS	83042	EUR	SPAIN
70016	ASIA	KOREA, REP. OF	84011	EUR	SPAIN
70035	ASIA	SRI LANKA	84012	EUR	PORTUGAL
71002	ASIA	INDIA	86008	EUR	YUGOSLAVIA
71004	ASIA	NFPAL	74015	NE	SYRIA
71005	ASIA	BANGLADESH	76005	NE	YEMEN ARAB REP.
71041	ASIA	MALAYSIA	74012	PACIFIC	AUSTRALIA
72004	ASIA	LAOS	84020	PACIFIC	NEW ZEALAND
73003	ASIA	PHILIPPINES	86015	PACIFIC	FIJI
73006	ASIA	KOREA, REP. OF	70009	SA	SURINAME
74001	ASIA	PAKISTAN	70039	SA	COLOMBIA

APPENDIX 5 - C FLOODS (continued)

NOTE: THE FOLLOWING LISTS FLOODS FROM 1970-1990 WHICH, AS DETERMINED BY THE CHIEF OF THE U.S DIPLOMATIC MISSION, WARRANTED A U.S. GOVERNMENT RESPONSE.

DISNO	REGION	COUNTRY	DISNO	REGION	COUNTRY
75006	ASIA	BANGLADESH	70047	SA	ECUADOR
75007	ASIA	PHILIPPINES	70048	SA	COLOMBIA
75008	ASIA	BURMA	71001	SA	BRAZIL
75019	ASIA	THAILAND	71017	SA	COLOMBIA
76006	ASIA	INDIA	71044	SA	COLOMBIA
76021	ASIA	AFGHANISTAN	72001	SA	ECUADOR
76024	ASIA	PHILIPPINES	72003	SA	GUYANA
77007	ASIA	INDONESIA	72021	SA	PERU
77018	ASIA	KOREA, REP. OF	74004	SA	COLOMBIA
77020	ASIA	PAKISTAN	74013	SA	BOLIVIA
78023	ASIA	AFGHANISTAN	74018	SA	BRAZIL
78027	ASIA	NEPAL	75002	SA	CHILE
78028	ASIA	PAKISTAN	76004	SA	BRAZIL
78029	ASIA	INDIA	78007	SA	PERU
79001	ASIA	THAILAND	78016	SA	PERU
79002	ASIA	LAOS	79015	SA	BOLIVIA
79012	ASIA	INDONESIA	79031	SA	PARAGUAY
79021	ASIA	INDONESIA	80020	SA	BOLIVIA
81008	ASIA	INDONESIA	82004	SA	BRAZIL
81021	ASIA	CHINA, P. REP.	82016	SA	BOLIVIA
82029	ASIA	SRI LANKA	82026	SA	PARAGUAY
82032	ASIA	INDIA	83008	SA	ECUADOR
83033	ASIA	INDIA	83009	SA	BRAZIL
84005	ASIA	THAILAND	83014	SA	PERU
84022	ASIA	SRI LANKA	83021	SA	BOLIVIA
84036	ASIA	KOREA, REP. OF	83026	SA	PARAGUAY
86004	ASIA	INDIA	83031	SA	ARGENTINA
86006	ASIA	SRI LANKA	83036	SA	BRAZIL
86036	ASIA	INDIA	84034	SA	BRAZIL
87029	ASIA	MALDIVES	84035	SA	BRAZIL
87047	ASIA	BANGLADESH	86005	SA	ARGENTINA
87048	ASIA	NEPAL	86009	SA	BOLIVIA
88031	ASIA	CHINA, P. REP.	86010	SA	PERU
88049	ASIA	BANGLADESH	86023	SA	CHILE
88054	ASIA	INDIA	87042	SA	CHILE
88060	ASIA	CHINA, P. REP.	88012	SA	BRAZIL
89013	ASIA	THAILAND	88023	SA	ARGENTINA
89018	ASIA	INDONESIA	88035	SA	PARAGUAY
89024	ASIA	PHILIPPINES	89027	SA	PERU
89042	ASIA	SRI LANKA			

APPENDIX 6

PERU - EARTHQUAKE & LANDSLIDE (1970)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
MEDICINES		1000000	DOSES	0	70	COST INCLUDED UNDER "AIRLIFT"; TYPHOID VACCINE
PERSONNEL SUPPORT	PCV'S	40		0	70	HELPED WITH PVO'S
TENTS		7149		0	70	COST INCLUDED UNDER "AIRLIFT"
WATER CONTAINERS		500		0	70	COST INCLUDED UNDER "AIRLIFT"
DISASTER EXPERTS	OFDA	1		0	70	COST INCLUDED UNDER "AIRLIFT"
COOKING UTENSILS		0		0	70	COST INCLUDED UNDER "AIRLIFT"
WATER PURIFICATION UNITS		12		0	70	COST INCLUDED UNDER "AIRLIFT"
MEDICAL SUPPLIES		0		0	70	COST INCLUDED UNDER "AIRLIFT"; 2 PACKAGED DISASTER HOSPITALS
HOUSING PROJECT	GOVT	0		1,950,000	70	RECONSTRUCTION GRANTS
ASSESSMENT TEAM	DOD	0		0	70	COST INCLUDED UNDER "AIRLIFT"; DAST
BLANKETS		36656		0	70	COST INCLUDED UNDER "AIRLIFT"
AGRICULTURAL PROJECT	GOVT	0		2,110,000	70	RECONSTRUCTION GRANTS
ENGINEERS	PCV'S	24		0	70	HELPED WITH PVO RECONSTRUCTION
GENERATORS	GOVT	0		400,000	70	RECONSTRUCTION GRANTS
AIRCRAFT	DOD	8		0	70	HELICOPTERS FOR RELIEF OPERATION; COST INCLUDED UNDER "AIRLIFT"
AIRLIFT		44		3,150,000	70	COST INCLUDES ALL IDA FUNDS FOR THE EARTHQUAKE
COTS		3740		0	70	COST INCLUDED UNDER "AIRLIFT"; AND 2,200 SLEEPING BAGS
MEDICAL PROJECT	GOVT	0		400,000	70	RECONSTRUCTION GRANTS
MEDICAL PERSONNEL	PCV'S	30		0	70	
FOOD TITLE II	CRS/CWS/ADRA	27851	MT	5,891,000	70	
GRANT	GOVT	0		2,540,000	70	EDUCATION GRANT
				16,441,000		

7/11

APPENDIX 6

NICARAGUA - MANAGUA EARTHQUAKE (1973)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST	COMMENTS
FUEL CANS		1000	2,000	73	
RELIEF PROJECT		0	2,050,792	73	NO BREAKDOWN OF FUNDS AVAILABLE
HOUSING PROJECT	GOVT	0	3,000,000	73	GRANT FOR TEMPORARY SHELTER PROGRAM
MEDICAL SUPPLIES	DOD	0	1,779	73	
GRANT	OAS	0	25,000	73	
FOOD		23 MT	2,300	73	CORN, BEANS
FOOD		2750 MT	375,000	73	POTATOES
DISASTER EXPERTS	USAID	0	1,912	73	
COTS		6000	42,000	73	
BLANKETS		14000	29,000	73	
AIRLIFT	DOD	0	1,031,034	73	COST INCLUDES 2 FIELD HOSPITALS, EQUIPMENT, FUEL
PERSONNEL SUPPORT	DOD	0	388,190	73	DOD FUNDS; MILITARY EQUIPMENT AND PERSONNEL
MEDICAL SUPPLIES		0	1,272	73	BROOKE ARMY MEDICAL CENTER
MEDICAL SUPPLIES	USAID	0	464,000	73	8 PACKAGED DISASTER HOSPITALS; AID EXCESS PROPERTY
RELIEF SUPPLIES		0	5,000	73	MISCELLANEOUS SUPPLIES FROM STOCKPILE
RADIOS		0	2,366	73	COMMUNICATIONS EQUIPMENT
TENTS		0 4191	389,676	73	
FOOD TITLE II	WFP	6558 MT	1,234,100	73	WHEAT, FLOUR, CORN, CSM, VEGOIL, ICSM
RELIEF SUPPLIES	DOD	0	533,694	73	CARGO, HELICOPTERS, SUPPLIES, COMMUNICATIONS, LABOR
FOOD TITLE II	GOVT/PVO'S	13603 MT	2,723,500	73	CORN, SOYFLOUR, VEGOIL
PUMPS	USAID	0	6,775	73	PUMPS AND FITTINGS
PESTICIDE		5500 GAL.	37,400	73	MALATHION
FOOD	DOD	369 MT	325,000	73	DOD FUNDS; CIVIL DEFENSE SURVIVAL BISCUITS

12,670,790

APPENDIX 6

THE PHILIPPINES - FLOOD IN CENTRAL AND NORTHERN LUZON (1973)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
ASSESSMENT TEAM	DOD	0		5,820,000	73	DAST, DART, RESCUE AND RELIEF ACTIVITIES
FOOD TITLE II	CARE/CRS	10135	MT	1,950,000	73	FLOUR, BULGUR, VEGOIL, NFDH; TO MAKE NUTRIBUNS
GRANT		0		43,975,000	73	SUPPLEMENTAL FUNDS NOT ADMINISTERED BY OFDA;
FOOD TITLE II	WFP	9280	MT	2,759,000	73	ROLLED OATS, BULGUR, CORN, CSM, SORGHUM; TO MAKE NUTRIBUNS
RELIEF SUPPLIES	LOCAL RC	0		145,000	73	
ROAD PROJECT	LOCAL RC	0		55,000	73	
MEDICINES	UNDRO	0		5,000	73	GRANT TO BUY MEDICINES
FOOD TITLE II	GOVT	33000	MT	8,549,300	73	RICE, SF FLOUR, BULGUR, ROLLED OATS; TO MAKE NUTRIBUNS
				63,258,300		

APPENDIX 6

HONDURAS - HURRICANE FIFI (1975)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
AGRICULTURAL PROJECT	CARE	0		1,740,000	75	
BLANKETS		4344	COTTN	16,073	75	HURRICANE FIFI
MEDICAL PERSONNEL	PCV	8		0	75	PEACE CORPS VOLUNTEERS WORKED IN CHOLOMA AND EL PROGRESO
MEDICAL SUPPLIES	DOD	0		8,000	75	HURRICANE FIFI
ASSESSMENT TEAM	DOD	0		358,700	75	DAST; HURRICANE FIFI
MEDICAL SUPPLIES		0		920,000	75	REPLACED LOST MEDICAL EQUIPMENT AND SUPPLIES
RELIEF PROJECT		0		1,000,000	75	REPAIR OF INFRASTRUCTURE
MEDICAL SUPPLIES		0		100,000	75	HURRICANE FIFI
RELIEF PROJECT		0		655,000	75	MUNICIPAL FACILITIES RECONSTRUCTION
RELIEF SUPPLIES		0		30,034	75	2,000 SHEETS, WATER CANS, PORTABLE KITCHENS; ETC.
RELIEF PROJECT		0		200,000	75	REPAIR OF INFRASTRUCTURE
TRANSPORT	DOD	0		115,000	75	AIR NATIONAL GUARD TRANSPORTED PRIVATELY-DONATED GOODS.
TRANSPORT		0		50,000	75	TRANSPORT TO U.S. PORTS OF DONATED 40,000 LBS OF VEAL
TENTS		107		21,265	75	HURRICANE FIFI
ENGINEERS	PCV	10		0	75	PEACE CORPS VOLUNTEERS HELPED REPAIR ROADS
TRANSPORT		0		25,000	75	TRUCKING OF CRS GRAIN STOCKS
FOOD TITLE II	WFP	1953	MT	697,000	75	(T); CORN, VEGOIL, CSB
FOOD TITLE I	GOVT	20000	MT	5,620,000	75	RICE, WHEAT
FOOD TITLE II	CARE	1281	MT	378,187	75	SF FLOUR, ROLLED OATS, CORN, RICE, WSB, VEGOIL
FOOD		0		60,728	75	BABY FOOD
DISASTER EXPERTS	OFDA	2		1,300	75	HURRICANE FIFI
FOOD TITLE II		0		1,076,000	76	
FOOD TITLE II	CRS	4831	MT	1,212,880	75	SF FLOUR, BULGAR, ROLLED OATS, CORN, CSB, SFSG, VEGOIL
HOUSING PROJECT	CARE	0		485,000	75	
FOOD		0		25,000	75	CORN; AMB. AUTH.; HURRICANE FIFI
				14,795,367		

APPENDIX 6

GUATEMALA - GUATEMALA CITY EARTHQUAKE (1976)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
HOUSING SUPPLIES		0		13,032	76	WOOD FOR SCHOOL FURNITURE
HOUSING PROJECT		0		7,000	76	
GRANT	CRS	0		13,836	76	COMMUNITY WORKS PROJECT
HOUSING PROJECT	PVO'S	0		447,200	76	MODEL HOUSING AND TRAINING IN SEISMIC-RESISTANT HOUSING
GRANT	GOVT	0		60,833	76	TO HELP CLEAN AND REPAIR VILLAGE STREETS, STORM DRAINS, AND
SEWAGE DISPOSAL	GRANT		GOVT/CARE	0		998,945 76 REPAIR OF POTABLE WATER SYSTEMS IN 80 TOWNS
HOUSING PROJECT	CWS	0		753,440	76	HELPED CONSTRUCT 27,000 HOUSES AND SHELTERS;
FOOD TITLE II	CRS	21909	MT	9,820,425	76	
FOOD TITLE II	CARE	14349	MT	7,184,665	76	
ENGINEERS	DOD	0		1,507,326	76	548TH ENGINEERING BATTALION HELPED REPAIR ATLANTIC HIGHWAY;
DISASTER EXPERTS		0		17,664	76	COST INCLUDES MISCELLANEOUS EXPENSES
DISASTER EXPERTS		0		136,282	76	COST INCLUDES SEISMOL GISTS AND MEDICAL PERSONNEL
HOUSING SUPPLIES	GOVT	0		2,986,990	76	50,000 SHEETS OF ROOFING; 204 MT OF NAILS FOR CLASSROOM REPAIR
MEDICAL PERSONNEL	CDC/AID	10		0	76	COST INCLUDED IN "DISASTER EXPERTS"; 2 EPIDEMIOLOGISTS;
HOUSING SUPPLIES		0		1,685,475	76	FOR PAINTING BUTLER BUILDINGS, MODEL HOUSING, REPAIR OF WATER.
LANDSLIDE EXPERTS	USGS	0		74,105	76	SURVEY TEAM; TO ASSESS TOPOGRAPHICAL CHANGES
RELIEF SUPPLIES	DOD	0		186,086	76	TENTS, MEDICAL SUPPLIES, GENERATORS, WATER TANKS
MEDICAL SUPPLIES		0		58,036	76	TRANSPORT OF 6 PACKAGED DISASTER HOSPITALS
PERSONNEL SUPPORT	DOD	0		2,954,940	76	DAST BY USSOUTHCOM; CHINOOK AND UH-1H HELICOPTERS
TOOLS	GOVT	0		291,661	76	1,000 TOOL KITS, 2,500 WHEELBARROWS, 1,500 SHOVELS,
ROAD EQUIPMENT	DOD	0		6,206,362	76	FOR ATLANTIC HIGHWAY; 150 PIECES OF HEAVY EQUIPMENT
SEISMOLOGISTS	USGS	0		0	76	COST INCLUDED IN "DISASTER EXPERTS"
HOUSING SUPPLIES	GOVT	0		5,193,008	76	650,000 SHEETS OF CORRUGATED METAL ROOFING SOLD
HOUSING PROJECT		0		68,607	76	RECONSTRUCTION PLAN FOR EL PROGRESSO
TRANSPORT		0		4,384	76	FOR TENTS, FILM
TRANSPORT	PVO'S	0		927,045	76	INLAND TRANSPORT OF PVO GOODS
TRANSPORT	PVO'S	0		712,127	76	OCEAN FREIGHT REIMBURSEMENT
				42,009,474		

APPENDIX 6

TURKEY - EARTHQUAKE IN NORTHEAST PROVINCES (1977)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
AMB. AUTH.	LOCAL RC	0		25,000	77	
HEATERS		1000		20,314	77	
HOUSING SUPPLIES		0		1,800,000	77	STEEL ROOFING, NAILS, ETC.
PERSONNEL SUPPORT	DOD	0		12,071	77	
BLANKETS		10000	WOOL	64,961	77	
AIRLIFT	DOD	0		550,000	77	TENTS AND HEATERS
AIRLIFT	DOD	0		200,000	77	
AIRLIFT	DOD	0		70,000	77	500 TENTS FOR LORCS
COTS	SEARS	250		8,997	77	
TENTS	DOD	1120		1,950,425	77	COST INCLUDES 2,240 HEATERS AND 800 GAS CANS
TENTS	DOD	1000		700,000	77	SMALL GENERAL-PURPOSE
DISASTER EXPERTS	OFDA	2		6,410	77	
GRANT	CARE	0		4,400,000	77	
				9,808,178		

APPENDIX 6

SUDAN - FLOOD IN GEZIRA PROVINCE (1978)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST COMMENTS
PLASTIC SHEETING		180 ROLLS	160,048 78	
TENTS		1606	710,000 78	
SEEDS	DESERT	15225 LBS.	57,674 78	(T); AIR FREIGHT: \$6,224; VEGETABLE
AIRLIFT	DOD	0	78,072 78	
AIRLIFT		2	45,649 78	
AGRICULTURAL SUPPLIES		0	45,616 78	SHOVELS, HOES, SPRAYERS
DISASTER EXPERTS	OFDA	2	8,870 78	
TOOLS	SEARS	6000	767 78	GROMMETS
GRANT	GOVT	0	20,235 78	
FOOD TITLE II	CRS	620 MT	666,080 78	NFDM, VEGOIL
FERTILIZER	BUCK & CO.	7500 MT	1,290,000 78	UREA
			3,083,011	

APPENDIX 6

INDIA - MONSOON FLOODS (1978)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST COMMENTS
DISASTER EXPERTS		1	3,940 78	
GRANT	WVRO	0	122,303 78	
FOOD TITLE II	CRS	1128 MT	172,868 78	
RELIEF PROJECT	CARE/CRS	0	300,000 78	BLANKETS, FUEL, COOKING UTENSILS, ETC.
HOUSING SUPPLIES	CARE	0	200,000 79	
FOOD TITLE II	CARE	1832 MT	670,000 78	
GRANT	CRS	0	915,123 78	
GRANT	CARE	0	923,500 78	
			3,307,734	

APPENDIX 6

DOMINICAN REPUBLIC - HURRICANES DAVID & FREDERICK (1978)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
ENGINEERS		1		2,520	80	
MEDICAL SUPPLIES		0		34,847	79	
GRANT	PARTNERS	0		1,000	80	PARTNERS OF THE AMERICAS
FOOD TITLE II	CARE/CRS	9073	MT	4,030,000	80	
AMB. AUTH.		0		30,000	79	HURRICANES DAVID AND FREDERIC; LOCAL PURCHASE OF RELIEF
AIRLIFT		0		9,200	79	RELIEF SUPPLIES
FOOD TRANSPORT	CARE	0		10,500	79	TITLE II VEGOIL
WATER CHEMICALS	FEMA	0		8,307	79	
GRANT	GOVT	0		400,000	80	RESTORE ELECTRIC POWER
GRANT	GOVT	0		49,597	80	RESTORE ELECTRIC POWER
HOUSING SUPPLIES		0		3,000,000	80	SPECIAL CONGRESSIONAL APPROPRIATION
RELIEF PROJECT	US PVO'S	0		538,000	80	SHELTER PROGRAM
MEDICAL SUPPLIES	FEMA	0		75,708	79	
MEDICAL SUPPLIES	DOD	0		4,528	79	FIRST AID STATIONS
TENTS		100		46,248	79	HURRICANES DAVID AND FREDERIC
RELIEF PROJECT		0		212,000	80	AGRICULTURAL PROJECTS
SCIENTISTS	DOD	2		2,333	79	NAVY ENTOMOLOGISTS
DISASTER EXPERTS	OFDA	1		1,205	79	
TOOLS		0		4,340	80	NAILS
COTS		250		9,704	80	
HOUSING SUPPLIES	US MISSION	0		250,000	80	
GRANT	US MISSION	0		42,863	80	
ASSESSMENT TEAM	DOD	0		3,055,406	79	70% OF DAST (SEE DOMINICA)
				11,818,306		

APPENDIX 6

CARIBBEAN - HURRICANE ALLEN (1980)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
AGRICULTURAL PROJECT		0		630,010	80	ESF FUNDS; REHABILITATION OF BANANA INDUSTRY THROUGH WINRAN
SAWS		11	CHAIN	3,448	80	(T); TO CLEAR ROADS
COOKING UTENSILS		0		7,532	80	LADLES, SPOONS, CUPS, PLATES
PLASTIC SHEETING		50	ROLLS	8,767	80	FOR TEMPORARY ROOFING
PERSONNEL SUPPORT	PCV	25		0	80	WORKED IN EMERGENCY SHELTERS; 1 PCV FROM ANTIGUA
AIRLIFT		0		49,343	80	HURRICANE ALLEN
TRANSPORT	CWS	0		7,571	80	RELIEF SUPPLIES; INLAND TRANSPORT
BLANKETS		2112	COTTN	10,533	80	(D)
COTS		1000		16,137	80	
GRANT	ROTARY CLUB	0		50,000	80	FOR REPAIR OF COMFORT STATIONS
SEEDS		8395	LBS	18,998	80	(T); CORN AND VEGETABLE \$3,050 VEG: \$5,413 CORN
FOOD TRANSPORT		0		50,418	80	AIR TRANSPORT FOR P.L. 480
AGRICULTURAL PROJECT		0		100,000	80	ESF FUNDS; ACCELERATED CROP PRODUCTION; THROUGH CARD!
GRANT		0		60,000	80	FOR HOUSING REPAIR
AMB. AUTH.		0		25,000	80	LOCAL PURCHASE AND BARBADOS-PURCHASED RELIEF SUPPLIES
HOUSING SUPPLIES		0		85,737	80	(T); 16,500 PIECES LUMBER AND 2,000 LBS. NAILS
FOOD TITLE II		41	MT	19,700	80	4 MT VEGOIL, 11 MT CORN-SOYA-MILK; 26 MT NFDN
TENTS		100		42,671	80	(D)
HOUSING SUPPLIES		0		100,000	80	ESF FUNDS; LUMBER
HOUSING SUPPLIES		5000	SHEET	58,284	80	(T); CORRUGATED STEEL
PERSONNEL SUPPORT	DOD	120		0	80	RELIEF WORK
AIRLIFT	DOD	0		4,176	80	HURRICANE ALLEN
MEDICAL SUPPLIES	DOD	0		2,130	80	USS PATTERSON

1,350,455

APPENDIX 6

ST. VINCENT - HURRICANE ALLEN (1980)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST	COMMENTS
AGRICULTURAL PROJECT		0	540,000 80		ESF FUNDS; REHABILITATION OF BANANA INDUSTRY; THROUGH WINBAN
AMB. AUTH.		0	25,000 80		LOCAL PURCHASE OF HOUSING REPAIR SUPPLIES; HURRICANE ALLEN
ENGINEERS	AID	1	3,663 80		WITH 2 DOD ENGINEERS; TO CHECK SWEAGE SYSTEM AND WHARF; 3 DAYS
HOUSING SUPPLIES		0	160,000 80		ESF FUNDS
SAWS		9 CHAIN	2,821 80		WITH EXTRA CHAINS AND BARS; TO CLEAR ROADS
SEEDS		6869 LBS	11,665 80		VEGETABLE SEEDS: CORN, PEAS, OKRA, TOMATO, LETTUCE, CABBAGE
SEWER EQUIPMENT		0	650,000 80		ESF FUNDS; PROJECT FOR REPAIR OF KINGSTOWN SEWAGE OUTFALL
			1,393,149		

APPENDIX 6

YEMEN - DHIMAR EARTHQUAKE (1983)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST COMMENTS
GEOLOGISTS	USGS	0	0 83	SAUDI ARABIAN-FINANCED SEISMIC SURVEY
TECHNICIANS	DOD	2	0 83	(D); SUPERVISED INSTALLATION AND TRAINING FOR GENERATORS
VEHICLES	US MISSION	4	0 83	LOAN; USED AS AMBULANCES
MEDICAL SUPPLIES	DOD	0	0 83	680 HOSPITAL GOWNS; 50 MASKS
MEDICAL SUPPLIES	UNICEF	10 KITS	10,000 83	MOBILE KITS
GENERATORS		6 30 KW	44,000 83	(D)
AIRLIFT	DOD	4	713,279 83	
TENTS		3000	1,203,850 83	(D)
PERSONNEL SUPPORT	PCV	0	0 83	SURVEYS OF WATER SYSTEM AND HEALTH SITUATION
WATER TANKS		8	15,843 83	(D); 3,000-GALLON
BLANKETS		15000 WOOL	135,590 83	(D)
			2,122,562	

APPENDIX 6

PERU - FLOOD ON NORTH COAST (1983)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FY	COMMENTS
TECHNICIANS		3		9,280	83	FOR SEWER WORK
RELIEF PROJECT		0		22,699,000	84	DA FUNDS
DISASTER EXPERTS	PARTNERS	1		6,600	83	INCREASE IN COST OF RAY LYNCH
FOOD TITLE II		27826	MT	14,217,000	83	(T); WHEAT; BULGAR; RICE; CORNMEAL; VEGOIL
RELIEF PROJECT		0		8,170,000	83	DA FUNDS
GRANT	CRS	0		20,000	83	2 FLOOD RELIEF PROJECTS
WATER TANKS		16		0	83	3,000-GALLON
MEDICINES		8	TONS	252,000	83	PREPACKAGED; AIRLIFTED BY HOST GOVT
SEWER EQUIPMENT		0		988	83	2 SUCTION HOSE REPLACEMENTS
LANDSLIDE EXPERTS		1		9,491	83	3 WEEKS
DISASTER EXPERTS		2		27,139	83	
AMB. AUTH.	GOVT	0		50,000	83	LOCAL PURCHASE OF RELIEF SUPPLIES
SEWER EQUIPMENT		2		228,235	83	(T);SEWER JETS AND VACUUMS FOR CLEANING; OCEAN FREIGHT
SEWER EQUIPMENT		0		493	84	SPARE PARTS
ROAD PROJECT		2		120,000	83	78 KM OF HIGHWAY
FOOD TITLE I		28000	MT	10,500,000	83	FOR COMMERCIALIZATION
AIRLIFT	EAL	0		3,736	83	WATER TANKS
				56,319,962		

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APPENDIX 6

TUNISIA - FLOOD IN COASTAL AREAS (1983)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FY/COST	COMMENTS
AIRLIFT	FLYING TIGERS	0		5346	83	FOR 2 WPU'S TO FRANKFURT
AIRLIFT	CIRCLE AIR	0		150818	83	FOR WPU'S AND SEWER EQUIPMENT TO TUNIS
AMB. AUTH.	LOCAL RC	0		25000	83	LOCAL PURCHASE OF RELIEF SUPPLIES
BRIDGE EXPERTS	DOD	2		4000	83	
BRIDGES	DOD	7		75000	83	3 90-FOOT PONY TRUS; 3 30-FOOT I BEAM; 1 60-FOOT I-BEAM
CULVERTS		0		233283	83	(T)
DISASTER EXPERTS	OFDA	1		2172	83	OFDA TRAVEL FUNDS
DISASTER EXPERTS	WASH	0		65062	83	FOR SANITATION; OFDA HAS PRE-EXISTING CONTRACT WITH WASH
FOOD TITLE II	CRS	145	MT		83	FOOD FROM REGULAR PROGRAM DIVERTED FOR EMERGENCY USE
PUMPS		6		90969	83	INCLUDES HOUSING
RELIEF PROJECT		0		10000	83	SUPPORT FUNDS FOR LOCAL RELIEF PROGRAM
SEWER EQUIPMENT		0		229208	83	
SEWER EQUIPMENT		0		30859	83	SEWER JETS
WATER PURIFICATION UNITS		2			83	NEVER USED

57,231,679

APPENDIX 6

THE PHILLIPINES - TYPHOONS IKE & AGNES (1984 & 1985)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FYCOST	COMMENTS
*****	*****	*****	*****	*****	*****
FOOD TITLE II	CRS	5040 MT	1,858,500	84	RICE, NFDN
AMB. AUTH.	GOVT	0	25,000	84	
FOOD TRANSPORT		0	341,500	84	OCEAN FREIGHT FOR CRS FOOD
GRANT	LOCAL PVO	0	72,500	84	PVO=PROJECT COMPASSION; POULTRY RAISING, REBUILDING
GRANT	CRS	0	310,000	84	INLAND FOOD TRANSPORT
GRANT	CARE	0	774,000	84	SCHOOL REPAIR PROJECT
RELIEF PROJECT	GOVT	0	865,500	84	TO RESTORE ELECTRIC POWER
SEEDS	LOCAL PVO	0	27,500	84	VEGETABLE; PVO=PROJECT COMPASSION
HOUSING PROJECT	PBSP	0	40,000	85	PBSP = PHILIPPINE BUSINESS FOR SOCIAL PROGRESS
HOUSING PROJECT	CARE	0	432,103	85	SCHOOL REPAIR PROJECT; ORIGINAL COST WAS \$521,603
WATER CONTAINERS		400 5-GAL	1,008	85	
RELIEF PROJECT	GOVT	0	500,000	85	RURAL ELECTRIFICATION
FOOD TRANSPORT		0	438,600	85	FOR CRS FOOD
FOOD TITLE II	CRS	3025 MT	1,115,900	85	RICE, NFDN
AMB. AUTH.	GOVT	0	25,000	85	
			6,827,111		

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APPENDIX 6

SOLOMON ISLANDS - CYCLONE NAMU (1986)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY UNITS	COST	FY COST	COMMENTS
TRANSPORT	DOD	0	65,000	86	FOR RADIOS AND COMMUNICATIONS TEAM
TECHNICIANS	DOD	6	20,000	86	TO HELP WITH RADIOS
RADIOS	DOD	30	90,000	86	(T); AN/PRC 104 RADIOS
WATER TANKS		8	19,498	87	3,000-GAL. CAPACITY
TRANSPORT		0	17,497	86	OCEAN FREIGHT FOR PLASTIC SHEETING
DISASTER EXPERTS	OFDA	1	3,445	86	OFDA TRAVEL BUDGET; RAY DIONNE
FOOD		0	25,000	86	AMB. AUTH. USED TO PURCHASE FOOD LOCALLY; CYCLONE NAMU
AIRLIFT	DOD	0	75,000	86	FOR PLASTIC SHEETING
FOOD TITLE II	GOVT	900 MT	270,000	86	RICE
FOOD TRANSPORT	GOVT	0	130,500	86	RICE
FOOD	U.S. MISSION	0	0	86	TINNED MEAT
HOUSING PROJECT		0	50,000	86	5 SAWMILLS
HOUSING PROJECT	IHAP	0	100,000	86	
HOUSING PROJECT	INTERTECT	0	22,000	86	
PERSONNEL SUPPORT	PCV	0	0	86	
PESTICIDE	GOVT	0	5,500	86	CASH DONATION TO GOVT TO BUY INSECTICIDE, BATTERIES, ETC.
HOUSING PROJECT	IHAP	0	100,000	87	INCREASE IN GRANT
WATER EXPERTS	APT. INC.	2	31,291	86	TO OPERATE WPU'S
WATER EXPERTS	WASH	1	7,000	86	
PLASTIC SHEETING		498 ROLLS	137,946	86	
SPRAYERS		4	18,046	86	4 VEHICLE-MOUNTED FOGGING MACHINES FOR MOSQUITO/FLY CONTROL
TRANSPORT		0	4,308	86	FOR SPRAYERS
WATER PURIFICATION UNITS		2	0	86	ON LOAN
RELIEF PROJECT	SPOT-IMAGE CORP	0	2,400	86	SATELLITE IMAGERY TO DETERMINE WHICH RIVERS CHANGED COURSE

1,194,429

APPENDIX 6

EL SALVADOR - SAN SALVADOR EARTHQUAKE (1987)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FY COST	COMMENTS
SEISMOLOGISTS	USGS	1		2,059	87	2-WEEK TDY (DR. DAVID HARLOW)
AIRLIFT	DOD	0		11,000	87	213 ROLLS PLASTIC SHEETING
BLANKETS		5000	WOOL	5,000	87	
TRANSPORT		0		30,706	87	1,000 TENTS TO PANAMA FOR REPLACEMENTS
AIRLIFT	DOD	0		12,100	87	PLASTIC SHEETING DONATED BY GOCR
TRANSPORT		0		5,000	87	5,490 BLANKETS TO PANAMA
RELIEF PROJECT		0		50,000,000	87	SUPPLEMENTAL; IMPLEMENTED BY AID/LAC
WATER TANKS		36		86,472	87	3,000-GALLON
DISASTER EXPERTS		2		2,432	87	DAVE KITSON, DAVE HIUE
RELIEF PROJECT		0		2,100,000	87	AID/LAC FUNDS; ELECTRICAL PROJECTS
HOUSING PROJECT		0		300,000	87	
RELIEF PROJECT		0		75,000,000	87	ESF FUNDS
AIRLIFT	DOD	0		19,000	87	MEDICAL SUPPLIES (WORTH \$1.5 MILLION) DONATED BY MAP INT'L
DISASTER EXPERTS	OFDA	2		1,025	87	OFDA TRAVEL FUNDS; JULIA TAFT AND ALAN SWAN
FOOD TITLE II	CRS/GUATEMALA	1419	MT	446,700	87	BEANS, CORN, VEGOIL, NFD, CORNMEAL
FOOD TRANSPORT	CRS	0		29,637	87	TRANSPORT OF TITLE II FOOD
FOOD TITLE II	CRS	404	MT	89,200	87	CORNMEAL, VEGOIL, RICE
FOOD TITLE II	DIDECO	1121	MT	236,400	87	NFD, VEGOIL, RICE
DISASTER EXPERTS		1		320	87	DOG HANDLER TO ATTEND GFDA BRIEFING
AMB. AUTH.		0		50,000	87	LOCAL SUPPORT COSTS AND TO PURCHASE MEDICINES AND WATER JUGS
BODY BAGS	DOD	200		4,884	87	
HOUSING EXPERTS	INTERTECT	2		12,913	87	HOUSING ASSESSMENT TEAM
DISASTER EXPERTS	U. OF ARIZONA	1		1,407	87	RICH OLSEN
AIRLIFT	DOD	0		36,884	87	BLANKETS, WATER TANKS, TENTS
WATER PROJECT		0		290,000	87	RELIEF EQUIPMENT AND ACCESSORIES FOR WATER RESTORATION;
FOOD TITLE II	WFP	1609	MT	284,000	87	NFD, VEGOIL, CORN
AIRLIFT	DOD	0		100,000	87	TENTS, BLANKETS, WATER TANKS (ON C5A) WINDSOR STOCKPILES
RADIOS		0		2,145	87	RADIO REPEATERS, ANTENNAS, AND AIR FREIGHT
AIRLIFT	DOD	0		11,000	87	230 ROLLS PLASTIC SHEETING
FOOD TITLE II	CESAD	70	MT	21,500	87	CORNMEAL, VEGOIL, RICE
AIRLIFT	DOD	0		11,000	87	TENTS, BLANKETS, COTS FROM PANAMA; OFDA TEAM FROM COSTA RICA
RADIOS	N&G DIST.	28		6,190	87	HAND-HELD RADIOS, BATTERIES, REPEATERS
PLASTIC SHEETING	PROTECTIVE PLAS	1978	ROLLS	544,016	87	FROM PANAMA AND NEW WINDSOR STOCKPILES
AIRLIFT		0		20,000	87	OFDA PREPAREDNESS FUNDS
TRANSPORT		0		15,000	87	OCEAN FREIGHT OF 710 ROLLS PLASTIC SHEETING TO PANAMA

129,787,990

APPENDIX 6

JAMAICA - HURRICANE GILBERT (1988)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
AIRLIFT	DOD	0		145,000	88	C-141 WITH STOCKPILE ITEMS
RELIEF PROJECT	USAID/DHAKA	0		576,695	89	
MEDICAL PERSONNEL	CDC	3		34,995	88	EPIDEMIOLOGISTS
HOUSING EXPERTS	PADCO	0		17,028	88	SHELTER ASSESSMENT
TRANSPORT		0		19,068	89	FOR PLASTIC SHEETING, TCS-9000, SUPPORT KITS BLANKETS
WATER TANKS		26	3000G	53,194	89	26 3,000-GALLON WATER TANKS
PLASTIC SHEETING		1008	ROLLS	292,220	88	
TEAM SUPPORT		0		26,000	88	SUPPORT COSTS FOR ASSESSMENT TEAM
LOGISTICS EXPERT'S	DOD	1		4,595	88	LOGISTICS EXPERT FOR ASSESSMENT TEAM; JOE BERARDINO
GRANT	CARE	0		50,000	88	FOR DISTRIBUTION OF FOOD, CANDLES, WPT'S, AND OTHER SUPPLIES
SEEDS	UNDP	0		1,000,000	88	GRANT TO UNDP TO PURCHASE SEEDS
RELIEF SUPPLIES		0		1,301	88	SUPPORT KITS, BATTERY PACKS, EQUIPMENT FOR OUTBOARD MOTORS,
MEDICINES	KIRBY WARRICK	0		95,205	88	(T); 5,000,000 WPT'S (WATER PURIFICATION TABLETS)
AIRLIFT	DOD	0		265,000	88	C-5A WITH ASSESSMENT TEAM AND COMMODITIES
MEDICINES	UNIPAC	0		2,170,653	88	(T); 9,700,000 PACKETS OF ORS, 5,014,000 WPT'S
AMB. AUTH.	GOVT	0		25,000	88	
DISASTER EXPERTS	AIT/OFDA	1		1,735	88	FROM PREPAREDNESS BUDGET; EVERETT RESSLER FROM AIT-ADPC PROJECT
FEEDING PROJECT	WVRD	0		232,000	88	GRANT TO DISTRIBUTE LOCAL RICE, LENTILS, SALT, MOLASSES,
GRANT	SCF/US	0		120,000	88	FOR STAGE I OF RELIEF PROGRAM: FOR DISTRIBUTION OF DRY FOOD,
DISASTER EXPERTS	OFDA	1		3,840	88	TRAVEL BUDGET; FRED COLE
BLANKETS		6884		27,192	88	
COMMUNICATIONS EXPERTS	USCG	1		4,595	88	COMMUNICATIONS EXPERT FOR ASSESSMENT TEAM

5,165,316

APPENDIX 6

BANGLADESH - NATION-WIDE FLOODING (1988)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FY COST	COMMENTS
AIRLIFT	DOD	0		110,250	89	FLORIDA POWER & LIGHT TEAM
TRANSPORT		0		4,260	89	TO REPLACE PLASTIC SHEETING
PLASTIC SHEETING		294	ROLLS	85,231	88	
PERSONNEL SUPPORT		0		1,049	89	SUPPORT KITS FOR TEAM
DISASTER EXPERTS		0		4,080	89	LESSONS LEARNED TEAM
HOUSING SUPPLIES	GULF PRODUCTS	0		101,692	88	ROOFING MATERIALS
RELIEF PROJECT	USAID/KINGSTON	0		20,000,000	88	
AMB. AUTH.	GOVT	0		25,000	88	HURRICANE GILBERT
WATER TANKS		18	3000G	38,202	89	REPLACEMENT OF 18 3,000-GALLON WATER TANKS; HURRICANE GILBERT
AIRLIFT	DOD	0		100,000	88	AIRLIFT OF ROOFING MATERIALS
TRANSPORT		0		1,800	89	RETURN OF RADIO EQUIPMENT
AIRLIFT	USCG	0		33,000	88	AIRLIFT OF FIELD HOSPITAL
TRANSPORT		0		9,983	89	INCREASE IN COST OF AIR FREIGHT FOR ZINC
AIRLIFT	DOD	0		22,000	88	HURRICANE GILBERT; AIRLIFT OF 320 TENTS AND PAUL BELL
AIRLIFT	DOD	0		114,000	88	ASSESSMENT TEAM AND SUPPLIES
TECHNICIANS	FLA. POWER	0		620	88	INITIAL ASSESSMENT TEAM COSTS
BLANKETS		9600		37,920	88	
RADIOS	BIFC	0		24,000	88	EQUIPMENT COST AN ADDITIONAL \$10,000 FROM BORROWED FUNDS
HOUSING SUPPLIES	GULF/GOLDIN	0		506,551	88	ROOFING MATERIALS
RADIOS	BIFC	0		10,000	88	ADDITIONAL COST
RELIEF PROJECT	USAID/KINGSTON	0		35,000,000	89	CONGRESSIONAL EARMARK
				56,229,638		

APPENDIX 6

CARIBBEAN - HURRICANE HUGO (1989)

EMERGENCY ASSISTANCE FROM THE OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

COMMSERV	PROVIDER	QUANTITY	UNITS	COST	FYCOST	COMMENTS
POWER PROJECT	LLOYDS ELEC.	0		106,762	90	HURRICANE HUGO; POWER RESTORATION PROJECT ON ST. KITTS
WATER TANKS		16	3000G	38,400	89	HURRICANE HUGO; 2 TANKS TO MONTSERRAT; 1 TO ST. KITTS;
GRANT	PCDPPP	0		20,000	90	HURRICANE HUGO; RELIEF UNIT (CDRU)
TEAM SUPPORT		0		6,612	89	HURRICANE HUGO; STOCKPILE ITEMS FOR THE TEAM: 3 CASES MRE'S,
DART TEAM	OFDA	0		10,525	89	PER DIEM AND TRANSPORT COSTS FOR 2 MEMBERS OF THE DART TEAM:
POWER PROJECT	LLOYDS ELEC.	0		1,000,000	89	HURRICANE HUGO; POWER RESTORATION PROJECT FOR ST. KITTS/NEVIS
PLASTIC SHEETING		376	ROLLS	108,965	89	HURRICANE HUGO; TO NEVIS;
AIRLIFT	DOD	2	CSA	150,000	89	HURRICANE HUGO; FOR ELECTRIC RESTORATION
TRANSPORT	DOD	0		2,100	90	HURRICANE HUGO;
SAWS		7	KITS	1,799	89	HURRICANE HUGO; 5 CHAIN SAW KITS FOR MONTSERRAT; 2 TO NEVIS
DART TEAM	METRO DADE	0		0	89	HURRICANE HUGO;
DART TEAM	OFDA	0		0	89	HURRICANE HUGO;
AIRLIFT	DOD	3	C130	47,800	89	HURRICANE HUGO; C130 FLIGHTS ON 9/19/89, 9/23/89, AND 9/24/89
POWER PROJECT	LLOYDS ELEC.	0		482,440	89	HURRICANE HUGO; TEAM OF ABOUT 28 CREWMEN TO RESTORE POWER
DART TEAM	OFDA	0		6,462	89	HURRICANE HUGO; OFDA DISASTER TRAVEL FUNDS FOR 2 MEMBERS
HOUSING SUPPLIES		0		84,000	90	HURRICANE HUGO; REHABILITATION PROJECT; ZINC SHEETING
TEAM SUPPORT		0		18,663	89	HURRICANE HUGO; CHARTERS, RENTAL CARS, BATTERIES, INCIDENTALS
				2,090,028		

Asian Development Bank Disaster Expenditures

Table 1: Disaster Rehabilitation Loans

Date	Country	Project Title	Amount (\$ millions)
24 Nov 1987	Sri Lanka	Emergency Road Restoration	20.0
04 Feb 1988	Bangladesh	Flood Rehabilitation (flood control & irrigation)	14.3
23 Jun 1988	Sri Lanka	Emergency Schools Restoration	15.0
30 Jun 1988	Bangladesh	Flood Damage Restoration (Roads & Railways)	40.0
22 Dec 1988	Bangladesh	Flood Rehabilitation (Rural Infrastructure)	40.0
19 Jan 1989	Philippines	Infrastructure Restoration	20.0
30 Mar 1989	Pakistan	Flood Damage Restoration	44.0
24 Aug 1989	Bangladesh	Second Flood Damage Restoration	80.0
17 May 1990	Western Samoa	Emergency Power Rehabilitation	0.5
22 Nov 1990	Philippines	Earthquake Damage Reconstruction	100.0
24 Jan 1991	Philippines	Special Agricultural Inputs Supply	35.0
Total			408.8

Source: Asian Development Bank, *Loan, Technical Assistance and Private Sector Operations Approvals*, February 1991.