

**ACTIVITY PROFILES AND CHRONOLOGIES  
OF THE  
NON-RELIEF PROJECTS OF THE  
OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE  
1979-1988**

**AGENCY FOR INTERNATIONAL DEVELOPMENT**



*PREPARED BY*

*Booz • Allen & Hamilton, Inc.*

*and*

*Labat Anderson, Inc.*

*APRIL 24, 1989*

*AID CONTRACT NUMBER: OTR-0000-I-00-6176-00*

1

PD-HAZ-277

un. 61302

ACTIVITY PROFILES AND CHRONOLOGIES  
OF OFDA'S  
NON-RELIEF PROJECTS FY 1979-FY 1988

This volume contains 473 activity profiles and 42 chronologies for the major non-relief activities funded by the Agency for International Development's (A.I.D.) Office of U.S. Foreign Disaster Assistance (OFDA) from 1979-1988. The profiles provide brief descriptions of the activities. The chronologies consist of basic financial, administrative and substantive information for approximately one-tenth of OFDA funded non-relief activities since 1978 and form part of the database which will be used to evaluate these activities. OFDA will continue to develop such activity profiles and chronologies for ongoing and future projects. These activity profiles and chronologies were researched and written from September 1988 - March 1989 by Booz\*Allen and Hamilton through its Indefinite Quantity Contract with A.I.D. OFDA's information management contractor, Labat-Anderson Inc. (LAI), also participated in their preparation. OFDA staff worked closely with Booz\*Allen and LAI in the preparation of the profiles and the chronologies.

The chronologies are divided into four sections: 1) Latin America and the Caribbean; 2) Africa; 3) Asia and the Pacific; and 4) Worldwide/Non-Region Specific. Although there are these four divisions, the projects were all developed within the context of a worldwide OFDA strategy for non-relief activities. While the strategy has undergone some modifications and shifts within the ten year period covered, what is remarkable is the degree to which the activities largely follow a consistent approach that OFDA has taken in developing its non-relief activities.

In March 1979 OFDA developed a Central Program Strategy Statement (CPSS) to guide OFDA's non-disaster relief portfolio. In each successive program cycle, both in preparation of the Annual Budget Submission to the A.I.D. Administrator and of the Congressional Presentation, the original strategy largely remains operative. The three goals of the strategy were: (A) effective emergency relief and rehabilitation; (B) host country disaster preparedness; and (C) early warning systems. Goals B and C were seen as supporting Goal A.

The CPSS was based on the following key assumptions, which remain largely as valid today as a decade ago:

- (1) Natural disasters (earthquakes, volcanic eruptions, storms, drought, and floods) and manmade disasters (civil strife, displaced persons, accidents, and wars) will kill hundreds of thousands of people a year and cause suffering to millions of victims, especially in developing countries. The number of deaths and the amount of suffering caused by such disasters can be reduced through preparedness and prevention programs.

- (2) Disaster prone nations will require short- and long-term assistance from the United States, other donors and international organizations, and will desire increased preparedness assistance so as to reduce their reliance on foreign donors for relief.
- (3) The major disaster relief donors will increase their contributions and information sharing. The U.N. will not have a disaster relief response capacity. Its prime role will continue as coordinator of international relief, but the U.N. will significantly increase its activities in disaster preparedness.
- (4) OFDA concentration on short- to medium-term assistance (relief and rehabilitation) will be maintained. However, some assistance bordering on reconstruction (shelter options, for example) may become increasingly necessary.
- (5) While disaster relief traditionally has been provided over a relatively short period of time, critical situations which last for many months (such as drought), will require inputs over a longer period of time.
- (6) Increased reliance on stockpiled supplies for emergency inputs will become necessary.

These assumptions have established the basis for both OFDA non-relief and relief activities for more than ten years under the policy directives and various management approaches of eight different OFDA directors under three administrations. There have been numerous program reviews, project evaluations, Congressional inquiries and testimony, policy statements and several revisions of A.I.D. Handbook 8 (Foreign Disaster Assistance). The contents of this volume provide a brief overview of the OFDA non-relief program: its accomplishments, and the potential impact on saving lives and reducing the human and economic costs of disasters. The profiles and chronologies are based on the best available data which could be obtained in a reasonable period of time.

From FY 1980 through FY 1984, OFDA's disaster preparedness program was based on functional project activities under each main goal. During this period, Worldwide Disaster Relief Goal A included: 1) emergency relief, 2) stockpile management and new equipment, 3) medical management services, 4) relief technology applications, 5) lessons learned, 6) emergency shelter and building technology, 7) disaster information exchange, and 8) contingency planning for relief. (This latter category has received growing emphasis in OFDA in recent years as we build our capacity to better respond to disasters.) These functional activities were seen to directly support and enhance the goal of providing rapid, appropriate relief to disaster victims.

During the same period, the office began several key initiatives in support of Goal B, host country preparedness, to help host governments improve their disaster management capabilities. These included: 1) technical assistance in relief response organization; 2) establishing training guidelines and manuals; 3) training individuals through workshops and conferences; and 4) conducting evaluations of preparedness activities.

As beneficial as we perceive preparedness to be today, we must recognize the fact that in the early 1980s there was very limited absorptive capacity in those countries we sought to assist. In recent years we have found that the formula we have used for programming preparedness projects is most efficient in marrying our resources with the needs of OFDA's targeted, disaster-prone countries. We have always viewed our disaster preparedness funding as seed money, to stimulate host country private sector disaster management and organizational/institutional development.

The third program initiative, Goal C, early warning systems, has included activities to design, develop and implement worldwide disaster warning systems. The focus has been on: 1) drought/famine, 2) storms/floods, 3) volcanos, 4) earthquakes, and 5) tsunamis. Host country disaster preparedness and warning systems were designed to be complementary to relief assistance; they seek to mitigate disasters by providing relevant, timely and useful pre-disaster information.

Projects were designed to measure and define regional, global and localized threats to vulnerable populations and as mechanisms to encourage host country preparedness, legislative regulation, and contingency planning. Disaster early warning activities were to support the goal of saving lives. Through this initiative, host country institutions were strengthened, governments gained confidence in their ability to save lives through early warning and host countries became more aware of natural hazards threatening their economies, infrastructure and people.

The basic direction of our preparedness activities has consistently been to foster self-reliance on the part of disaster-prone developing countries. During the years in which OFDA has been promoting disaster preparedness, we have seen remarkable strides made by several countries, including the Philippines, Costa Rica, Bangladesh, Pakistan, Turkey, Tunisia, and Jamaica. As these and other nations have striven to become more independent of outside resources, the burden of relief on the USG and other donors, for all but the most devastating disasters, has diminished appreciably.

We are confident that the relatively modest amounts which have been expended by the U.S. in these countries for preparedness are a small fraction of what relief costs would have been had we not helped them prepare during this past decade.

Disaster preparedness remains a relatively new concept in many of the countries we assist. It takes time to develop the institutions, the management process and pride of self-sufficiency necessary to become self-reliant in preparing for disasters. In the last few years, due to economic problems, we have seen aspects of self-reliance suffer setbacks or fail, even in countries such as the Ecuador, Jamaica, Mexico and the Philippines. Host country disaster preparedness is a very difficult goal to achieve and is not a permanent condition. We believe the records show, however, that successful preparedness programs can reduce the need for external relief and are a very sound and appropriate complement to the relief assistance we provide.

From 1985 to the present, the OFDA non-relief program portfolio has shifted from a functional orientation based on either disaster type or institutional approach to a more structured program based on targeted, disaster-prone countries, designed to meet the needs for planning, organization, warning and response. There are twelve such targeted countries, including: Costa Rica, Ecuador, Guatemala, Honduras, Peru, Bangladesh, Fiji, Indonesia, Nepal, Papua New Guinea, Mozambique, and Sudan. These priority countries are the focal points of our non-relief strategy. As such, OFDA training programs are targeted on these countries, as are the preparation of Mission Disaster Relief Plans and Country Profiles. OFDA anticipates that the evaluation to be conducted this fiscal year will help us sharpen the focus of our target country strategy.

OFDA  
Profiles of Non-relief Activities  
1978-1988

This document presents brief profiles of all of OFDA's non-relief activities from 1978 through 1988. There are two types of profiles. First, for activities under \$10,000, a short (3-4 line) description is given, showing the purpose of the activity, the recipient of the funds, the year(s) funding was given, the amount of OFDA money granted, and any contributions from other sources. Second, for activities over \$10,000, the above-listed items are shown, as well as a formal list of the outputs of the activity.

After each output for activities over \$10,000, a "(C)" indicates that the output was completed, a "(PC)" indicates that the desired output was partly completed, and a blank indicates that the activity was not completed or that the information was not obtainable. Travel authorizations are included in the data presented; however, outputs for travel authorizations are not listed, even if the amount is over \$10,000.

For major OFDA projects (generally over \$250,000 total in funding), additional detailed information can be found in the "Chronologies", which follow the activity profiles within each regional division. These give a chronological history of each project, showing the funding actions and the major accomplishments.

Information for the activity profiles was obtained from OFDA budget files, project files, OFDA's training file, project officers' files, interviews with project officers, and on occasion, interviews with fund recipients.

Funding amounts shown are funds obligated, and may not be funds actually expended. Life of project amounts are usually not given. Every effort was made to ensure accuracy for all figures and other data items collected, but with tens of thousands of data elements checked, some errors are inevitable.

The information contained in the activity profiles, the profile backups, and the chronologies can have multiple uses and audiences. This information should be useful in answering enquiries about OFDA activities from Congressional staff, the press, A.I.D. senior staff, and outside analysts and evaluators. It could serve as a useful tool in training new permanent and contract employees, new OFDA Regional Advisors, and others in what OFDA has already done in particular countries and regions. It could be useful to give to countries and organizations that are just starting to become donors in the preparedness area, to show them what types of activities have been found beneficial by OFDA. And it could be

useful to transmit to recipient countries and their respective A.I.D. and State missions and bureaus, to show the range of benefits that OFDA funds have brought to the recipients.

The activity profiles are arranged in the following order:

I. LATIN AMERICA AND THE CARIBBEAN

- A. Latin America--Country specific (arranged alphabetically by country, then by fiscal year, and then alphabetically by activity name/title)
- B. Latin America--Non-country-specific (arranged by fiscal year, then alphabetically by activity name/title)
- C. Caribbean--Country specific (this category is arranged in the same manner as section A)
- D. Caribbean--Non-country-specific (arranged in the same manner as section B)
- E. Latin America and Caribbean (arranged in the same manner as section B)

II. AFRICA AND EUROPE

- A. Africa-Country specific
- B. Africa-Non-country-specific
- C. Europe-Country specific
- D. Europe-Non-country-specific
- E. Africa and Europe-Non-country-specific

III. ASIA AND THE PACIFIC

- A. Asia-Country specific
- B. Asia-Non-country-specific
- C. Pacific-Country specific
- D. Pacific-Non-country-specific
- E. Asia and Pacific-Non-country-specific

IV. NON-REGION SPECIFIC

- A. FY 79-80
- B. FY 81-82
- C. FY 83-84
- D. FY 85-86
- E. FY 86-87
- F. FY 87-89

Within each of the above categories, activities are arranged, when country specific, first alphabetically by country, then by the fiscal year in which the funds were obligated. Within fiscal year, the activities are arranged alphabetically by activity name.

Each profile is available electronically in various documents in library "v." Each profile also has an electronic and hard copy back-up that provides additional information. This information includes: the activity number assigned; the funding document (e.g., grant, PIO/T, etc.) numbers for the activity; a breakdown by fiscal year of the activity funding; a breakdown of the donors' contributions to the activity; the source of data; miscellaneous notes; and the Booz\*Allen or LAI data collector. Another piece of backup information is the categorization of the activity into one of five categories and one of 15 subcategories of non-relief types. These categories are as follows:

NON RELIEF CATEGORIES AND SUB-CATEGORIES :

- A. INSTITUTION-BUILDING FOR DISASTER RESPONSE:
  - 1. MANAGEMENT SKILLS TRAINING
  - 2. SUBJECT MATTER TRAINING
  - 3. PROGRAM DEVELOPMENT (INCLUDES EMERGENCY PLANS DEVELOPMENT/REVIEW)
  - 4. REGIONAL ADVISORS
  - 5. OTHER
  
- B. TECHNOLOGY TRANSFER & ENHANCEMENT
  - 1. HAZARDS ANALYSIS
  - 2. TECHNOLOGY APPLICATION
  - 3. OPERATIONAL TRAINING
  - 4. OTHER
  
- C. DISASTER MITIGATION
  - 1. RISK ANALYSIS
  - 2. BUILDING CODE DESIGN
  - 3. CAPITAL/PHYSICAL ENHANCEMENTS
  - 4. LAND USE
  - 5. TRAINING
  - 6. OTHER
  
- D. INFORMATION SHARING (NON-HI-TECH TRANSFER) AND OTHER TRAINING
  
- E. OFDA INSTITUTIONAL/OPERATIONAL SUPPORT

Within these categories, only one primary category and one primary subcategory can be designated, yet multiple secondary categories may be designated. These categories were devised after consultation with OFDA staff, and represent a consensus on the major types of preparedness categories that OFDA has been involved in over the last decade.

Common abbreviations that are used in the activity profiles are as follows:

- FY - fiscal year
- Go\_ or GO\_ - Government of \_\_\_\_\_ (i.e., Government of Peru is abbreviated GOP)
- IDA - international disaster account (the account used by OFDA for funding disaster relief and preparedness activities)
- MA - mission allotment (an allocation of funds to a USAID mission overseas for preparedness activities)
- NMIA - no more information available (in a few instances projects over \$10,000 were extensively researched but no more data were available)
- PASA - participating agency service agreement (an agreement between two U.S. government agencies to conduct an activity)
- PIO/C - project implementation order/commodity (a document that begins the funding process for an activity)
- PIO/P - project implementation order/participant training (a document that begins the funding process for an activity)
- PIO/T - project implementation order/technical service (a document that begins the funding process for an activity)
- RSSA - resources support services agreement (an interagency agreement for resources from another U.S. agency)
- TA - travel authorization
- USG - U.S. government

Comments or corrections on the activity profiles, their backup data, or the chronologies should be submitted to the Office of U.S. Foreign Disaster Assistance of the Agency for International Development.

## Latin America and the Caribbean Region

During the decade of the 1980s, OFDA's Latin America and Caribbean Division has developed and implemented many activities which support the overall goal of saving lives and reducing human suffering. The non-relief program ultimately has been concerned with developing techniques for saving lives and better preparing the countries of Latin America and the Caribbean to better manage disasters. Preparedness saves lives. Early warning can prevent disasters and preclude the need for relief. This promotion of self-reliance is the complementary goal to the saving of lives and is the fundamental basis for our non-relief portfolio.

Through our grant to the Partners of the Americas program, we have sought to broaden the basis of self-reliance into the local community setting. This grass roots effort rests on the continual support and care provided by our four regional advisors based in Latin America. These four advisors provide ongoing and substantive advice and disaster management expertise to local communities, as well as to the national government and its disaster management structure, including civil defense. Complementary to the Partner's project is the OFDA support to the Pan American Health Organization (PAHO) emergency health planning, training, and technical assistance project and the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP). These programs seek to develop self-reliance and host country capability of responding to disasters.

These activities were developed by OFDA in response to a regional disaster preparedness conference held in the Caribbean in 1979. At that time, an agenda and an internationally agreed upon strategy to assist host governments in preparing for disasters was developed and accepted. In the early years it became apparent that better information and data on natural hazard types, frequency, intensity and likelihood of occurrence would greatly enhance preparedness efforts. It was necessary to answer the questions: prepare for what?, how?, and when? Each hazard type prevalent in the region was addressed, either specifically or generically, as part of a wider non-regional global effort. Through a grant to the Carnegie Institute, OFDA helped develop the capacity of Peru's Geophysic Institute (IGP). The IGP Seismic Network Monitoring activity was carried out because of Peru's high vulnerability to earthquakes and tsunamis and the need to quantify these threats. This activity, along with similar natural hazards and seismic threat analysis projects in Costa Rica, El Salvador, Panama, Dominican Republic, Chile, Ecuador and other countries in the Andean region, has resulted in strengthened host country university and government technical institutional capacity to monitor, map and warn of earthquake and volcano hazards. The Tsunami Hazard Reduction Using System Technology (THRUST) project conducted in Chile is a clear example of an operational preparedness program, including design, implementation, testing and evaluation of tsunami detection. It provides standard warning and operating procedures and organizational response for disaster avoidance when, and if, a large near-shore earthquake produces a large seismic seawave that could easily kill 100,000 people in minutes and destroy infrastructure, including housing and industrial capacity. This type of disaster could affect the coastline of Chile or any country of the Pacific rim.

OFDA's grant to the Organization of American States (OAS) deals with all hazards and is designed to encourage development planners and donor officials to incorporate natural hazards concerns in the planning for investment, insurance and economic development programs and projects in the region. In recent years, OFDA has become concerned that host countries lack the technical and management expertise necessary to manage disaster incidents. We have, therefore, initiated a preparedness project with the Dade County Fire Department to provide routine fire and first responder training, equipment and management techniques for emergency response and relief. This approach gained further momentum with increased emphasis on search and rescue operations and training following the Mexico earthquake in 1985. The impacts of technological hazards such as the chemical accident in India, led OFDA to invest limited resources in oil spill contingency planning through the U.S. Coast Guard in the Caribbean and training in pesticide residue analysis.

The non-relief program portfolio for the Latin American and Caribbean region demonstrates the wide variety and utility of our disaster preparedness and warning projects in both actual and potential terms. Our regional advisors program is one of the most important elements in our approach to relief and preparedness in Latin America and the Caribbean. OFDA's innovative approach to identifying, defining, quantifying and solving actual and potential hazards-related problems with maximum flexibility and response has been one of its greatest assets.

In many ways we must realize that the disasters of tomorrow may very well result from our failure to develop the preparedness and warning programs today. We recognize the need to apply the proven knowledge and techniques that have been developed during the past decade as the strong foundation for promoting further preparedness activities during the International Decade for Natural Hazards Reduction.

1. LATIN AMERICA AND THE CARIBBEAN

ACTIVITY PROFILES

A. LATIN AMERICA - Country Specific

ARGENTINA

- o Travel Authorization for M. Bazzani of Argentina to attend an MCI Medical Seminar from Aug. 17-20, 1983. FY 83 - \$1,350
  
- o Purchase Order to Milagros Nanita-Kennett to design and organize two disaster preparedness workshops in Argentina; the first targeted emergency planners in Buenos Aires from April 15-18, 1985, while the second trained earthquake planners from Mendoza from April 22-23, 1985. FY 85 - \$4,698
  
- o Travel Authorization for W. Bethel to attend/support a disaster preparedness workshop in Argentina. FY 85 - \$1,370
  
- o Grant to provide logistical support for a three-month, on-the-job-training experience for disaster assistance specialist Ernesto P. Fararel, General Director of Civil Defense, Buenos Aires. The program was hosted by the Sheriff's Disaster Preparedness Division of the County of San Bernardino and administered by USDA/OICD/OIT. FY 86-87 - \$9,060
  
- o Contract with the Chilean organization, Eficiencia y Desarrollo (EFDES), for the services of Augusta Crino to design a Flood Mitigation Workshop to be held in Posadas, Argentina, in Sept.-Oct. 1987 and to provide logistical support for the workshop. FY 87-88 - \$13,763

Outputs:

- 1) Logistical support for the Flood Mitigation Workshop provided (C)
- 2) Participants identified (C)
- 3) Field visits organized (C)
- 4) Final report submitted (C)

- o Travel Authorization for 13 Argentinian doctors to travel from Buenos Aires to Washington, Miami, and Los Angeles to visit OFDA, PAHO and emergency management centers from May 1-5, 1987. FY 87 - \$13,722

B R A Z I L

- o Travel Authorization for Harry Rodis of the USGS to travel to Washington to debrief OFDA and other A.I.D. officials on Brazilian water problems, April 15-16, 1984. FY 84 - \$380
- o Travel Authorization for Carl Cook to organize a disaster mitigation and training center during FY 1986. Travel authorizations in 1987 include support for 3 Brazilian emergency management coordinators to tour 4 U.S. emergency management centers, for Carl Cook of FEMA to coordinate the tour from Feb. 3-13, 1987, and for Sylvia Moraes to serve as a translator. The 1987 trips were to develop of the OFDA-sponsored Centrum Sul disaster management center in Santa Catarina, Rio de Janeiro, Brazil. This activity also includes a travel authorization for Don Schramm of the University of Wisconsin for a conference on the development of Centrum Sul and a \$50,000 program grant in 1988. FY 86-88 - \$73,694
- o Travel Authorization for L. Suiter, T. Durham, and C. Cook to travel to Brazil to assist in a Water Resource Planning Meeting. FY 85 - \$12,120

C H I L E

- o PASA with NOAA's Pacific Marine Environmental Laboratory (PMEL) to develop, test, and evaluate an early warning system for a tsunami-prone urban area in the Pacific. The coast of Valparaiso, Chile, was selected as the site. FY 82-88 - \$682,860 Contributions: Chilean government/\$1,633,068

Outputs:

- 1) In-shore tsunami detection and warning system developed and installed (C)
- 2) Goal of providing warnings to local officials in 10 minutes exceeded; warnings now provided in 2 minutes (C)

- 3) Goal of developing low cost system met--replicating THRUST hardware elsewhere would cost about \$15,000 (C)
  - 4) THRUST integrated and accepted by local emergency officials (C)
  - 5) Chilean funds leveraged--\$580,000 OFDA funds matched by \$1,630,000 GOC funds (C)
  - 6) Products developed, including maps, tsunami models, a large tsunami data base, and extensive historical data (C)
  - 7) THRUST led to development of first-ever broad-based emergency plan for Valparaiso covering 16 Chilean agencies (C)
- o Travel Authorization for Captain Eduardo Barison, the Director of the Navy Hydrographic Institute and the Chilean Tsunami International Tsunami Scientific Union (ITSU), to travel to Honolulu from March 13-20, 1984, to attend the IX Meeting of the International Coordination Group for the Tsunami Warning System in the Pacific and a THRUST workshop. FY 84 - \$2,934
- o Grant and Purchase Orders with the USDA/USFS to develop and hold the Third Wildfire Suppression Course in Los Andes, Chile, from Nov. 17 to Dec. 6, 1985. OFDA also sponsored several U.S. instructors for planning/steering committee meetings. FY 84-85 - \$193,843
- Outputs:
- 1) Program developed (C)
  - 2) Logistics arranged (C)
  - 3) Over 50 Latin American fire specialists trained in wildfire fighting (C)
- o Travel Authorization for Hugo Knockert to attend the USFS Forest Fire Training Course in Marana, Arizona, from July 30 - Aug. 3, 1984, with a stayover in Washington, D.C., Aug. 4-6, 1984. FY 84 - \$2,400
- o Travel Authorizations to send 8 host country nationals to the Chilean Earthquake Conference. FY 85 - \$15,803
- o Travel Authorization for 3 Chileans to attend a 3-month forest fire training course held in Reno, Nevada. FY 86 - \$6,900 (C)
- o Travel Authorization for Gil Buevara to travel to Chile to assist with the damage assessment portion of the OFDA-sponsored ONEMI (the Chilean Civil Defense office) Training Seminar. FY 86 - \$2,230

13

- o PASA with the USGS Office of International Geology to improve and implement seismic zoning and earthquake resistant building design in Chile through the preparation of groundmotion maps for site planning and approval, improvement of building design criteria and codes, and educational and technical assistance in cooperation with scientists, engineers, and disaster officials. FY 87-88 - \$173,053

Outputs:

- 1) Chilean regional probabilistic seismic groundmotion maps produced (C)
  - 2) Chileans trained in mathematical/statistical techniques and computer coding (in progress)
  - 3) Data for groundmotion mapping gathered by Chileans and USGS personnel (C)
  - 4) Software developments and hardware applications adapted from USGS work (C)
  - 5) Primary seismic hazards map produced by Chilean experts and USGS personnel (in progress)
  - 6) Microcomputer (IBM PC) procured through a sub-grant to the University of Chile (C)
  - 7) Probabilistic groundmotion maps for all of Chile published (in progress)
  - 8) Meeting of Chilean and regional groups interested in Chilean hazards convened (FY 90-91)  
(Program in progress)
- 
- o Travel Reimbursement for R. Sargoni of Chile who traveled to Puerto Rico to attend an Earthquake Engineering Seminar. FY 87 - \$2,309
- 
- o PASA with NOAA's National Research Lab, Pacific Marine Environmental Lab (PMEL), for assistance to the Chilean Naval Hydrographic Institute (IHA) to conduct a 3-day workshop in Valparaiso on THRUST technology and IHA standard operating procedures (SOP). The funding provided travel and per diem support for 5 THRUST principal investigators and seven Latin American foreign national representatives. FY 88 - \$30,000

Outputs:

- 1) 3-day workshop conducted in Valparaiso on THRUST technology (C)
- 2) Travel and per diem provided to 7 selected international tsunami specialists and 5 THRUST team members (C)
- 3) 7 tsunami specialists trained (C)
- 4) Summary report prepared on the international workshop (C)

- o Travel Authorization for Gil Guevara of the American National Red Cross to travel to Santiago, Chile, to conduct--in cooperation with OFDA, Chile's ONEMI, and Partners of the Americas--a disaster management training course for Chilean non-governmental organization officials. FY 87 - \$2,345

COLOMBIA

- o Contract with INTERTECT to develop and conduct a training program for the government of Colombia, designed to introduce appropriate technology in housing repair and reinforcement to the earthquake-struck region of Popayan. The goal was to enable structures to be repaired/rebuilt in order to improve their ability to withstand future earthquakes. This activity included a travel authorization for \$1,705 for a staff member. FY 83 - \$48,190

Outputs:

- 1) Training program for local contractors, building trades workers, and residents designed and conducted (C)
  - 2) Information materials developed and disseminated (C)
  - 3) Changes in local building practices effected (C)
  - 4) Trained individuals trained contractors elsewhere in country (C)
- 
- o Purchase Order for the services of INTERTECT to present 2 sessions on the principles of earthquake resistant construction, to develop a comprehensive technical program of rebuilding and strengthening activities and to conduct a survey of the most recent earthquake damage. FY 83 - \$9,986
  
  - o Purchase Order with INTERTECT to attend the Government of Colombia's International Forum on Disaster Prevention and Management in Bogota from March 7-8, 1985, and to make a presentation on Hazard Reduction and Vulnerability Analysis on behalf of Colombia at the Forum. FY 85 - \$2,249
  
  - o Purchase Order with Louisiana State University to facilitate study visits of 3 Colombians to OFDA, USGS-Reston, Virginia, USGS-Menlo Park, California, and Cascades Volcanic Observatory, Seattle, after their participation in the American Geophysical Union meeting in Baltimore at the end of May 1986. FY 86 - \$3,100
  
  - o Travel Authorization for a group of Colombians to visit Indonesia and the U.S. on a volcanology study tour and training visit. FY 86 - \$13,396

75

C O S T A R I C A

- o Two Grants to the University of California/Santa Cruz (UCSC) to install a permanent national seismic network in Costa Rica and train Costa Ricans in network operations and procedures to establish an earthquake and volcano hazards reduction program. FY 83-85 \$1,021,181

Outputs:

- 1) Existing seismic network expanded and upgraded to a standardized group of 15 instruments through collaboration with the Instituto Costarricense de Electricidad (ICE) (C)
  - 2) Network of 6 (including 3 in place but non-functioning) strong motion accelerographs installed (C)
  - 3) Personnel trained to operate and maintain seismic instruments (C)
  - 4) Data reduction technology transferred to Costa Rican nationals (C)
  - 5) Fundamental knowledge of earthquakes and their relations to geologic features developed in order to locate and map regions of potential hazards (C)
  - 6) Volcanic risk studies laboratory equipment procured and installed (PC)
  - 7) Strong-motion network upgraded by acquiring and installing an additional 10 accelerographs (C)
  - 8) 24-hour Costa Rican earthquake detection and notification alarm system established including installation of a computer with appropriate software in cooperation with the Costa Rican Civil Defense (PC)
  - 9) Seismic history of Costa Rica analyzed with Costa Rican counterparts to identify regions of potential hazards to Costa Rican infrastructure
  - 10) Accelerograph records analyzed to determine local building response characteristics from moderate earthquakes
  - 11) Preparedness project and response planning program initiated with Costa Rican government in cooperation with experts from California (PC)
- 
- o Purchase order with Paul Bell to work with Costa Rican officials to develop an action plan to implement the recommendations of an earlier contract. The output included a report on the status of the Costa Rican Disaster Preparedness Plan which recommended improvements, identification of U.S. and other disaster emergency resources, and training opportunities and provided a detailed evaluation of the disaster communications system. FY 83 - \$9,071 (C)
  
  - o Travel authorization for Paul Bell for travel from Washington, D.C. to Miami from Feb. 3-4, 1984, to participate in a meeting on emergency communications with other attendees from Latin America and the Caribbean. FY 84 - \$435

- o Purchase Orders with N&G Distributing Corp. (P.O. # -84-27), J.J. Tronics (P.O. # -84-26), Atlantic Solar Power (P.O. # -84-25) Delaware Amateur Supply (P.O. -84-24), to provide communications equipment for use by the government of Costa Rica. These purchases were based on the recommendations of an earlier assessment team sent to Costa Rica. FY 84 - \$15,082

Output:

- 1) Communication equipment procured and shipped to San Jose for the Emergency Operations Center of the Costa Rican government (C)
- 
- o Purchase Order with Paul Bell to produce a communications manual--in Spanish and English--for the USAID/San José Emergency Operations Center and for the Costa Rican Civil Defense; the manual will serve as a prototype for Latin American emergency preparedness programs. The Manual for Emergency Operations at the Community Level (Organización Para la Emergencia Nivel de Comunidad) was delivered as scheduled. FY 84 - \$2,528 (C)
  
  - o Travel Authorization for geophysicist Dr. James H. Dieterich of USGS/Menlo Park to travel to Costa Rica from Oct. 16-22, 1983, to assist the Government of Costa Rica and USAID/San Jose in evaluating the University of California/Santa Cruz's earthquake prediction for the central valley of Costa Rica. FY 84 - \$1,240
  
  - o Purchase Orders with Paul Bell to draft and complete an emergency operations manual in Spanish for the Costa Rican Civil Defense. The manual should serve as a prototype for other Latin American Emergency Preparedness programs. Also included is a travel authorization for a required visit to Costa Rica from Dec. 4-17, 1983. FY 84 - \$12,686

Outputs:

- 1) Emergency plan, titled "Plan Basico de Emergencia--Gobierno de Costa Rica" written and submitted (C)
  - 2) Simulation using the plan conducted with Costa Rican officials (C)
- 
- o Travel Authorizations for 4 Costa Ricans to participate in fire training from Feb. 5-11, 1984. FY 84 - \$2,100
  
  - o Purchase Order with K. Michael Cline to perform an evaluation of the Costa Rican Seismic Hazards Monitoring Program and to develop a plan of action for continuation and completion of the program and to submit a final report. FY 85 - \$8,057 (C)

- o Travel Authorization to send fingerprint expert R. Hazen of the FBI on TDY to Costa Rica. FY 85 - \$1,550
  
- o Mission Allotment for the Government of Costa Rica to plan and organize a hazards management workshop. FY 85 - \$18,898
  
- o Mission Allotment as a grant to Universidad Nacional Autonoma (UNA) doctoral students for training expenses. FY 85 - \$15,835
  
- o Travel Authorization for R. Borocek from Costa Rica to travel to Colombia for 8 days to participate in accellerograph studies. FY 86 - \$602
  
- o Contract with RET Corp. to work with Costa Rican organizations in finalizing the Costa Rican Earthquake and Volcanic Hazards Mitigation program begun through an OFDA contract with the University of California/Santa Cruz. RET completed the installation of seismic equipment an field studies begun previous to the contract; completed earthquake and seismic maps of the Valle Central; presented collected data to Costa Rican disaster managers; trained Costa Ricans in order to assure control of the network; and assisted the Costa Rican Defensa Civil implementing preparedness programs for earthquake and volcanic hazards. FY 86-88 - \$432,147

Outputs:

- 1) Executive committee established to regulate the activities of counterpart institutions (C)
  - 2) Operational condition of the 2 Costa Rican regional seismic networks reviewed to determine the feasibility of integrating the 2 networks into 1 (PC)
  - 3) Comprehensive review undertaken of all equipment purchased under UCSC grants to determine additional equipment requirements (C)
  - 4) Technical support provided for aerial mapping of lineament and geomorphic features
  - 5) Field mapping to delineate faults suggestive of quaternary activity to develop hazards and risks assessment accomplished (PC)
  - 6) Field mapping of volcano deposits accomplished (PC)
- 
- o Travel Authorization for Thomas Adams, Texas Governor's office, and Dr. Joseph Soler, Dade County, Florida, to travel to a PAHO International Disaster Relief Conference being held from March 9-13, 1986, in San Jose, Costa Rica. FY 86 - \$2,492

18

- o Purchase Order with the Foundation for Global Broadcasting (FGB) to conduct a disaster telecommunications test to determine the possibility of using live or real time video to assist in international disaster assessment and coordination. Includes a travel authorization for Vince Darago of FGB to participate in the test in San Jose with USAID and the Costa Rican government. FY 87 - \$10,681

Outputs:

- 1) Technical demonstration of video transmission from field to studio to OFDA to Costa Rica conducted (C)
  - 2) Final report submitted (C)
- 
- o Travel Authorization for Costa Rican G. Santana to attend seismic meetings in Canada and the United States. FY 87 - \$2,214

E C U A D O R

- o Contract with Joan Arias to visit Ecuador to develop a specific disaster preparedness curriculum for secondary school-level civil defense education, featuring earthquake preparedness. FY 81 - \$9,309

Outputs:

- 1) Current course programming of the Ecuadorean primary secondary educational system analyzed (C)
  - 2) Specific civil defense objectives related to the educational curriculum developed (C)
  - 3) Course outline and recommendations consistent with objectives developed (C)
  - 4) Instructional guide for teaching developed (C)
  - 5) Curriculum developed (C)
- 
- o Grant to LRCS to train personnel from the Ecuadorean Red Cross to serve as League delegates for disaster relief. Training held in Ibarra, Ecuador. Funds provide travel, documentation and audio-visual materials. FY 82 - \$10,000

Outputs:

- 1) Accommodations, meeting rooms and transportation for 34 participants and 6 instructors for 6 days arranged (C)
- 2) Potential delegates trained in rules/principles of the Red Cross (C)

- o Travel Authorizations for 3 FEMA officials (Bravo, Dameneck, and Berry) and 20 Ecuadorean Civil Defense officials (\$12,16) to plan/conduct and receive training at a Civil Defense training course in Quito. In addition two geologists (Pozon and Hall) who participated as trainers received travel authorizations. FY 83-83 - \$29,454
  
  - o Purchase Order with ETI to send 2 information specialists (Cecily Mango and Ricardo Kleinbaum) to Guayaquil and Quito, Ecuador, to compile "lessons learned" documentation from the flood disaster in Ecuador and to collect disaster vulnerability preparedness and operations data from the U.S. Mission and Embassy. FY 83 - \$6,947
  
  - o Grant to UNDRO to map the areas of highest risk of volcanic eruptions in Ecuador; to install rapid-response, modern monitoring instruments; to initiate public education programs; to develop and institute warning and evacuation procedures for volcanic and tsunami incidents; to record and evaluate the level of seismic activity along fault zones; and to map coastal zones vulnerable to tsunamis. FY 86 - \$592,180. Contributions: USAID/Quito/\$100,000
- Outputs:
- 1) 4 permanent seismographs with telemetry procured and installed on 4 volcanoes (C)
  - 2) 40 radiocarbon date analyses performed (PC)
  - 3) Volcanic hazard zoning and emergency planning workshop held (C)
  - 4) Seismic hazard workshop held (C)
  - 5) Tsunami hazard mapping and evacuation plans workshop held (C)
  - 6) Risk maps and reports developed for 6 volcanos (C)
  - 7) Computer equipment and software purchased and installed (C)
  - 8) Volcanological database developed (C)
  - 9) Level of seismic activity at fault zones recorded and evaluated (PC)
  - 10) Technical assistance provided to review local building codes (C)
  - 11) 10 strong-motion accelerographs and spare parts purchased (C)
  - 12) Activity reports and special reports and analyses produced (C)
  - 13) Final report produced  
(This activity is still in process.)
- 
- o Travel Authorization for Constance Hildebrant to travel from Ecuador to Costa Rica to attend the UNESCO regional course in volcanic monitoring from Nov. 30 -Dec. 11, 1987. FY 88 - \$500

20'

- o PASA with USGS Office of International Geology to evaluate seismic hazards in El Salvador, in conjunction with the Center for Geotechnical Investigations. Mission allotment was for the purchase of a vehicle to use with the program. FY 83-86 - \$135,300

Outputs:

- 1) Network of seismic instruments installed (C)
- 2) Technical training in the operation and maintenance of the network provided (C)
- 3) Training provided in basic data analysis (C)
- 4) Computer procured and instructions in the use of software developed by the USGS to calculate earthquake locations (C)
- 5) Training given in the use of a seismograph network as a forecasting tool for volcanic eruptions (C)
- 6) Quarterly reports produced (PC)
- 7) Final report produced (C)

E L S A L V A D O R

- o Purchase Order with Jack Silverstein to develop a disaster preparedness and response plan for the USAID Mission in El Salvador. FY 84 - \$5,027

G U A T E M A L A

- o Travel Authorization for a team of experts to complete a Guatemalan earthquake study. FY 83 - \$16,700
  
- o Travel Authorization for Dr. James Hogan to travel to Washington, D.C. to brief OFDA staff on the needs assessment conducted for the Guatemala displaced persons disaster. FY 84 - \$410
  
- o Grant to provide support for a 4-month on-the-job training program for Carlos Mendoza Andrade, Chief of Accident Operations, National Emergency Committee (CONE) of Guatemala; the program was hosted by the Office of Emergency Services of the city of Santa Ana, California, and administered by the USDA/OICD/ITD. FY 86 - \$11,840

- 21 -

Outputs:

- 1) Disaster preparedness public education program for the local Hispanic population designed and implemented (C)
  - 2) Disaster preparedness brochure "Preparing for Emergencies" translated from English to Spanish (C)
  - 3) Attended an emergency management course and USFS briefing (C)
  - 4) Mid-term assessment of traineeship program performed and recommendations for USAID provided (C)
- 
- o Purchase Order with HARRIS/3M Document Products, Inc., to provide a Harris/3M Model FAX IT III AD digital facsimile transceiver, facsimile paper, and hand carrying case for a FAX IT III AD for USAID/Guatemala which loaned it to the Guatemalan agency INSIVUMEH. (Later the machine was given as a grant to INSIVUMEH.) The funding also covers shipping costs. FY 88 - \$2,131
  
  - o Purchase Orders with N & G Distribution Corp. and Ray Jefferson Division of Jetronics Industries Inc. for HF Radio components and a battery charger; the system was delivered to USAID/Guatemala which gave it to Guatemala's National Emergency Committee (CONE). FY 88 - \$1,162,57 and \$236

H O N D U R A S

- o Purchase Order with Dexter Anderson to perform a pre-feasibility survey in Honduras based upon a Mission statement. FY 85 - \$4,382

M E X I C O

- o Travel Authorization for 2 USGS volcanologists to Chinchonual, Mexico. FY 82 - \$2,600

- o Travel Authorization for S. De la Cruz of Mexico to travel to the USGS Volcano Observatory in Vancouver, Washington. FY 84 - \$900
  
- o Travel Authorization for J. Dethonus of Mexico to attend a geological phenomenon subcommittee meeting from Aug. 4-5, 1986, in San Diego, California and Tiajuana, Mexico. FY 86 - \$500
  
- o Travel Authorization for 2 Mexicans to attend a heavy rescue course held at Columbia College. FY 86 - \$1,200
  
- o Purchase Order for the services of Aurora Mojica to prepare and implement school safety plans and activities in Mexico. Also a travel authorization was issued to J. Puthoff of the Palo Alto School District to assist school safety officials in the Ministry of Education, Government of Mexico, in assessing school safety and training school teachers and administration in the preparation of disaster materials for lessons planning. FY 86 - \$6,322
  
- o Travel Authorization for Steve Malone, vulcanologist with the University of Washington, to travel to Mexico to assist the Government of Mexico vulcanologists in performing preparedness assessments related to impending volcanic activity in the region from June 2-14, 1986. FY 86 - \$1,850
  
- o Travel Authorization for 2 Mexicans to participate in the Chicago (Zion) Nuclear Power Plant Emergency Drill from June 23-26, 1987. FY 87 - \$940
  
- o Travel Authorization to Civil Engineer Vitelmo Ertero of the University of California to speak at the Congreso of College of Civil Engineers Earthquake Conference in Mexico City from Nov. 13-15, 1986. FY 87 - \$964
  
- o Travel Authorization for Dr. Jeff Mitchell of the University of Maryland to travel to Mexico City from Jan. 11-13, 1987 to speak at the First International Symposium on Emergencies and Disasters. FY 87 - \$550

N I C A R A G U A

- o Travel Authorization to a U.S. geophysicist to allow him to travel to Nicaragua after assistance in seismic risk development of new building codes. FY 81 - \$,1350

P A N A M A

- o PASA with the USGS to establish and implement and Earthquake Hazards Reduction Program in Panama in cooperation with the University of Panama. FY 81-88 - \$261,322

Outputs:

- 1) Seismic station relocated from the Canal Zone to the Geosciences Institute building at the University of Panama (C)
  - 2) Staff of Geosciences Institute in Panama trained at the USGS facilities in Denver, Colorado (C)
  - 3) Seismic equipment procured for the University of Panama with University of Panama funding (C)
  - 4) Seismic equipment purchased with OFDA/USGS funding (Equipment was withheld from the University of Panama due to expiration OFDA PASA) (C)
- o Purchase Order with Dr. Samuel Bonis to perform an evaluation of the USGS Earthquake Hazards Reduction Program in Panama. FY 84 - \$2,530
  - o Travel Authorizations for Ed Koenigsberg and J. Mead to coordinate medical disaster preparedness with SOUTHCOM and Dade County officials and to review SOUTHCOM disaster plans. FY 85 - \$2,510

P A R A G U A Y

- o PASA with the USGS to assist the government of Paraguay in the development of flood planning and mitigation expertise. This PASA includes the temporary duty of a USGS hydrologist to determine what long-term assistance is necessary. FY 86 - \$13,916 Contribution: WMO/\$3,840

247

Outputs:

- 1) Predictive model developed to identify flood stages of the rivers of Paraguay (C)
- 2) Government of Paraguay (GOP) hydrologists trained in methods of river flow measurement and in the relationship of elevation to flow (C)
- 3) GOP's database updated to predict river elevation and river flow (C)
- 4) GOP assisted in the preparation of a flood disaster plan which can identify areas which will need evacuation and address single shelter provisions for victims (C)
- 5) GOP advised and assisted in the development of building plans in flood prone areas (C)
- 6) Final report, due March 1, 1986, submitted (C)

P E R U

- o Contract with Robert Gersony to assist the Government of Peru in developing short- and medium-term disaster response capabilities. FY 81-82 - \$59,408

Outputs:

- 1) Current disaster relief strategies which could be employed by the government of Peru in an earthquake situation assessed (C)
- 2) Assistance offered during a recent earthquake analyzed (C)
- 3) Disaster plans developed (C)
- 4) Organizational capabilities of the government of Peru and local voluntary agencies listed (C)
- 5) Final report encompassing all of the above information and information on other areas prepared (C)

- o Travel Authorization allowed to individuals to attend a Disaster Preparedness Public Information Seminar. FY 81 - \$3,600

- o Personal Services Contract with Paul Flores to develop a program assisting the Government of Peru, local voluntary organizations and the international community in developing a needs assessment and action plan for disaster preparedness for the Andean Region. FY 81 - \$14,819

Outputs:

- 1) Needs assessment report produced covering: (PC)
  - o Analysis of effort to identify level of data available on seismic risk in Lima
  - o Assessment of Peru's Civil Defense Emergency Communications System
  - o Evaluation of the level of public awareness

25

- 2) Final status report prepared covering: (C)
  - ° Civil defense disaster preparedness planning status
  - ° Procedures for emergency center operations
  - ° Coordination activities with the U.S. Mission Peruvian Civil Defense Red Cross, Voluntary Agencies Analysis of Additional Priority Needs For Training in Disaster Preparedness
  - ° Simulation Exercises
  
- o Contract to USGS employee Dr. John Filson to assist the USAID Mission in Peru in evaluating the status of Peru earthquake prediction and to consult with the government of Peru's Geophysic Institute and Civil Defense Authorities. FY 81 - \$1,600.
  
- o Grant to the Carnegie Institute of Washington (Department of Terrestrial Magnetism) for the procurement and installation of specialized seismic analysis equipment to upgrade the seismic monitoring capabilities of the Geophysics Institute of Peru. FY 81-88 - \$1,072,508. Contributions: Peruvian government/\$2,154,938.

Outputs:

- 1) Seismic analysis and telemetry equipment and spare parts procured (for Geophysics Institute of Peru) (C)
- 2) Travel of CIW and Peruvian personnel coordinated for installation, check-out, and operational maintenance of equipment during check-out phase (C)
- 3) Peruvian personnel trained on-site by Sierra Geophysics and Kinematic engineers (C)
- 4) seismic and related equipment shipped, delivered and ownership transferred to IGP (C)
- 5) Technical assistance provided to the IGP for the establishment of advanced seismic monitoring program (C)
- 6) 7 borehole strainmeters constructed and installed in an array contiguous with the dense part of the developing seismic network (C)
- 7) Test equipment and expendable supplies required to operate and maintain field instrument for 6 months provided (C)
- 8) Data handling facility in Lima installed for analysis of strain data (C)
- 9) Master's level Peruvian students selected to learn data analysis (C)
- 10) Technical orientation of Master's level Peruvian students to upgrade technical competence in seismic data analysis (C)
- 11) Selection process of (American) post-doctoral seismologist to reside in Lima to assist IGP operate, maintain and train technicians in seismic system and develop data analysis program conducted (C)
- 12) Monthly progress reports produced (PC)
- 13) Final report produced (C)

Up'

- o Travel Authorization for a Peruvian Civil Defense specialist and Paul Flores, a team leader, to travel to Sacramento for Diego to observe disaster simulation exercises. FY 81 - \$9,135
  
- o Mission Allotment to USAID/Lima director for a survey of the location and availability of food stocks in case of a disaster. FY 81 - \$5,000
  
- o Purchase Order with Paula Diebold de Cruz to assist in coordinating and organizing the workshop in conjunction with the Peruvian Ministry of Education. Outputs included the organization of discussion groups and supportive activities on the following subjects: (1) guidance for teachers and administrators on effective disaster preparedness skills preparation; (2) provide informational models and classroom materials; (3) evaluate existing school evacuation plans and routes and make recommendations when necessary; (4) recommend classroom activities for coping with a disaster; (5) participate in follow-up planning with the University of Ed; and (6) Final report. FY 82 - \$3,628
  
- o Travel Authorization for G. Schuster of the USGS to consult with Peruvian officials on the Peruvian rockslide. FY 82 - \$2,200
  
- o Travel Authorization for A. Garcia and A. Ortiz to conduct public information/disaster preparedness workshops and train officials of the government of Peru (\$3,760). This project also includes a purchase order with Aurora Mojica to assist in the preparation and presentation of a three-day workshop on Public Information and Disaster Preparedness (\$3,478). FY 82 - \$7,238

Outputs:

- 1) Presentations, discussion formats and workshop activities prepared on the following: emergency fire prevention and fire safety; public service announcements; community-based involvement; and how to cope with an emergency
  - 2) Simulated press conference coordinated
  - 3) Final report produced
- 
- o Mission Allotments and Travel Authorizations in support of CONCYTEC's research project on the El Nino Phenomenon in Peru. FY 83-85 - \$88,805 NM1A

- o Travel Authorization to R. Flemming of the USGS to assist the Peruvian government in establishing flood mitigation measures for Cusco. FY 83 - \$2,330

- o Mission Allotment to USAID/Lima for Catholic University of Peru to identify at-risk adobe housing in flood-affected regions of Peru and to undertake advanced seismic research on improved housing techniques. FY 84 - \$144,750

Outputs:

- 1) At-risk adobe housing identified for future research (C)
  - 2) Typical adobe construction techniques identified (C)
  - 3) Typical adobe construction types built on "shake table" in Catholic University structural testing lab, tested for seismic resistance, and failure types and locations identified (C)
  - 4) Video of failures made for scientific analysis (C)
  - 5) Spanish version of report on Indigenous Building Techniques produced (C)
- 
- o Travel Authorization for Stephen Bender of the OAS, Jesus M Garcia, district director of transportation of San Luis Obispo, and Raymond Lynch of Partners of the Americas to travel to Piura from July 12-21, 1984, to inspect the damaged zones in northern Departments of Piura and Tumbes and to participate in the Conference on Natural Disasters held in Lima. FY 84 - \$5,168
- 
- o Travel Authorization and per diem for Ambassador Robert Yost to spend 5 months in Lima to analyze status of disaster preparedness in Peru and assist in the formulation of disaster preparedness plans. FY 86 - \$15,462

Outputs:

- 1) Formulation of a long-term plan to assist OFDA & USAID Lima in response to potential situations (C)
- 2) Status of Peru's ability to provide disaster assistance analyzed (C)
- 3) Recommendations made for improving status of disaster preparedness and on implementing selected proposals suggested by previous consultant to area, Robert Gersony (C)
- 5) USAID/Lima Mission Disaster Relief Plan revised (C)
- 6) Final report prepared (C)

- o Mission Allotment to USAID/Lima for a grant to the Peruvian Civil Defense to prepare comprehensive disaster mitigation plans for tsunamis, fires, earthquakes and other hazards--also known as the La Punta Tsunami Study. FY 87 - \$123,400

Outputs:

- 1) Spanish-English resource documents and instructional outlines to reduce damage from natural hazards developed
  - 2) Series of tsunami inundation and background overlay maps prepared
  - 3) Comprehensive plans recommending long-term development strategies to mitigate damage prepared
  - 4) Instructional pamphlets on disaster developed and distributed
  - 5) Tsunami warning drill for 20,000 school children in 67 schools undertaken, with evacuation time less than expected by planners (C)
  - 6) Government assisted with problem of "ambulantes"--merchants who clog streets and prevent emergency traffic and evacuation (C)
  - 7) Peruvian government assisted with evacuation planning and land use problems (C)
  - 8) Final report produced  
(This is currently ongoing)
- 
- o Grant to Mrs. Rosario Sanchez Vidalon of the Peruvian National Civil Defense for a one-month on-job-training program which consisted of: (1) a one-week assignment in Costa Rica working on school safety preparedness projects (which can be used in Peru) with the OFDA San Jose-based team and the UNED Universidad a Distancia and (2) a three-week assignment to the Southern California Earthquake Preparedness Project (SCEPP) to develop a work product to be used in Peru and by the Spanish-speaking community which SCEPP serves. Partners in Education provided logistical support. FY87 - \$4,255
  
  - o Travel Authorization for Major Walt Lowe of SOUTHCOM to participate in the Peru Disaster Simulation Exercise held from May 3-9, 1987. FY 87 - \$974

V E N E Z U E L A

- o Travel Authorization for 2 Venezuelans, O. Contomaestra and T. Marquez to attend a FEMA Course from Sept. 11-9, 1983. FY 83 - \$2,448
  
  - o Travel Authorizations for 2 Venezuelans, N. Salvatierra and W. Castillo, to receive unspecified training in Washington. FY 83 - \$4,895
- 21

- o Travel Authorization for Rosalind Greaves de Pulido of Venezuela OIPC to travel to Washington, D.C. from Jan. 22-27, 1984, for emergency management training. FY 84 - \$1,270
  
- o Purchase Order with the National Fire Protection Association to assist the Government of Venezuela in the development of a fire preparedness program for schools and to adapt the NFPA "Learn Not To Burn" program curriculum for schools in the Sucre District of Venezuela. FY 84 - \$8,763
  
- o Travel Authorizations for 9 Venezuelan participants to attend short-term Texas A & M fire protection training courses. FY 84-87 - \$13,236
  
- o Travel Authorizations for Lt. James J. Arias and Douglas M. Jewett of the Dade County Fire and Rescue Department and Diana Cheverton, Community Affairs Coordinator of the San Diego Fire Department, to instruct in the Urban Rescue Course in Caracas and Merida, from Feb. 16-March 4, 1984; a travel authorization was also issued to Jose Bravo, and emergency management specialist from FEMA, to participate in the 2 courses. FY 84 - \$-----
  
- o Travel Authorization for USAID/Caracas MDRO Nigil Hansen to travel to Washington, D.C., to meet with OFDA, FEMA, NFPA, and other emergency management officials on current preparedness activities in Venezuela and to discuss and coordinate USG support for future disaster preparedness programs in Venezuela. FY 84 - \$350
  
- o Travel Authorization for Henry O'Lassireguez Mujica fo the Venezuelan Oficina de Investigacion y Proteccion Civil (OIPC) to attend the USTTI Telecommunications Course in Washington, D.C., from Oct. 1-9, 1987. FY 87 - \$850

B. LATIN AMERICA - Non Country Specific

F Y 1 9 7 9

- o Travel Authorization to Mr. Inga Jose Engred for per diem support to participate in drafting USAID proposals for CERESIS Program for Seismic Risk and Hazards Analysis in the Andean region. FY 79 - \$640

F Y 1 9 8 0

- o PASA with NOAA/EDIS/CEAS to develop Agroclimatic Tools for Assessing Potential Food Shortages in South and Central America. PASA was amended first to include the training of three agrometeorologists from Venezuela, Ecuador, and Peru. The Second Amendment continued the training programs in the above countries. The Third Amendment provided for the testing of the agroclimatic system. FY 80-82 - \$427,887.

Outputs:

- 1) Climate normals and agricultural resource analyses prepared (crop calendars, historical data bases, etc.) (C)
  - 2) Quantitative agroclimatic indices prepared (C)
  - 3) Models for crop/weather forecasting (initially Colombia, Ecuador, Peru, and Bolivia) developed (C)
  - 4) Indices of all subject countries integrated (C)
  - 5) Agrometeorological scientists from Venezuela, Ecuador, and Peru trained in climate/crop yield modeling methodologies; and research processes developed (C)
  - 6) Book and articles from the Aspen Institute and Venezuela Food and Climate Forum revised and published (C)
  - 7) Final report produced (C)
- o PASA with the USGS for the implementation of an earthquake disaster mitigation program (SISRA) in the Andean region. The USGS will provide technical assistance, equipment, training, and logistics support to establish a comprehensive and integrated regional seismic risk and hazards assessment and monitoring program. FY 80 - 83 \$1,224,650.

71

Outputs:

- 1) Historic seismic and instrumentation information on each country collected and catalogued (C)
- 2) Regional geologic/techtonic data collected and evaluated for seismic risk (C)
- 3) Seismic hazards maps produced (C)
- 4) Feasibility study for use of a South American satellite-relay seismic network of telemetered stations conducted (C)
- 5) Training of South American technicians at domestic USGS facilities provided (C)
- 6) Technical meeting on seismic hazards mitigation held in 1984 (C)
- 7) Program to transfer the technology/scientific products and applications derived from CERESIS initiated (C)
- 8) Progress reports (C)
- 9) Program final report (C)

F Y 1 9 8 1

- o Contract with Jack Silverstein to provide technical assistance to Ecuador and Honduras for disaster preparedness projects. FY 81 - \$64,404.

Outputs:

- 1) Long-range disaster preparedness program implemented in conjunction with the Ecuadoran Civil Defense Agency (ECD) (C)
- 2) Educational curriculum for high-school age citizen civil defense responsibilities developed. Educational programming specialist coordinated (C)
- 3) Current Mission disaster relief plan updated (C)
- 4) International community activities reviewed (C)
- 5) Activity report produced.
- 6) Analyzed and made recommendations on U.S. Mission's ability to respond to GOE request for disaster assistance (C)
- 7) Protocol developed for the Civil Defense Operations Center (C)
- 8) Seismic monitoring in Ecuador analyzed and recommendations made for improved capabilities (C)

- o Personal Services Contract with Douglas D. Zischke for the development of a three country assessment and action plan. FY 81 - \$16,928.

32

Outputs:

- 1) Civil preparedness and public awareness status in Colombia, Ecuador and Peru assessed (C)
- 2) Civil defense recommendations and public awareness programs developed

o Travel authorization for Karen Cook McNally, a U.C.S.C seismologist, and John Lower, a senior engineer, to go to San Jose, Costa Rica to assist the Government of Costa Rica, and the U.S. Mission in assessing the risk potential of a major earthquake in central Costa Rica. FY 81 - \$3,950.

F Y 1 9 8 2

o PASA with NSF (Dr. Fred Krimgold) to plan, organize and present the workshop entitled, "Latin American Workshop on Earthen Buildings in Seismic Areas," held in Lima, Peru. Includes travel authorizations for interpreters and necessary equipment (\$3,200). FY 82 - \$61,259. Contributions: NSF/\$21,896.

Outputs:

- 1) Two components of a workshop on earthen buildings in seismic areas in Latin America planned, organized and executed. Lessons learned at the Albuquerque Conference reviewed and mitigation activities and informational techniques identified (C)
- 2) One to two days of practical demonstration and hands-on training in earthquake resistant construction offered (C)
- 3) Logistical support provided for Latin American participants at the technical meeting (C)
- 4) Candidate participants identified (C)
- 5) Work session topics and agendas identified (C)
- 6) Resource persons for expert panels and presentations recommended (C)

F Y 1 9 8 3

o Purchase Order with Eugene Kojan to prepare two final reports (Ecuador and Peru) on the assessment of landslide vulnerability areas. FY 83 - \$3,127.

31

- o Travel Authorization for T. Berry of FEMA to assess disaster preparedness training needs and response capabilities in Ecuador, Colombia, Venezuela, and Costa Rica. FY 83 - \$4,050.
- o Travel Authorization sending interpreters and equipment to a seminar on Earthen Buildings in Lima. FY 83 - \$3,200.
- o Travel Authorization for J. McKiernan of NPPA and T. Murphy of COMUSFORCARIB to participate as resource persons in PCDDPPP's Workshop on the Role of Security Forces in Disaster Management. FY 83 - \$2,310.

F Y 1 9 8 4

- o Purchase Order with Paul Bell to develop a training module for Costa Rican emergency management personnel, to assess the Government of Belize's state of preparedness for hurricanes and to evaluate options for emergency communications in Belize. FY 84 - \$9,975 (C)
- o Purchase Order with Paul Bell to: (1) develop the final version of the Nation Emergency Plan for Costa Rica, (2) develop, in consultation with the Government of Costa Rica, an emergency management training program, and (3) recommend possible support for a Panamanian emergency management program. FY 84 - \$9,767 (C)
- o Travel Authorization (TA) for Professor Richard T. Barber of the Duke University Marine Lab to travel to Lima and Tumbes, Peru, and Quito and Guayaquil, Ecuador, from Oct. 20-28, 1983 to assist in the development of a conference on the El Nino Phenomenon. A second TA was issued for Louis T. Steyaert of NOAA to travel to Lima to plan the El Nino Conference and procure technical assistance on Agroclimatic Assessment Project. Mr. Steyaert also traveled to Quito Nov. 5-20, 1983 to assist the Ministry of Agriculture in finalizing a plan to implement operational agroclimatic impact assessments. TAs were also processed for 2 Ecuadoreans to participate in the Conference held in Lima from June 2-9, 1984. FY 84 - \$6,040
- o Mission Allotment to USAID/San Jose for the TDY of a specialist to attend the Structural Engineering Seminar sponsored by the University of Costa Rica and INTERTECT and held from Nov. 3-5, 1983. FY 84 - \$8,500.

34

F Y 1 9 8 5

- o Purchase Order with K. Michael Cline to conduct an independent review and evaluation of the progress and current status of the seismic risk and earthquake reduction program activities in Costa Rica, El Salvador, Panama, and Guatemala and to prepare a report. FY 85 - \$9,978
  
- o Purchase Order with contractor K. Michael Cline to prepare a report on the progress to-date of A.I.D.'s Seismic Risk in the Andean Region (CERESIS) project (under a USGS PASA), including recommendations for the orderly conclusion of the project. FY 85 - \$9,394
  
- o Purchase Order with Robert G. Terzuola for his participation in a two-man team to assess the disaster emergency management/planning and training needs for Costa Rica, Ecuador, and Bolivia and to prepare a report on its findings. FY 85 - \$ 5,887
  
- o Travel Authorization for 3 Latin American fire specialists to attend fire training. FY 85 - \$7,285
  
- o Travel Authorizations for 4 Latin American fire specialists to attend a Wildfire Suppression training course. FY 85 - \$10,630
  
- o Purchase Order for the Government of Venezuela's Oficina de Investigacion y Proteccion Civil (OIPC) to provide registration fees as well as per diem and round-trip airfare for Latin American participants attending the "Advanced Course of Rescue Techniques in Collapsed Buildings", held in Caracas in late November 1986. FY 86-87 - \$5,000
  
- o Mission Allotment to USAID/San Jose in support of a grant to the Government of Costa Rica for the travel of Costa Rican experts to Ecuador and Honduras to provide training in Disaster Preparedness Management. FY 86 - \$39,600 NMIA
  
- o Travel Authorizations for 6 participants to the Symposium on Natural Disasters held in Quito, Ecuador from Nov. 25-29, 1985. FY 86 - \$10,370.

F Y 1 9 8 7

- o Hiring of contract employee, Rene Carrillo, to serve as OFDA Regional Advisor in Peru for two years with the objectives of assessing Peruvian organizational capabilities and developing a plan to upgrade Peruvian disaster preparedness. Other duties of the Regional Advisor are to help coordinate relief and to assess local disasters. FY 87-88 - \$282,792  
Contributions: USAID Peru/\$270,000; GOP/\$90,000; USAID Ecuador/\$800,000

Outputs:

- 1) Regional Disaster Advisor hired (C)
  - 2) Severe river flooding in Paraguay assessed; USG and Paraguayan Red Cross relief effectiveness evaluated (C)
  - 3) Plan for Peruvian government prepared and AID Mission 2-year emergency management training project begun (PC)
  - 4) Plan to create and train a scientific and technical committee in Ecuador prepared; committee to focus on volcano and flood monitoring and disaster mitigation. (PC)
  - 5) Argentina assisted in the implementation of 3 large regional training events for emergency managers (C)
  - 6) Regional disasters, such as the FY 89 Gyana power outage and the Southern Peru flood disaster, assessed and relief coordinated (C))
- 
- o Travel Authorization for V. Marquez of Chile to travel to Costa Rica from April 19-May 6, 1987 to design a plan for a comprehensive school safety preparedness program FY 87 - \$2,926

- o Grant to the Foundation for Global Broadcasting for the Lifenet Networking and Training Project; a multinational disaster simulation exercise utilizing satellite communications for teleconferencing. FY 88 - \$175,000  
Contributions: FGB/\$132,575

Outputs:

- 1) Disaster simulation for 4 LAC countries developed (C)
- 2) TV crews in each of the 4 countries trained in obtaining appropriate disaster footage for transmission to assist with damage assessment (C)
- 3) Tape developed for USG missions abroad on procedures for requesting OFDA assistance (C)
- 4) Disaster simulation and teleconference conducted (C)

Mission Allotment to USAID/San Jose to provide funding for support of the Second Latin American Regional Training Course in Emergency Management.  
FY 88 - \$111,000.

Outputs:

- 1) Sixty-two Latin Americans from 17 countries trained in emergency management (C)

C. CARIBBEAN - Country Specific

ANTIGUA

- o Travel Authorization for James R. Bell, Program Manager for International Operations for NFPA, to assist the Antigua Fire Department from March 20-24, 1984 in assessing present firefighting capability in light of disaster as water shortage. FY 84 - \$1,245
  
- o Travel Authorization for two individuals to attend/support an air safety simulation. FY 85 - \$1,115
  
- o Purchase Order with Motorola International to procure emergency communications equipment (KXN 6123 AA crystals) for Antigua. FY 85 - \$43

BARBADOS

- o Mission Allotment to USAID Director RDO/C for disaster preparedness activities (unspecified) in Bridgetown, Barbados. FY 81 - \$92,080
  
- o Travel Authorization for members of the Emergency Operations Review Team to travel to Anguilla, Montserrat, St. Martin, St. Kitts, Dominica, Antigua, St. Vincent, St. Lucia to assist governments in preparation for 1980 the hurricane season. FY 80 - \$6,173
  
- o Travel Authorization for C. Outram to attend the Aircraft Recovery Workshop in Seattle. FY 83 - \$665
  
- o Purchase Order with N & G Distributing Corp. for communications equipment for the Belize and Costa Rica emergency communications networks. FY 84 - \$2,959

23

DOMINICA

- o Mission Allotment to USAID/Bridgetown to disperse as a grant to the Government of Dominica for equipment in support of a seismic network. FY 87 - \$39,000

Output:

- 1) Equipment purchased and shipped (C)

DOMINICAN REPUBLIC

- o Travel Authorization for K. Keister (Commonwealth of VA) and K. Lopez (FEMA) to assist the GODR in the preparation of a national disaster preparedness plan. FY 82 - \$2,180
  
- o Purchase Order for Mila Brooks to assess the disaster preparedness capabilities of the Dominican Republic with special reference to hurricane threat and to develop the AID Mission Disaster Assistance Plan. Tasks included: identification of key preparedness resources, delineation of the roles of key personnel and chain of command, identification of the response capabilities for the GODR and private volags. FY 82 - \$7,976
  
- o PSC with Mila Brooks to design the project plan for an eventual earthquake monitoring network in the Dominican Republic. Ms. Brooks also aided the USAID Mission in negotiating the host country agreements necessary to pave the way for the seismic net. Under this PSC, the contractor was hired to provide other disaster preparedness activities; such as, reviewing Mission disaster plans and serving as liaison with international organizations. FY 83 - \$55,237
  
- o Grant to Columbia University's Lamont-Doherty Geological Observatory to conduct a feasibility study for the development of an earthquake monitoring system for the Dominican Republic. Meetings were arranged with local government, university and business representatives. APF includes travel authorizations for W. McCann and D. Johnson of LDGO. FY 83 - \$14,574

Outputs:

- 1) On-site meetings held with designated personnel in the government and academia of the Dominican Republic, and with AID mission personnel (C)
  - 2) Feasibility study submitted (C)
- o Travel Authorization for N. Zenoni to assist the USAID Mission in Santo Domingo in the preparation of its Mission Disaster Plan. FY 83 - \$2,105
- o Mission Allotment to USAID in the Dominican Republic in support of OPG for Rural Housing Improvement (Hurricane Resistant Construction). FY 83 - \$10,000
- o Travel Authorization to Milagros Nanita to travel from Santo Domingo to Michigan and Tampa for a disaster preparedness activity. FY 84 - \$1,160.
- o Grant to the Trustees of Columbia University, Lamont-Doherty Geological Observatory (LDGO), to develop and implement an earthquake monitoring and seismic hazard analysis network in the Dominican Republic. FY 84-86 - \$755,072

Outputs:

- 1) Seismic central recording and data analysis equipment procured and shipped (C)
- 2) Recording site equipment and computer system installed and tested (in conjunction with the Seismological Institute--ISU--of the Autonomous University of Santo Domingo) within 7 months of grant award date (PC)
- 3) Remote seismic network installed within 8 months of grant award date (PC)
- 4) Procedures developed (C)
- 5) Quarterly seismic bulletins (C)
- 6) Data dissemination mechanism for the GODR developed
- 7) 27 accelerographs procured, installed, tested, and maintained
- 8) 12 permanent network seismic stations installed (PC)
- 9) Portable seismic network relocated to the western part of the Dominican Republic
- 10) Strong-motion accelerograph data collected and analyzed
- 11) Portable seismic network phased-out
- 12) Solar panels installed at 6 remote seismic stations in the eastern network
- 13) Training in earthquake data analysis and equipment operation (PC)
- 14) Quarterly reports (C)
- 15) Annual reports

WD

- o PASA with USGS providing for the dismantling, removal and relocation of seismic equipment and power supply acquired from the defunct Northeastern Caribbean Seismic Network. (USGS/Lamont Doherty Geological Observatory) Equipment to be tested, checked and certified by USGS prior to use by the Autonomous University of Santo Domingo and the Dominican Republic's seismic net. FY 84 - \$173,040

Outputs:

- 1) Seismic equipment and power supplies throughout the northern area of the Lesser Antilles dismantled and relocated (C)
  - 2) The operational capability and utility of each component tested and checked (C)
  - 3) Equipment prepared for customs clearance and shipment to Santo Domingo (C)
  - 4) Quarterly reports produced (C)
  - 5) Final report prepared (C)
- 
- o Travel Authorization for Milagros Nanita-Kennett to travel to the Dominican Republic from Jan. 5 - March 6, 1986, to develop an operation emergency plan for the Ministry of Public Works of the Dominican Republic. FY 86 - \$600

H A I T I

- o Travel Authorization for Charles Kelly to travel from Haiti to Washington, D.C. for a Disaster Assessment meeting. FY 81 \$850
- 
- o PSCs with Dale Puffenberger to provide technical assistance to the government of Haiti, the USAID Mission in Haiti, and to private voluntary agencies through disaster preparedness planning and program development. FY 82-85 - \$114,305

Outputs:

- 1) Initial recommendations of the Macy report on disaster preparedness for Haiti implemented. (C)
- 2) Haitian Disaster Preparedness Plan developed and disaster preparedness and response orientation programs prepared (PC)
- 3) Technical training program on NOAA crop assessment presented to Mission, GOH and PVO representatives. (C)
- 4) Disaster public awareness materials developed and disseminated. (C)
- 5) Workshop presented incorporating disaster awareness with school programs
- 6) Seismic network funded and equipment purchased.

- 7) Weatherfax (WEFAX) hurricane emergency radio network established. (C)
  - 8) Meteorological service network established (C)
  - 9) Three (3) regional disaster plans developed
  - 10) Three seminars on disasters and developments geared towards industry, insurance companies, and banks presented. (C)
  - 11) Private sector response inventory revised (C)
  - 12) Air crash simulations executed to train firefighters and airport officials (C)
  - 13) Remote sensing, radio and emergency equipment for OPDES and other GOH bureaus procured. (C)
- o Travel Authorization for P. Gale of NOAA to calibrate wind instruments in Haiti. FY 83 - \$775
- o Contract and Purchase Order with New TransCentury Foundation to assist AID/OFDA with the design presentation, coordination and evaluation of a three-day disaster damage assessment workshop in Haiti and to support a trainer and facilities. FY 83 - \$6,901
- o Travel Authorization for P. Gale and R. Crouthamel to discuss LOAA/NWS participation, if any, in a civil aviation action plan for Haiti. FY 85 - \$1,430
- o Mission Allotment to USAID/Port-au-Prince to be dispersed as a grant to OPDES for a Pilot Construction Project in Improved Construction Techniques and Training of Locals. FY 86 - \$11,894/NMIA

#### J A M A I C A

- o Contract with Stephen Tripp to assist the Jamaican Office of Disaster Preparedness in the assessment of its disaster preparedness plans, procedures, needs and capabilities. FY 1980 - \$11,130

#### Outputs:

- 1) Summary analysis undertaken of disaster preparedness plans, procedures and organization in Jamaica (C)

- 2) Training and manpower needs assessed (C)
- 3) Project initiated to assess resources, facilities and equipment (C)
- 4) Disaster exercise prepared in conjunction with GOJ (C)
- 5) Analysis of emergency operations requirements undertaken (C)
- 6) Summary report of analyses and recommendations submitted (C)

- o Contract with David Barker of Management Systems Inc. to develop an 18-month work plan in disaster management training for the Government of Jamaica. FY 81 - \$10,000

Outputs:

- 1) Eighteen-month work plan in disaster management training developed for the GOJ; including: (C)
    - o major training activities identified
    - o categories of personnel to be trained developed
    - o existing training capabilities reviewed
- o Travel Authorization for Neil Chapin to travel to Jamaica to aid the Government of Jamaica in setting up an Emergency Operations Center (EOC). Includes a \$10,000 Mission Allotment to USAID Kingston for the purchase of radio equipment for the GOJ EOC. FY 81 - \$11,760

Outputs:

- 1) Emergency Operations Center establishment assisted (C)
  - 2) EOC procedures established (C)
  - 3) Communications equipment selected (C)
  - 4) Training program set up (PC)
  - 5) Manual written
- o Contract with Ralph M. Field Associates, Inc. to develop a natural hazards management program for the government of Jamaica. Contract was modified in 1983 to include the development of mitigation measures for recertified high risk areas in the Kingston metropolitan area. FY 81-85 - \$214,374

Outputs:

- 1) Vulnerability and risks to Kingston metropolitan area assess through the collection of physical data such as maps, reports, data files, past construction plans and designs and associated physical information (C)
- 2) Natural hazards management risk for Jamaica prepared (C)
- 3) Analysis of findings with accompanying recommendations prepared (C)
- 4) Mitigation plans (such as guidelines and specific actions to be taken by parish and central government) taken (C)

- 5) Survey conducted of settlement patterns in relation to risk zone delineations (C)
  - 6) Mitigation options developed which emphasized non-structural opportunities to reduce exposure by relocation, evacuation, flood proofing of structures, improving warning systems, etc. (C)
  - 7) Mitigation and disaster preparedness plan prepared in collaboration with the government of Jamaica (C)
  - 8) Two interim reports due Nov. 1, 1983, and March 1, 1983 (C)
  - 9) Final report (C)
- o Contract with Fred Cuny of INTERTECT to conduct a review and analysis of building design and resistance to material hazards in Jamaica. Contractor was asked to execute field studies, prepare a manual, develop strategies and option for disseminating information to the population for their protection. FY 81 - \$1,897
- o Travel Authorization for Keith Keister to Jamaica and train the government of Jamaica Disaster Preparedness and Relief Organization in disaster management and Emergency Operations procedures. FY 81 - \$1,540
- o Mission Allotment for TDY of Charles Kelly to assist the Government of Jamaica in communications preparedness, and to purchase radios and audio visual materials for the Jamaican Office of Disaster Preparedness (ODP) and the Ministry of Health. FY 82 - \$35,102
- Outputs:
- 1) Emergency communications plans in various GOJ ministries upgraded (C)
  - 2) Risk mapping and vulnerability analysis supported (C)
  - 3) Critical resource lists and inventories compiled (C)
  - 4) Radios and audio-visual materials for ODP and the Ministry of Health purchased and delivered (C)
- o Travel Authorization to G. Noftzinger to evaluate emergency communications needs for the GOJ. Includes a Travel Authorization to same to participate in OFDA Hurricane Season Communications Meeting and brief OFDA staff on emergency communications in Jamaica. FY 83 - \$1,180
- o Purchase Order for two ETI staffers (Cecily Mango and Mary McGuire) to research the Jamaican country profile and to identify disaster preparedness and response resources in country. FY 83 - \$6,756

- o Travel Authorization for four Jamaicans to attend the National Disaster Preparedness Conference in Orlando and to consult with Dade County Fire Department officials. FY 83 - \$2,968.
  
  - o Travel Authorization for Patricia Lazarus, Public Information Officer of Jamaica, to travel to Los Angeles, California, from March 20-28, 1984, to attend a workshop on effective communications for public information officers. FY 84 - \$1,425
  
  - o Travel Authorization for Andres Raveb of NOAA to travel to Jamaica from May 14-18, 1984, to participate in the Workshop on Severe Weather Forecasting and Drought Monitoring and to recommend a trainee to study in the U.S. FY 84 - \$1,260
  
  - o Mission Allotment as a grant to the Government of Jamaica in support of the Emergency Enhancement Training Project. FY 85 - \$10,000 (C)
  
  - o Mission Allotment to USAID/Kingston as a grant for the Jamaican Office of Disaster Preparedness (ODP) for the procurement of communications equipment and integration and installation of equipment into Emergency Communications Network. FY 87 - \$66,000
- Outputs:
- 1) Integration and installation of a communications network in Jamaica (C)
  - 2) Procurement of additional equipment to complete network (C)
- 
- o Mission Allotment to USAID/Kingston to provide a grant to the Jamaican Government's Office of Disaster Preparedness (ODP) for workshop support. FY 88 - \$9,350

D. CARIBBEAN - Non Country Specific

F Y 1 9 7 9

- o Contract with James Lockard to prepare and edit of papers for OFDA's Caribbean International Disaster Preparedness Seminar. Additional duties in 1980 included the development of a list of Caribbean disaster preparedness projects matched with a researched list of appropriate donor organizations and the outline of a strategy for attracting appropriate donors for future Caribbean disaster preparedness projects. FY 79-80 - \$12,600.

Outputs:

- 1) Report to the ad hoc Caribbean Disaster Preparedness Planning Group recommending future actions produced (C)
  - 2) Caribbean-wide effort initiated to obtain national government support for disaster preparedness and prevention measures (C)
  - 3) Agenda prepared for a planning group meeting (C)
  - 4) Meeting moderated (C)
  - 5) Conference report prepared for distribution to participating governments and organizations (C)
- 
- o Contract with Stephen Tripp to assess the feasibility of developing high priority disaster preparedness projects in the Caribbean and to outline plans for such. FY 79-80 - \$20,985.

Outputs:

- 1) Planning group sessions held in Jamaica, St. Lucia, and Washington, D.C. (C)
- 2) Analytical reports containing disaster preparedness information gathered from self audit reports from Caribbean countries and site visits (C)
- 3) Outline and format for the development of disaster preparedness institutions and systems for each of 20 Caribbean countries (C)
- 4) Disaster preparedness proposals developed in cooperation with Caribbean countries
- 5) Report on feasibility and priority of proposed disaster preparedness projects (C)
- 6) Report on Ways and Means to accomplish actions on disaster planning (C)

46

- o Travel Authorizations for J. Weslin, C. Burton and R. Hall in support of meetings with representatives of organizations concerned with Disaster Preparedness Planning in the Caribbean. FY 79 - \$2,530
  
- o Contracts, Travel Authorizations and a Mission Allotment in support of the Caribbean International Disaster Preparedness Seminar, held in St. Lucia from June 9 - June 21, 1979. Funding was used to develop a travel service contract, a lodging contract and a grant for support of the Conference. Additionally, the funding provided travel and per diem support for participants. FY 79 - \$191,510.

Outputs:

- 1) Travel and per diem for 55 participants provided (C)
- 2) Logistical arrangements for 150 participants from Latin America and the Caribbean provided (C)

FY 1980

- o Purchase Order for James Lockard to develop OFDA's Disaster Preparedness Activities. FY 80 - \$3,000
  
- o Travel Authorizations for experts and host country nationals for their attendance at a Caribbean Disaster Planning Seminar in Washington, D.C. FY 80 - \$8,005
  
- o Contract with Motorola Communications and Electronics for the establishment of an inter- and intra-island emergency communications system in the Caribbean to assist in preparedness activities during the yearly hurricane season. FY 80 - \$64,145.

Outputs:

- 1) Radio equipment purchased (C)
  - 2) Equipment installed by Motorola representatives (C)
  - 3) Equipment shipped (C)
- 
- o Travel authorization for Mr. Tony Gibbs of Consulting Engineers Partnership, Ltd. to meet and assist in building code code preparation for the Caribbean. FY 80 - \$1,400

41

F Y 1 9 8 1

- o Travel Authorization for Alwyn Wasan, Secretary General of Caribbean Council of Engineering Organizations to travel to Washington to discuss building codes with AID/OFDA. FY 81 - \$225.
  
- o Travel Authorization for Mr. Leonard Stevens to coordinate communications hookup of COMMO project. FY 81 - \$1,700.
  
- o Contract with Paul C. Bell to establish a disaster preparedness and response team for the Caribbean region. FY 81 - \$28,204.

Outputs:

- 1) Team's office established in Antigua (C)
- 2) Additional team members and short-term specialists identified (C)
- 3) Disaster preparedness and response plans of major Caribbean governments reviewed (PC)
- 4) In-country needs identified and funds budgeted (up to \$8,000) (C)
- 5) In-country disaster response resources identified and evaluated (C)

- o Grant to the League of Red Cross Societies as a U.S. Government contribution toward the Caribbean First Aid Training Project. FY 81 - \$100,000.

Outputs:

- 1) First aid training specialist with experience in LDCs recruited to implement project (C)
- 2) First aid training material unique to the Caribbean developed (C)
- 3) Instructors trained in first aid in cooperation with Caribbean governments. (C)
- 4) Instructors selected who, in turn, train other local instructors. (C)
- 5) Progress reports (C)

- o Grant to the League of Red Cross Societies (LORCs) to hire a medical preparedness expert to serve as part of the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP), a regional training project located in Antigua. FY 81 - \$20,000.

16

Outputs:

- 1) Expert hired and placed at PCDPPP (C)
- 2) Studies of hospital vulnerability and emergency plans undertaken (C)
- 3) Medical, first aid, and mass casualty workshops developed (C)
- 4) Country needs in the area of health aspects of disaster assessed (C)

- o Grant to UNDRO as the U.S. Government contribution toward the Pan Caribbean Preparedness and Prevention Project (PCDPPP), a regional training program located in Antigua. PCDPPP was designed to provide training, technical assistance, surveys and needs assessments in the areas of the health aspects of disaster, emergency management planning, communications, public awareness and mass casualties. FY 81-87 - \$1,245,000.

Outputs:

- 1) More than 42 workshops, seminars and courses in emergency management, disaster health, radio communications and mass casualties sponsored (C)
- 2) More than 634 host country nationals trained (C)
- 3) National emergency plans, airport emergency plans, hospital emergency plans, national Red Cross emergency plans and other plans reviewed or rewritten (C)
- 4) Communications technical assistance provided (C)
- 5) Education and public awareness materials and programs developed (C)
- 6) Disaster risks and needs assessments performed (C)
- 7) Hurricane, flood and other risk maps produced (C)
- 8) Procedural, health, field and first aid manuals produced (C)
- 9) New building codes developed and implemented (C)
- 10) Simulations held and critiqued (C)
- 11) Regional disaster radio network established, linking 14 Caribbean countries (C)
- 12) Bi-yearly reports submitted (C)
- 13) Evaluation article on PCDPPP published in Disasters, 1987 (C)

F Y 1 9 8 2

- o Grant to the League of Red Cross Societies in support of a Caribbean Seminar on youth participation in disaster preparedness and relief efforts. FY 82 - \$82,000. Contributions: ARC/\$8,000.

Outputs:

- 1) Participation of youth at conference (C)
- 2) Final report (C)
- 3) Manual for youth action following a disaster completed. (C)

o Mission Allotment in support of the Caribbean Uniform Building Code Project in Bridgetown. FY 82-85 - \$100,102. NMIA

o Six-month grant to Lamont-Doherty Geological Observatory (LDGO) of Columbia University to integrate the data collection and interpretation capabilities of seven existing seismic networks (the Northeastern Caribbean Seismic Network). LDGO assisted participating countries in developing a hazard reduction plan, risk analysis maps and data analysis. FY 82 - \$61,416

Outputs:

- 1) Draft hazard reduction program strategy developed, addressing scope, duration, cost and appropriate agencies to be involved in the program (C)
- 2) Technical meeting of seismic network operators held (C)
- 3) Strong-motion detection instruments installed (PC)
- 4) Technical assistance provided to maintain seismic network (C)

o Mission Allotments for USAID/Bridgetown as grants to CARICOM to support the Uniform Building Code Project. FY 82-84 - \$216,000.

Outputs:

- 1) Uniform building code customized for the Caribbean, including: wind loading, gravity loading, earthquake resistant structures, foundations, masonry structures, structural steel, structural timbers, materials and testing (C)
- 2) Final report submitted

F Y 1 9 8 3

o Travel Authorization for 5 individuals from LAC to attend the AOCI meeting in Jamaica May 25-27. FY 83 - \$2,795.

o Contract with Betac Corp to test and strengthen the disaster readiness of the USAID Missions of disaster-prone countries in the Caribbean by planning, conducting and evaluating a disaster simulation exercise at each location. FY 83 - \$47,693.

Outputs:

- 1) Hurricane disaster simulation controller's manual and player's guidelines handbook developed and written in consultation with OFDA personnel (C)
- 2) Hurricane disaster simulation programs in Haiti, Barbados, and Jamaica prepared and executed (C)
- 3) After action report for each site prepared (C)

o Travel Authorization for P. Pena of Mexico to attend the International Meeting on Urban Earthquake Preparedness. FY 83 - \$3,464

o Letter obligating sufficient funds for the purchase of IBM computer equipment through NOAA for the Northeastern Caribbean Seismic Network (developed by Lamont-Doherty Geological Observatory). FY 83 - \$50,000.

Output:

- 1) IBM Computer Equipment purchased

o Contract with Motorola for the purchase of three (3) SSB radios for use by Jamaica, the Dominican Republic and Haiti. FY 1983 - \$25,249

- 1) Three (3) single-side band (SSB) radios purchased for Jamaica, the Dominican Republic and Haiti to enhance these countries' emergency communications capability as part of the Caribbean Emergency Communications Network (C)

o PASA with the U.S. Coast Guard to produce oil spill contingency plans for Caribbean countries and later to assist in the areas of search and rescue and port safety. FY 83-85 - \$325,000. Donations: USCG/\$69,900; GoAustralia/\$18,000; AID/LAC/\$125,000

Outputs:

- 1) USCG officer appointed and seconded to the International Maritime Organization for two years as marine pollution advisor (C)
- 2) Oil spill contingency planning sessions organized and held in Panama, St. Lucia and Puerto Rico for LAC personnel (C)
- 3) Assessment and technical assistance visits made to over 12 Caribbean islands (C)
- 4) Oil spill workshops organized and presented in Fiji and Australia for over 20 small countries (C)
- 5) Oil spill drill organized in conjunction with the Mexican Navy (C)

61

F Y 1 9 8 4

- o Purchase Order with N & G Distributing Corp. for communications equipment for the Belize and Costa Rica emergency communications networks. This APF includes two General Bills of Lading for airfreight costs of shipping. FY 84 - \$3,782
  
- o Purchase Order with N & G Distributing Corp. to provide a radio set comprising an ICOM Transceiver (\$2,000), MAXCOM Antenna Tuner (\$515) and carrying case (\$150) for demonstration purposes in the Caribbean Emergency Communications Project. Equipment will also be available for emergency management communications with OFDA. FY 84 - \$2,665
  
- o Purchase Order with Motorola International to provide 6 KXW 6123 AA crystals (conforming to appropriate frequencies) for the Jamaica and Haiti communications networks and 8 crystal filters and 8 hardware kits to provide upper and lower sideband capability for OFDA-purchased radios for Anguilla, Barbados (2), Dominica, Montserrat, St. Kitts, St. Lucia, and St. Vincent. FY 84 - \$3,341.84
  
- o Purchase Order with contractor Bobby Works to coordinate the exercise and facilitate the participation of 26 individuals in the U.S. Forces Caribbean (COMUSFORCARIB) Hurricane Simulation Exercise held in Key West, Florida from May 15-18, 1984. Representatives were from USAID Missions and the islands of Antigua and St. Kitts. Includes TA's for participants' attendance \$84-85 - \$2,177
  
- o Purchase Order with Robert L. Yost to prepare a report for OFDA assessing the results of the U.S. Forces Caribbean (COMUSFORCARIB) Hurricane Simulation Exercise held in Key West, Florida from May 15-18, 1984. FY 84 - \$3,011
  
- o Travel authorizations for Major Dustin Rose and Major Richard Moss of USFORCAIB to travel to Washington, D.C. from July 8-9, 1984 to participate in a hurricane season preparedness meeting conducted by OFDA. Major Rose was authorized to then proceed to St. Johns, Antigua to attend the Caribbean Disaster Preparedness Management Meeting. FY 84 - \$1,770

- 52 -

- o Purchase Order with Ambassador (retired) Robert L. Yost to attend a PCDPPP meeting in Antigua, to review government and private preparedness activities and the government emergency response plans in Antigua and St. Kitts to assess the USAID/Bahamas Mission disaster contingency plan and to review major restraints facing the Bahamas Red Cross. Ambassador Yost presented findings to officials in St. Kitts, Antigua, Bahamas and OFDA.  
FY 84 - \$455,250

F Y 1 9 8 5

- o Travel Authorizations for R. Torres, R. Padilla and A. Serra to attend a FY 85 conference. This AFP also includes Travel Authorizations for Edna Bent and Cornelia Michaels, both from Jamaica, to attend a conference on the Disabled and Disasters held in California from Feb. 3-8, 1988.  
FY 85-86 - \$7,707
  
- o IQC with DISC to evaluate AID/OFDA grants funding the Pan Caribbean Disaster Preparedness and Prevention Project; specifically, to determine what has happened, how and why these grants have (or have not) impacted Caribbean Basin disaster preparedness programs and to determine their prevention methodologies, strategies, and institutions. FY 85 - \$65,000

Output:

- 1) 12 copies of Final Report produced and sent to OFDA which covered the following: (C)
  - o Effectiveness of PCDPPP project management as implemented by UNDRO, LRCS, and PAHO
  - o Fiscal accounting of project funds
  - o Delineation of specific results
  - o Effectiveness of A.I.D. project monitoring
  - o Documentation fo host country counterpart in-kind/monetary commitments
  - o Documentation of host country participant institutionalization of the PCDPPP
  - o Recommendations for future OFDA inputs

F Y 1 9 8 7

- o Purchase Order with Dale Puffenberger to develop a general plan for responding to a mass casualty incident in the Caribbean resulting from an air crash or other technological disasters, identifying other U.S. governmental and other agencies with expertise in these areas and assessing the resources and capabilities of the entities. FY 87 - \$9,880
  
- o Travel Authorizations for 2 INTERTECT employees to serve as trainers at the National Emergency Coordinators in Jamaica from April 26-May 3, 1987. FY 87 - \$2,950

F Y 1 9 8 8

- o Mission Allotment to USAID/Bridgetown for the American Public Works Association (APWA) to perform 2 two-day workshops in Antigua and Barbados on emergency management procedures. FY 88 - \$20,434.

Outputs:

- 1) Emergency Management in Public Works workshop held (C)
  - 2) All administrative and training materials provided (C)
  - 3) Forty-two (42) emergency management officials attended (C)
  - 4) Final Report (C)
- 
- o Travel Authorization for Robert Blumberg of State/OES to travel to Basse Terre, Guadeloupe from Oct. 25-29, 1987 to participate in the Caribbean Environmental Action Plan meeting. FY 88 - \$1,500
  
  - o Travel Authorization for Carolyn Burns of Stone Weber Emergency Corp. to travel to Washington and Port-au-Spain, Trinidad to participate in a conference on "Disaster Prevention, Preparedness, and Mitigation as a Major Function" (Nov. 24-29, 1987). FY 88 - \$1,720

64

- o Grant to the American Public Works Association to conduct a 3-day workshop on disaster preparedness and planning titled, "Emergency Management in Public Works", for Jamaican and other English-speaking Caribbean participants from Nov. 16-18, 1987 in Kingston. Six US public works officials made presentations on national hazards preparedness and planning. Case studies were presented by the Jamaican Office of Disaster Preparedness.  
FY 88 - \$13,160      Contributions: APWA/\$4,856

Outputs

- 1) Three-day disaster preparedness and planning workshop prepared and presented (C)
  - 2) Administrative and training materials provided to participants (C)
  - 3) Final report summarizing workshop activities submitted (C)
- 
- o Grant to USDA/OICD/ITD to facilitate the participation of 5 disaster management specialists in the 10th Annual National Hurricane Conference held from April 5-8, 1988 in Atlanta. FY 88 - \$4,448

62

E. LATIN AMERICA AND THE CARIBBEAN - Non Country Specific

F Y 1 9 7 9

- o Contract with Cresap, McCormick & Paget to develop a workshop segment on the Illustrative Natural Disaster Preparedness Plan and to finance a final post-conference report. FY 79 - \$104,146

Outputs:

- 1) Workshop segment, titled Illustrative Natural Disaster Preparedness Plan, developed
- 2) Final post-conference report produced

F Y 1 9 8 1

- o Travel Authorizations and Mission Allotments for various participants attending the Florida Disaster Preparedness Conference from April 21-24, 1981. FY 81 - \$13,993

F Y 1 9 8 2

- o Contract with the American Institute of Architects Foundation to conduct two workshops designed to identify relevant technical/information needs and future strategies and to ensure successful transfer and use of natural hazards design information in Latin America and the Caribbean. The funding includes a travel authorization for Professor C Lomnitz. FY 82-83 - \$217,523

Outputs:

- 1) 2 3-day workshops planned and held in Peru and Guatemala (C)
- 2) 43 Latin America/Caribbean (LAC) participants trained (C)

- 3) Final report developed and workshop proceedings published, including such topics as:
  - directory of design societies/expertise involved in hazards mitigation in individual Latin American countries
  - techniques by which hazards design information can be integrated into design associations' programs, policies, and training activities and into each country's licensing requirements and design school degree programs
  - strategies for developing regional hazards design building code(s)
  - list of user needs by country and by hazards information for each disaster type (C)
  
- Grant to PAHO to design and implement simulation and training exercises to enhance medical preparedness in the Americas with an emphasis on mass casualties. Training was accomplished via seminars, newsletters, listing of resources and other means. FY 83 - \$98,310. Contributions: PAHO/\$20,500

Outputs:

- 1) Test simulation exercise on the mass casualty management and preparedness activities in hospitals performed in selected hospitals in Latin America and the Caribbean (C)
- 2) Simulation exercise translated from English into Spanish (C)
- 3) Quarterly newsletter, "Disaster Preparedness in the Americas," prepared, edited, published, and distributed, in Spanish (2,500 copies) and English (2,500 copies) (C)
- 4) Reference document listing international, regional, bilateral and voluntary agencies likely to provide relief assistance to the LAC health sector produced (C)
- 5) At least one 4-day training session(s), based on prevailing conditions in Central America, developed (C)
- 6) Approximately 45 senior level health officials trained (C)
- 7) Bi-annual reports, final report, and final fiscal report submitted to OFDA (C)
- 8) Disaster bibliography of 2,000 items developed (C)
- 9) 6 emergency health manuals produced (C)
- 10) Aircraft and railroad simulations developed and implemented (C)
- 11) Sanitary engineering course developed (C)

- o Contract with Jack Silverstein to assist several USAID Missions in disaster preparedness and relief planning. FY 83 - \$58,029

Outputs:

- 1) Mission disaster preparedness plans (MDRPs) for Ecuador, Panama, Honduras, and the Dominican Republic revised and updated (C)
  - 2) Assessments of disaster situations in Latin America performed (C)
  - 3) Country disaster preparedness and response plans reviewed (C)
  - 4) Peace Corps role in country disaster preparedness and relief activities identified and described (C)
  - 5) Trip reports following each TDY submitted which include principal accomplishments listing of issues/publishers identified, strategies for Mission disaster preparedness/relief planning, and contracts (C)
- 
- o Grant to the League of Red Cross Societies (LRCS) to undertake a number of disaster preparedness projects, including aquatic search and rescue training in Colombia, first aid training in Latin America and the Caribbean, decentralization of Chilean relief warehouses, and placing a LRCS regional delegate in San Jose, Costa Rica. FY 83 - \$235,455

Outputs:

- 1) Aquatics search and rescue training in Colombia performed (C)
  - 2) Travel and per diem provided for a regional LRCS delegate in San Jose, Costa Rica (Rene Carillo) (C)
  - 3) 1,500 first aid volunteers trained in Ecuador (C)
  - 4) First aid manual translated from English to Spanish (C)
  - 5) Many residents of the Caribbean trained in first aid (C)
  - 6) Chilean Red Cross warehouses for disaster materiel decentralized (C)
  - 7) First aid teams and posts in Ecuador and Uruguay established (C)
  - 8) 140 first aid and nursing teams in Peru trained and equipped (C)
  - 9) Disaster-related equipment provided to regional Red Cross Societies upon request, including rescue, audiovisual and communications gear (C)
  - 10) Training courses developed for 4 Latin American countries (C)
  - 11) Financial and activity reports submitted (C)
  - 12) Evaluation of program performed and submitted (C)
- 
- o Grant to the Organization of American States (OAS) to develop and field test methods to assess risk and recommend disaster mitigation activities within 3 regional planning projects in Latin America and the Caribbean with a particular focus on Paraguay, Honduras, and St. Lucia. Amended to include the identification of areas of high risk of flood hazard and the training of public sector planners in the basis of hazards risk assessment. FY 83-87 - \$932,500 Contributions: GS/DRD/\$91,300; GS/OAS/\$2,225,300; Others/\$1,553,800 (Paraguay, Honduras, and St. Lucia)

Outputs:

- 1) International hazard assessment programs inventoried (C)
  - 2) All natural resource-related information for 3 target countries inventoried (C)
  - 3) All natural hazard risk information and mitigation information inventoried and assessed for its usefulness (C)
  - 4) High risk flood hazard areas for priority disaster preparation actions identified (C)
  - 5) Public sector development planners trained in the basics of hazards risk assessment and how to train trainers (C)
  - 6) Natural hazard-related land use regulations, insurance requirements and building structure codes in Paraguay, Honduras, and St. Lucia inventoried (C)
  - 7) Hazard maps gathered including fault, volcano location, topography, land capability, precipitation, natural resources, land use, population density, hurricane surge tide, flood plain, and physical/infrastructural maps (C)
  - 8) Natural hazards, landslide, lifeline vulnerability, or other related assessments conducted in over 12 countries (C)
  - 9) Natural hazard mitigation techniques identified (C)
  - 10) Flood hazard assessments in 10-15 Latin American and Caribbean countries performed (C)
  - 11) Pilot course in Natural Risk Assessment for Latin American public sector planners developed at regional training center CIDIAT in Merida, Venezuela, developed (C)
  - 12) 2 of the Natural Risk assessment pilot courses held in 1985 and 1986 (C)
  - 13) 40 professionals trained in Natural Risk assessment (C)
  - 14) Quarterly reports submitted (C)
  - 15) Two progress reports during start-up phase produced (C)
  - 16) Final report produced (C)
  - 17) Final financial report produced (C)
- o Travel Authorization for representatives for Trinidad, Jamaica, and Mexico to attend a seismic meeting in the Dominican Republic. FY 83 - \$2,375

F Y 1 9 8 4

- o Travel Authorization for Lt. Robert Ramos and Willie G. Shelton to travel to Santo Domingo, the Dominican Republic (Sept. 16-21, 1984), and L. Vega to travel to La Paz, Bolivia, Buenos Aires, Argentina, and Santiago, Chile (Sept. 9-22, 1984) to participate on a team review of airport disaster plans. FY 84- \$3,505

- 99'

- o Purchase Orders with N&G Distributing Corp., J.J. Tronics, Atlantic Solar Power and Delaware Amateur Supply to provide communications equipment for use by the OFDA regional advisors based in San Jose during disaster operations in Costa Rica and other locations, as needed, throughout Latin America and the Caribbean. FY 84 - \$15,082
  
- o PASA with the U.S. Coast Guard (USCG) to produce oil spill contingency plans for the wider Caribbean region. PASA amended in 1985 to cover other maritime safety and disaster preparedness activities such as port safety, search and rescue, pollution protocols, and cruise ship disaster contingency planning. FY 83-85 - \$366,000. Contributions: A.I.D. Latin America and the Caribbean Bureau/\$125,000; USCG/\$69,000; Australian government/\$18,000

Outputs:

- 1) USCG officer detailed to International Maritime Organization hired, conducted assessment and technical assistance visits to over a dozen Caribbean islands (C)
  - 2) Marine pollution and search and rescue conferences organized in Panama, St. Lucia, Puerto Rico, Fiji, Australia, San Diego (with the Mexican Navy) & Santo Domingo (C)
  - 3) Caribbean countries informed about international pollution protocols & pertinent legislation drafted (C)
- 
- o Travel Authorizations for Frederick A. Gourley, Assistant Fire Chief of Miami International Airport, and Douglas M. Jewett of the Metro Dade Fire and Rescue Department to travel to Quito, Guayaquil, and Loja, Ecuador, from Nov. 27-Dec. 3, 1983, to assist the government of Ecuador in improving their airport safety program. Jewett received a second travel authorization to participate on an FAA team assessing aviation safety in Haiti from Jan. 23-28, 1984. A third travel authorization was issued from March 20-24, 1984, for travel to Honduras to assist the USAID and government of Honduras in improving the fire safety programs for the Honduran airports. Finally, a letter was issued to the FAA for an expert to travel to Honduras for 2 weeks. FY 84 - \$5,990
  
  - o Travel Authorization for Raymond Schultz to travel from Hialeah, Florida, to Washington, D.C., from Sept. 17-18, 1984, to discuss Latin American and Caribbean disaster preparedness programs involving Sister Cities International and Dade County. FY 84 - \$360

60

- o Mission Allotments and travel authorizations supporting the OFDA Regional Adviser team of experts for Latin America and the Caribbean. The first regional adviser contract with Paul Bell, Jr., was initiated in FY 84. The services of Alejandro James and Ricardo Bermudez were contracted during FY 86. Also included are Travel Authorizations and Mission Allotments for per diem and miscellaneous travel. FY 84-89 - \$691,748

Outputs:

- 1) Costa Rican Seismic Network Project (UCSC/RET Corp.) monitored (C)
  - 2) Response to several regional disasters, organized (e.g., Chilean earthquake, Mexico City earthquake Colombian earthquake (C)
  - 3) OFDA response to such disasters as the Bolivian and Peruvian floods and the El Salvadoran earthquake organized (C)
  - 4) Emergency readiness training program in Honduras initiated (C)
  - 5) Communications training tests administered for COPEN, the Honduran emergency organization (C)
  - 6) Proposal to enhance the emergency communications capabilities of the El Salvadoran Municipal Fire Service prepared and evaluated (C)
  - 7) More than 60 Argentinean, Brazilian, and Paraguayan officials trained in flood mitigation practices at Posadas (C)
  - 8) Earthquake simulation exercise coordinated in the Caracas U.S. Mission (C)
  - 9) Regional advisors detailed to all disasters in the region requiring OFDA response, including the Santiago floods, Jamaican hurricane and Ruiz volcano eruption (C)
  - 10) Response to earthquake in Nepal undertaken (C)
- o Grant to the Pan-American Health Organization (PAHO) to improve health preparedness in the Caribbean and Latin America through training, technical assistance, stationing a medical disaster preparedness officer in Central America, development of local health care programs, and development of an emergency telecommunications network. . FY 84-87 - \$870,250 Contributions: PAHO/\$371,000; Others/\$269,400

Outputs:

- 1) An additional disaster preparedness officer placed in Central America (a PAHO officer is already stationed in Lima) (C)
- 2) Emergency preparedness component integrated into the curriculum of public health schools and other post-graduate health teaching institutes (C)
- 3) Potential disaster health threats assessed (C)
- 4) Public awareness and preparedness projects in the area of technological disasters promoted (C)
- 4) Emergency telecommunications network established between disaster sites and support coordination offices such as PAHO and PCDDPP utilizing NASA satellite (PC)

- 5) 5-day joint technical meeting for the Pacific and the Caribbean regions held in 1985 (C)
- 6) Activity reports submitted each 6 months (C)
- 7) Joint PAHO/OFDA evaluation of the Central American preparedness activities performed
- 8) Various films, slide presentations and simulations developed (C)
- 9) Number of Latin American/Caribbean (LAC) countries with active health disaster plans increased from 4 to 21 (C)
- 10) 168 conferences/seminars organized & 6800 trained in 1987 (C)
- 11) 44 seminars/workshops organized & 2000 trained in first half of 1988 (C)

o Grant with Partners of the Americas for the development of disaster preparedness and prevention linkages between U.S. communities and their Latin American counterparts, increasing existing partnership activities linkages to include disaster-related training and other projects (principally non-relief and emergency management) and to identify U.S. disaster preparedness and relief specialists to form the linkage. FY 84-87 - \$1,153,491

Outputs:

- 1) New subcommittee of the local Partners committee created to work exclusively in the area of disaster prevention and emergency management and to form community-to-community and state-to-country linkages between appropriate emergency management departments formed in each U.S. Partner area, and in its corresponding Partner area in Latin America/Caribbean (C)
- 2) Disaster planning and preparedness component integrated into existing technical exchange programs (C)
- 3) Over 300 volunteer experts for teaching, training, and technical assistance exchanged (C)
- 4) Small grants (up to \$5,000) to support community-level disaster preparedness projects administered (C)
- 5) Travel and per diem provided for selected Latin American and Caribbean trainees to receive short-term (1-3 mos) advanced technical and professional training in disaster preparedness specialities in their U.S. Partner states (C)
- 6) 20-30 day disaster management training seminar organized/held in the U.S. for 15-20 Latin American and Caribbean disaster experts to meet with federal, state, and local experts in disaster prevention and response (C)
- 7) Training materials prepared (C)
- 8) Workshops of disaster preparedness and appropriate community response and other groupd organized (C)
- 9) 48 partnerships in emergency management set up between U.S. and Latin American/Caribbean communities (C)
- 10) EMS training programs developed in 5 countries (C)
- 11) Brazilian Interagency First Responder Program arranged (C)

b2

- o Purchase Order with Paul Bell to produce an instrument that provides objectives which OFDA can use to set preparedness priorities and to make funding decisions; the instrument was constructed in matrix form to provide a simple visual record of activities, accomplishments, gaps and needs. The Latin American/Caribbean region was used as the pilot area for the matrix development. The funding was also used to assess emergency communication needs of the Bahamas Red Cross. FY 84/85 - \$8,348 (C)
  
- o Grant to the University of Miami's Department of Epidemiology and Public Health to conduct four 3-month training programs held at the University of Miami for 31 Caribbean and Central American participants on the subject of Pesticide Residue Analysis. Funding was initiated to (1) develop a cadre of chemists trained in pesticide residue analysis, (2) complement the World Bank's Pesticide Evaluation & Safety Test (PEST) program for the Caribbean region, and (3) ensure health and marketing needs of the area.  
FY 84-85 - \$209,453

Outputs:

- 1) 32 candidates for four 3-month training programs, conducted by the Division of Chemical Epidemiology, Dept. of Epidemiology and Public Health, University of Miami, identified and trained, exceeding goal of 31 candidates (C)
  - 2) Four 3-month training programs held which covered laboratory safety; pesticide formulation; handling and disposal; preparation and storage of pesticide standards; basics of thin-layer chromatography; basics and theory of gas liquid chromatography; identification and quantification of pesticide residues; methodology for extraction; and clean-up and determination of pesticide residues in agricultural commodities (C)
  - 3) All 32 students passed exit exams, despite very low entrance scores on knowledge of pesticides (C)
  - 4) International Pesticide Residue Network launched, with all students as charter members, to link Latin American pesticide chemists (C)
- 
- o Purchase Order with Paul Bell to support his attendance at the UNDRO/ECLA/PAHO meeting on Needs Assessments Following Sudden-Impact Disasters held in Mexico City from May 14-17, 1984, and to provide a report critiquing the meetings. FY 84 - \$2,503 (C)
  
  - o Grant to USDA/OICD/ITD to facilitate the attendance of 32 Latin American participants at the USFS Wildfire Suppression Training Course held at the USFS training site in Marana, Arizona, from Oct. 14 to Nov. 2, 1984, and to provide funds to cover instructional costs incurred by the U.S. Forest Service. FY 84-85 - \$221,550

64

Outputs:

- 1) 32 Latin American participants identified and per diem and travel costs for the participants provided (C)
  - 2) Course focusing on initial attack, fire organization, handline construction, use and maintenance of tools, post-fire operations, instruction of fire behavior, portable pumps and water use, power saws, tractor use, ground tanker use, firing techniques, air operations, instructor training, and field demonstrations/exercises developed (C)
  - 3) Course held at the USFS training site in Marana, Arizona from Oct. 14-Nov. 2, 1984 (C)
  - 4) 7 to 8 instructors from the USDA/USFS provided (C)
- o Grant to the American Red Cross for the purchase of equipment and technical assistance in order to install an emergency communications network for responding to hurricane and other disasters in the Bahamas and Belize. In FY 1987, OFDA provided an additional \$1,291 to replace equipment originally purchased for the networks which proved inappropriate. The new equipment required additional funding. FY 84-87 \$34,916

Outputs:

- 1) Equipment purchased (C)
- 2) Equipment delivered to respective Red Cross chapters and installed (C)
- 3) Host country Red Cross staffs and emergency volunteers trained (C)

F Y 1 9 8 5

- o Two Grants to Dade County, Florida, for the implementation of disaster preparedness and relief programs in support of OFDA's Latin America and the Caribbean disaster preparedness and relief efforts. Grant I - Dade County provided technical assistance, training, and general emergency management assistance. (FY 85-87 - \$271,515) Grant II - Dade improved its search and rescue capabilities in order to support OFDA's disaster relief and training capacities. (FY 88 - \$375,000) FY 85-88 - \$646,515 Contributions: Dade County/\$30,642

Outputs:

- 1) Technical services provided, including the following: developing national disaster plans, organizing emergency operations centers, providing communications assistance, coordinating disaster relief, demonstrating methods for pre-disaster public information and awareness, identifying hazards and means to reduce their effects, inventorying local resources and how to obtain additional resources when an emergency occurs, maintaining specialized equipment such as (but not limited to) fire and rescue equipment, and training personnel in hazardous materials provided. (C)

64

- 2) Emergency management programs, simulations, and on-the-job training conducted (C)
- 3) Small fund for participant training expenses for Latin America and the Caribbean participants administered (C)
- 4) Contingency plans for mass casualties, hurricanes, floods, air crashes, marine safety, etc. prepared in cooperation with host country governments in Latin American and the Caribbean (C)
- 5) Relief coordination, as needed, during times of disasters provided in support of OFDA activities (C)
- 6) Emergency relief supplies located, as needed, and procured locally (C)
- 7) Small budget for procurement of equipment and for rehabilitation and testing of such equipment for the host country administered (C)
- 8) Quarterly reports provided to OFDA
- 9) Members of a structural collapse team identified and trained for possible deployment to an international disaster site based upon a decision by OFDA (C)
- 10) Cache of equipment intended for dispatch to relief sites and for OFDA related training identified, procured, and maintained (C)
- 11) 2 TCS-9000 satellites and other communications equipment maintained and deployed in support of OFDA relief operations (C)
- 12) Disaster-related items procured in Miami area in support of a U.S. government emergency relief program (C)
- 13) Mass casualty plan for the Caribbean developed in coordination with county and city officials, airlines, and foreign governments
- 14) In-country training of fire department and emergency response personnel (from Jamaica, Haiti, Dominican Republic, Ecuador, Peru, Costa Rica, Guatemala, and Venezuela) continued with host country nationals trained in the U.S. as appropriate (C)
- 15) Conference support/attendance, as needed by OFDA, provided (C)

F Y 1 9 8 6

- o Travel Authorization for six specialists from Latin America and the Caribbean to attend an InterRegional Disaster Assistance Colloquim held in Caracas, Venezuela, from Oct. 21-23, 1985. FY 86 - \$5,400.
  
- o Travel Authorization for Richard Olson of Arizona State University and Dr. Ed Koenigsberg of OFDA to travel to Mexico City from March 24-28, 1987, to attend the PAHO-sponsored international meeting on Search and Rescue. FY 87 - \$1,623

- 45 -

F Y 1 9 8 7

- o Grant to Partners of the Americas for a 3-year (3/1/87 - 2/28/90) emergency preparedness program to develop a disaster preparedness and prevention linkage between targeted Latin America and Caribbean countries and their U.S. partner communities. An amendment to the scope of work was processed in June 1988 which placed a greater emphasis on subject matter training and on providing disaster relief assistance. FY 87-88 \$709,189 Contributions: Others - \$2,002,000 (see chronology)

Outputs:

- 1) Disaster-related activities provided in 12 target countries involving highway, traffic, fire, police and other departments; local civil defense, local and regional Red Cross, police, and private sector organizations (C)
- 2) Disaster planning and preparedness components integrated into existing partnership programs (C)
- 3) Volunteer exchanges funded (C)
- 4) Linkages with U.S. educational institutions and host country counterpart institutions established (C)
- 5) Small grants to support community-level disaster preparedness projects administered (C)
- 6) Training seminars developed (C)
- 7) Quarterly reports including narrative of current activities, management issues and program recommendations, produced and sent to OFDA
- 8) Financial summary activity submitted each six months
- 9) Joint A.I.D. and Partners evaluation of the grant after the second year performed
- 10) 100 Brazilian first responders trained in radiological hazards (C)
- 11) 477 LAC emergency responders exchanged (C)
- 12) 24 seed grants given totaling \$106,000, which leveraged \$250,000 in donations (C)
- 13) A successful emergency relief effort organized following floods in Rio de Janeiro (C)

- o Mission Allotment to USAID, San Jose to cover the procurement and maintenance costs of WANG computer and word processing equipment in support of the OFDA Regional Advisor team for LAC. FY 87 - \$14,419

Outputs:

- 1) WANG personal computer procured and delivered to USAID/San Jose (C)
- 2) WANG laptop procured and delivered for TDY use (C)
- 3) Software and auxiliary equipment (modem, keyboard, etc.) procured (C)

6/8

- o Travel Authorization for W. Tilney to travel from Buenos Aires to Panama from March 10-13, 1987, and S. Kinney to travel from Caracas to Panama from March 11-13, 1987, to participate in SOUTHCOM Disaster Seminar. FY 87 - \$1,847

F Y 1 9 8 8

- o Grant to USDA/OICD/OIT to facilitate the participation of 5 disaster specialists and the involvement of Mr. Jerry Williams and Associates (as an instructor) in the Advanced Instructor Training and Development Workshop on March 21-25, 1988, held in Emmitsburg, Maryland. FY 88 - \$5,607
- o Travel Authorization for Pierre Catala from Texas A&M to travel to San Juan, Puerto Rico, from July 26-29, 1988 to participate in the Caribbean Disaster Management Conference. FY 88 - \$1,375
- o Grant to USDA/OICD/ITD to facilitate the participation of 30 air safety specialists for an international airport safety workshop from May 16 -20, 1988, in Miami. FY 88 - \$17,816
- o Travel Authorization for EPA lawyer Faith Halter and EPA environment engineer C. Marles Fitzsimmons to travel to Antigua from June 5-12, 1988, to participate in a conference on Responding to Problems Caused by Hazardous Waste and Toxic Chemicals. FY 88 - \$3,115
- o Travel Authorization for Pierre Catala from Texas A&M University to travel to Washington, D.C. from April 17-19, 1988, to instruct participants attending the USTTI Communications Course. Travel Authorizations were also issued to Herman Thompson of the PCDPPP and C. Alfonso from Costa Rica to attend the ARRL Communications Course in Newington, Connecticut, and the USTTI Conference in Washington, D.C. A third travel authorization was issued to Art Feller, OFDA FCC-detailee, to attend the USTTI Communications Course and to transport 10 participants to the USTTI classes.

101

- o Grant to the OAS to build upon previous work on the collection and analysis of natural hazard events and assessment information in order to assist Caribbean Basin/Latin American countries strengthen their local and national disaster preparedness organizations. FY 88 - \$474,600

Outputs:

- 1) Geographical information system (GIS) using natural hazard, emergency lifeline, and demographic information for high-risk metropolitan areas designed and implemented (C)
- 2) Pacific region GIS with metropolitan hazard, risk and vulnerability information designed and implemented (C)
- 3) Highest risk lifeline elements and populations identified (C)
- 4) Natural hazard assessment maps and reports prepared (C)
- 5) Specific mitigation measures and programs to reduce the vulnerability of lifeline networks to natural hazards identified and prepared at the national and local levels (C)
- 6) Natural hazard information index map and annotated reference material sourcebook prepared (C)
- 7) Progress reports submitted (C)
- 8) Periodic joint evaluation by AID and the OAS done

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 501

1. ACTIVITY NUMBERS: 1117, 1137
2. COUNTRY BENEFITED: Peru  
NOT COUNTRY SPECIFIC:
3. REGION BENEFITED: Latin Am./Carib. (1000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APP): Carnegie Institute of Washington (CIW), Department of Terrestrial Magnetism -- Peruvian Seismic Network. Grant to CIW for the procurement, installation (in Peru) and training of Peruvian nationals of specialized seismic analysis equipment to significantly upgrade the seismic monitoring capabilities of the Geophysics Institute of Peru.
5. DATA COLLECTOR: Mark Howard
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1980	Jerry Eaton travels to Peru to observe and discuss earthquake/seismic measurement facilities.	Eaton trip report	
November 1980	Recommendations made for improving strain, tilt, and seismographic data in Peru.	Bill Spence (US Geologic Service) memorandum	
May 1981	Carnegie Institute of Washington (CIW) and the Instituto Geofisico del Peru (IGP) submits proposal for purchase and installation of seismic equipment and training of Peruvian geoseismologist in equipment use and maintenance. First year work to focus on central seismic analysis system procurement and installation.	Proposal; CIW and the Geophysics Institute of Peru (IGP), May 12, 1981	
June 1981	Dr. John Filson, Chief, Office of Earthquake Studies, US Geological Survey (USGS) visited Peru to discuss the seismic network proposal with Peruvian and American officials. Dr. Filson recommended going ahead with project.	Filson report to OFDA Director, July 14, 1981	\$1,600

19

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1981	Two-year grant given to CIW to procure and install specialized seismic analysis equipment to upgrade the IGP seismic network. Major outputs: <ul style="list-style-type: none"><li>o procure advanced seismic, analysis, and telemetry equipment for the Geophysics Institute of Peru.</li><li>o set-up advanced seismic data handling facility with monitoring facility</li><li>o install and operationalize 7 borehole strainmeters and telemetry equipment</li><li>o train Peruvian personnel in use and maintenance of equipment and program.</li></ul>	PIO/T NO.: 938-11-999-015-81-0719632  Dates: 8/81 - 7/83  POC -0015-G-55-1105-00	\$419,600
November 1981	Grant amended to provide second-year funding for the installation of seismic equipment and training of Peruvian technicians	PIO/T No.: 938-11-999-015-81-072916 Amend. No. 1  Dates: 8/81 - 7/83  OTR-9915-G-55-1105-00 Amend. No. 1	\$365,008
May 1983	Grant to CIW and IGP amended to provide a one-year extension to continue activities for a third year. Central seismic processing and analysis system set up and functioning by this point	PIO/T No.: 938-11-999-81-15-0732324 Amend. No. 2  Dates: 6/30/83-6/30/84  OTR-0015-G-55-1105-00 Amend. No. 2	\$229,400
August 1984	Grant amended at no cost to extend the completion date to December 31, 1985.	PIO/T No.:  Dates: 6/30/83 - 12/31/85  PDC-0015-G-55-1105-00 Amend No. 3	No cost

210

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1984	Tasks completed through August 1984: <ul style="list-style-type: none"> <li>o Assessment and modifications of pilot seismic network</li> <li>o Selection of sites for the installation of borehole strain-meters</li> <li>o Issuing of contracts for the drilling of boreholes</li> <li>o Testing and checking out of maintenance personnel for the seismic network and computer system</li> <li>o Selection of post-doctoral seismologist for work on seismic network</li> </ul>	CIW/IGP status report, August, 1984	
April 1986	Grant amended to purchase state-of-the-art computer (for faster and more accurate seismology work), spare parts, training, and implementation.	P10/T No.: 938-11-999-81-15-6073073  Dates: 10/1/82 - 2/28/87  Grant No.: POC 0015-G-55-1105-00	\$50,000
February 1987	Grant amended at no cost to extend the completion time for the installation and full checkout of the new computer.	P10/T No.: 938-11-999-15-81-6073073 Amend. No. 6  Dates: 10/1/82 - 8/31/87  Grant No.: POC-0015-G-55-1105-00 Amend. No. 6	No Cost
July 1987	Grant amended to cover final cost of computer delivery, installation, testing and training.	P10/T No.: 938-11-999-15-7073154 Amend No. 7  Dates: 10/1/82 - 8/31/87  Grant No.: POC-0015-G-55-11-5-00 Amend. No. 7	\$8,500

7/1-

DATE:

November 1987

ACTION:

Final Outputs from Peruvian Seismic Network:

- o Center for real-time processing of seismic signals has been established.
- o Automatic system for seismic alert in real-time has been partially established.
- o Radio-telemetry seismic network has been established.
- o Seven-station dilatometer network has been established.
- o Geophysics information system has been initiated.

DATA

SOURCE:

Final Report AID-CIW-IGP  
Peruvian Seismic Network

COST:

TOTALS

08/80-8/87

\$1,074,108

21

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 603

1. ACTIVITY NUMBERS: 1110, 1054

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Latin Am./Carib. (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): CERESIS: Earthquake Hazards Mitigation and Risk Analysis in the Andean Region. PASA between AID/OFDA and USGS for the implementation of an earthquake disaster mitigation program in the Andean region. FY 80-83 \$1,224,650.

5. DATA COLLECTOR: Keith Johnston

6. CHRONOLOGY:

DATE:

September 1980

ACTION:

A PASA and grant to the USGS was negotiated to provide program funding support to administer an Earthquake Disaster Mitigation Program in the Andean Region (SISRA). Its primary purpose was to compile and synthesize existing data on historical seismicity and neotectonics to assess seismic hazards in the Andean region, and to develop a model to estimate casualty and economic losses resulting from earthquakes. Fifteen percent of the funding went to USGS administrative overhead costs, and the remainder went to the Centro Regional de Sismologia para America del Sur (CERESIS), for project coordination and implementation. The original objectives of the project were to:

- o Collect, summarize, catalogue and publish all historic earthquake data in South America critical to evaluation of seismic hazards
- o Compile, summarize and edit maps of all geologic and tectonic information of the Andean region
- o Compile data on levels of ground motion from past earthquakes
- o Develop models for estimating casualties and economic loss associated with South American earthquakes

DATA

SOURCE:

P10/T:  
938-11-999-80-027-3809652

Dates: 9/30/80-6/1/82

PASA No.:  
IC/PDC 11-3-80

COST:

\$500,000

23

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>o Provide training for regional technicians and scientists in different earth science fields.</li><li>o Develop a prototype satellite seismograph-telemetry link using a satellite for possible future data transmission.</li></ul>		
August 1981	PASA amended to provide additional funding for travel and training of CERESIS technicians at USGS facilities in Denver, plus additional funding for seismic instrumentation and operational maintenance of equipment (technical assistance).	PIO/T: 907-11-999-022-81-0719822  Dates: 9/30/-8/83	\$201,000
June 1982	PASA amended to develop an earthquake risk analysis study in the Andean Region, and a methodology for earthquake casualty and loss estimation by the Instituto de Estudios Superiores de Administracion (IESA). All other terms and conditions of the original PASA remained in effect.	PIO/T: 907-11-999-022-81-0729732  Dates: 9/30/80-12/31/83  PASA No.1C/PDC-11-3-80	\$219,650
April 1983	A project progress review meeting was held at the USGS in Golden, Co. Participants from all cooperating organizations met to discuss the project and make comments/recommendations on the on the status of the project.	"Summary of a Meeting for Review of Progress on Project SISRA," April 5-6, 1983, USGS, Golden, CO	
June 1983	PASA amended for a no-cost extension of SISRA.	"A Technical Review of the SISRA Project---A Part of the CERESIS Program," K. Michael Cline, June 25, 1985.	
July 1983	A progress report was submitted by Dr. Algermissen listing the status of the project as follows: <ul style="list-style-type: none"><li>o Work on the earthquake catalogue was continuing and was expected to be published by the end of that year</li><li>o The seismotectonic map was finished and was being reviewed by USGS geologists</li><li>o Maximum intensity, landslide and liquefaction maps were completed and were being revised</li></ul>	"Progress Report for the Project Earthquake Mitigation Study in Andean Region," S.T. Algermissen, July 21, 1983	

74

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o The prototype seismic data collection and telemetry system developed by USGS was scheduled to be field-tested in early CY 1984
- o The economic and life-loss study was scheduled to be completed in early CY 1984.

July 1983

PASA amended to provide for:

- o Continued support of the USGS/CFRESIS Seismic hazards mitigation program
- o Testing a prototype satellite based seismic detection and monitoring system.
- o Transfer of technology and information on seismic-tectonic risk, loss estimation and satellite-based seismic monitoring to host countries.

PIO/T:  
907-11-999-022-0732334

\$304,000

Dates: 9/30/80-9/30/84

PASA No.:  
BOF-0000-P-1C-3126-05 (formerly  
PASA No. 1C/PDC-11-3-80)

December 1984

A progress report of the SISRA project for 1984 was submitted and reported the principal activities during the year were:

- o The holding of a major scientific meeting for the project in September at San Juan, Argentina. Scientific papers related to the project were presented, and a project review board met to review the project status. The conclusion of the review board was that high-quality work was being done and basic objectives were met -- a goal that could not have been accomplished by each country independently.

Progress Report for the project  
"Earthquake Mitigation Program  
in the Andean Region,"  
S. T. Algermissen

The first two objectives of the project -- compiling data critical to the evaluation of seismic hazard and preparation of interpretive maps of seismic hazards -- were completed, and a third goal -- conducting scientific meetings -- was an on-going activity.

No date (approximately  
Spring 1985)

No cost extension to the PASA for completion of all products and to review the efforts of the March 3, 1985 earthquakes in Central Chile.

"A Technical Review of the SISRA  
Project A Part of the CERESIS  
Program," K. Michael Cline,  
June 25, 1985

Dates: 9/30/80-12/31/85

1/1

DATE:

ACTION:

DATA

SOURCE:

COST:

March 1985

A purchase order was awarded for K. Michael Cline to prepare a technical review on the progress to date of the project, including recommendations for its orderly conclusion. The scope of work included visiting USGS and CERESIS offices, attending a CERESIS technical review meeting on SISRA in Chile during March, 1985, and evaluating the program based on outputs, meetings, and recommendations.

P.O.:

AID/OFDA-347-85-28

\$9,394

Dates: 03/19/85-04/13/85

1980-1985

Other project activities and outputs included:

- o Nine volumes of historic earthquakes, catalogued by country, as follows:

Catalogue of Earthquakes for South America

Argentina

Bolivia and Brazil

Colombia

Chile

Ecuador

Peru

Venezuela

Trinidad and Tobago

- o A volume listing historical earthquake activity through 1894, Destructive Earthquakes of South America 1530-1894
- o A volume with a neotectonic map of South America, titled Preliminary Neotectonic Map for South America.
- o A volume title Maximum Intensity Map of South America
- o An evaluation of the March 3, 1985 earthquake in Central Chile. The report covers the first of two field experiments and earthquake site response in Chile, but did not address economic losses

"Preliminary Report of Investigative of the Central Chile Earthquake of March 3, 1985,"  
S. T. Algermissen, USGS

TOTALS

09/80-04/85

\$1,234,044

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 1 0 0

1. ACTIVITY NUMBERS: 1 2 1 8

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC:

REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): PAHO: Two major grants to the Pan American Health Organization were given to develop health emergency plans, do training and technical assistance, and disseminate information on the health aspects of disasters in the Caribbean and Latin America..

5. DATA COLLECTOR: Lew Toulmin and Lydia Kan

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1981	Grant awarded to PAHO to provide disaster planning and training of health sector personnel in the Caribbean and Latin America. The scope of work involved the following: <ul style="list-style-type: none"><li>o Publish and distribute 4 disaster health manuals in English and Spanish</li><li>o Produce and distribute audio visual disaster aids</li><li>o Conduct large scale international seminars</li><li>o Produce a Disaster Newsletter</li></ul>	Grant: AID/SOD/PDC 008-G-IN-1042 Dates: 4/3/81-6/30/82 PIO/T: 938-11-999-008-81-3819302	\$93,358
June 1982	Continuation of support to PAHO for development of training and planning programs for the Latin American health sector	PIO/T: 907-11-999033-82-0729912 Dates: 6/16/82-8/31/84	\$384,200
1981-1982	During this period, PAHO produced the following documents and products: <ul style="list-style-type: none"><li>o a periodic newsletter, "Disaster Preparedness in the Americas"</li><li>o a bibliography on disasters and health, with 2000 entries</li><li>o a data base of disaster articles</li></ul>	PAHO "Proposed Activities," 12/83 and PAHO letter to OFDA 6/3/83	

DATE:

ACTION:

DATA

SOURCE:

COST:

- o abstracts of disaster books and films
- o various manuals, including:
  - "Guide to Emergency Health Management after Disasters" (13,000 copies distributed)
  - "Epidemiologic Surveillance after Natural Disaster"
  - "Medical Supply Management after Disaster"
  - "Emergency Vector Control after Natural Disaster"
  - "Environmental Health Management after Natural Disaster"
  - "Health Services Organization in the Event of Disasters"
- o 300 captioned slides to use with PAHO guides
- o film for education in urban areas
- o classroom simulation exercises to illustrate information flow to decisionmakers in disasters
- o study of health problems in Dominica after Hurricane David
- o morbidity survey of the 1979 quake in Columbia
- o study of the health effects of the Bolivian floods of 1982
- o numerous country meetings and assessments
- o aircraft and railroad accident simulations put on in Jamaica and Antigua for over 150 medical personnel
- o an inventory of relief agencies worldwide
- o a week long sanitary engineering course developed and held for 50 participants in Honduras.

July 1983

New PAHO grant awarded to adapt scientific literature into training for Latin American health sector, and continue previous activities.

PI0/T: 907-11-999-83-020-0732514 \$ 129,959

Dates: 7/7/83-11/30/84

Grant: S0D/PDC-IGC-0281

September 1984

A grant was awarded to PAHO for a 2-year period to continue improving health preparedness in Latin America and the Caribbean. Specific objectives were to assist in reviewing and formulating health emergency plans, providing technical assistance in disaster health, holding at least 5 national meetings per year with about 40 participants each, and holding at least 6 specialized training sessions per year.

PI0/T: 903-11-999-84-44-0743186 \$125,000

Dates: 9/1/84-6/30/86

Grant: ASB-0000-G-1N-4130-00

March 1985

PAHO grant amended to add the 2nd tranche of funding.

PI0/T: 907-11-999-84-44-5073043 \$150,000

Dates: 4/1/86-6/1/87

Grant: ASB-0000-G-1N-4170

Mod. No. 1

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1986	PAHO grant amended to add the third tranche of funding.	Grant: ASB-0000-G-IN-4170 Mod. No. 2	\$250,250
February 1986	PAHO given no cost extension from 9/86 to 6/87.	Dates: 4/25/86-6/1/87 2/20/86 letter from PAHO to OFDA	
May 1987	PAHO given no cost extension from 6/87 to 9/87.	5/28/87 letter from PAHO to OFDA	
1984-87	The PAHO program achieved the following in this period: <ul style="list-style-type: none"> <li>o Established a disaster preparedness specialist in Central America</li> <li>o Organized and supported numerous high level meetings, courses, simulations, and conferences</li> <li>o Worked in the fields of post-graduate health training, technological disaster preparedness, cooperative projects with NGOs, and inter-regional exchange visits</li> <li>o Established a cooperative project with the American Red Cross in the use of a satellite communications disaster network.</li> </ul> <p>The PAHO report for this period also noted that with PAHO assistance, "the number of countries with established programs and active health disaster plans has increased from 4 to 21 in the last decade."</p>	"Proposed (PAHO) Activities," 12/86	
September 1987	PAHO was awarded a new grant, with the same focus as the as the last grant.	P10/T: 907-11-999-87-013-7073099	\$345,000
1987	In this period, PAHO put on or participated in about 168 disaster conferences, seminars, simulations and other meetings with over 6,600 participants from Latin America and the Caribbean.	Dates: 9/30/87-9/30/88 Grant: PDC-0000-G-IN-7083-00	"PAHO-Sponsored Preparedness Meetings in 1987," 1/19/88
October 1987-March 1988	In this period, PAHO accomplishments were as follows: <ul style="list-style-type: none"> <li>o prepared videos for training and education</li> <li>o focused attention on floods in Brazil, Argentina and Paraguay</li> </ul>	"Technical Progress Report on the 5-year Preparedness Program," 3/88	

1987

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o prepared a paper on assessing needs in the health sector after floods and hurricanes
- o provided short seminars for PAHO field staff on disaster response and interagency cooperation in 20 countries
- o assisted in passing a PAHO Resolution on emergency preparedness
- o prepared 13 sets of disaster slides and one video on environmental health and other disaster topics
- o provided support to Mexico in the areas of natural and technological disaster seminars
- o held training courses in Barbados, Jamaica and 8 other Caribbean locations via satellite on media relations in disasters and on emergency preparedness
- o held numerous mass casualty workshops
- o trained a network of field sanitary engineers
- o held seminars on chemical safety in Venezuela, Trinidad and Peru.

1988

During this period, PAHO sponsored or assisted in 44 seminars, drills, workshops, conferences and other meetings, with about 2000 participants.

"PAHO Sponsored Meetings-1988,"  
6/7/88

March 1989

This grant activity is still ongoing.

TOTALS

04/81-to date

\$1,477,767

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 009

1. ACTIVITY NUMBERS: 1001, 1001A

2. COUNTRY BENEFITED: Caribbean Region  
NOT COUNTRY SPECIFIC:

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

PAN CARIBBEAN DISASTER PREPAREDNESS AND PREVENTION PROJECT - Grant to the United Nations Disaster Relief Organization (UNDRO) as a U.S. Government contribution toward the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) which provides long- and short-term technical services in disaster preparedness and prevention to Caribbean governments.

5. DATA COLLECTOR: Kimberly Caulfield Vasconez/Lou Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>
June 1981	Grant to UNDRO for OFDA's contribution toward the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) for the following activities: <ul style="list-style-type: none"><li>◦ Review of coastal vulnerability study in Jamaica</li><li>◦ Study of economic costs of hurricane/earthquake-resistant building design in Jamaica</li><li>◦ Assessment of Jamaican flood problems</li><li>◦ Fire prevention training in Antigua</li><li>◦ Study of hospital vulnerability in 4 islands</li><li>◦ Hurricane wind prediction study in 4 islands</li><li>◦ Vulnerability mapping study in 4 islands</li><li>◦ Fire prevention training in Guyana</li><li>◦ Volcano hazard mapping in 6 islands</li><li>◦ Survey of public hurricane shelters in Grenada</li></ul>

<u>DATA SOURCE:</u>	<u>COST:</u>
PIO/T # 938-11-999-17-81-3819722	\$250,000
Dates: 08/04/81 - 02/28/83	
Grant No. PDC-0017-G-IN-1084	

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Survey of Guyana seawall vulnerability
- Survey of Grenada port vulnerability
- Draft building code for small buildings developed
- Haitian flood damage assessed
- Country needs assessments undertaken for several countries
- Development of Antiguan hotel and prison preparedness plans
- Organization of a national British Virgin Islands emergency simulation
- Numerous workshops on shelter management organized
- Organization of a national hurricane simulation in Dominica
- Numerous exchange training programs organized
- Technical assistance to Bermuda, the Bahamas, Dominica, and other countries.

June 1981 - March 1983

Phase I was implemented principally by UNDR0, PAHO, and I.R.C.S. Activities fell into 4 categories--(1) technical assistance; (2) training of nationals; (3) survey and assessments; and (4) preparation of training materials. Activity types (1) and (2) were most frequently implemented. During Phase I, the PCOPPP accomplished the following:

- Sponsorship of 18 workshops/seminars/courses in emergency management, disaster health, radio training, and mass casualty
- Training of 276 participants, including other instructors and a disaster preparedness coordinator in the Bahamas
- Review or creation of national emergency plans in 6 countries; airport emergency plans in Haiti; hospital emergency plans in the British Virgin Islands, Barbados, and Antigua; national Red Cross Society disaster plans in the Dominican Republic, Jamaica, Trinidad & Tobago, Guyana, Suriname, and Barbados
- Provision of technical assistance in the following areas: emergency communications, telecommunications, and communications training to local radio operators in the eastern Caribbean, Haiti, Jamaica, and Belize; advised the Government of Grenada and St. Vincent on the preparation of a Health Disaster Plan
- Preparation of materials for schools in Barbados and Dominica
- Compilation of an earthquake disaster prevention survey and analysis in Antigua
- Performance of research on the effects of Hurricane David in Dominica and St. Vincent and presentation of the report

DISC, Final Report: Program  
Evaluation of the PCOPPP  
(March 29, 1985)

-----

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1983	<ul style="list-style-type: none"> <li>◦ Development of a procedural health manual for use throughout the region and a Field Manual titled "Front-Line Health Team" for Antigua</li> <li>◦ Development of first-aid manuals for Antigua.</li> </ul> <p>UNDRO PCDPPP grant amended to provide second-year funding in order to:</p> <ul style="list-style-type: none"> <li>◦ continue support for the preparedness and mitigation specialists</li> <li>◦ provide short-term experts and support the following activities: vulnerability of public utilities/emergency services, hurricane shelter assessment and workshop, volcano emergency preparedness, hurricane risk maps for coastal areas, public awareness/public information programs educational seminars, training in emergency management and damage assessment, and simulations</li> <li>◦ conduct training activities (OFDA funds used for trainer, registration fees for courses, travel for participants, and educational materials.)</li> <li>◦ Purchase emergency equipment such as communications equipment, etc.</li> <li>◦ Submit program reports every 6 months prior to PCDPPP management committee meeting and quarterly financial reports.</li> </ul>	<p>PIO/T # 938-11-999-81-17-0732942 (Amendment #1)</p> <p>Dates: 08/04/81 - 01/30/84</p> <p>Grant No. PDC-0017-G-1N-1084 (Modification 1)</p>	\$288,000
February 1984	<p>Grant amended to provide a no cost extension to UNDRO. The reporting requirement was changed to include a summary financial report of each activity undertaken by UNDRO and the division of funding included in the 6 written reports to the project management committee.</p>	<p>PIO/T # 938-11-999-81-17-0732942</p> <p>Dates: 08/04/81 - 03/31/84</p> <p>Grant No. PDC-0017-G-1N-1084</p>	No Cost
June 1984	<p>Grant amended to continue funding from April 1, 1984, through January 30, 1985, for Phase II projects. The scope of work remains the same except for the following changes:</p> <ul style="list-style-type: none"> <li>◦ training specialist and administrative support added to core staff.</li> </ul>	<p>PIO/T # 938-00-999-81-17-0732942 (Amendment #2)</p> <p>Dates: 08/04/82 - 01/30/85</p> <p>Grant No. PDC-0017-G-1N-1084</p>	\$275,000

497

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
November 1984	UNDRO submitted a statement of Operating Income and Expenditures report for Phase II (April 1, 1983 to October 31, 1984). The report listed the following inputs for the PCODPPP: <ul style="list-style-type: none"><li>◦ OFDA \$563,000</li><li>◦ CIDA \$493,264 (includes 1st half contribution from CIDA for telecommunications equipment)</li><li>◦ UNDRO \$50,000</li></ul>	UNDRO statement in budget files. Report dated Nov. 29, 1984.	
December 1984	Decision Information Systems Corp. (DISC) received a contract to evaluate how OFDA grants for the PCODPPP were used and how the money has (or has not) impacted the Caribbean host countries' disaster preparedness and prevention methodologies, strategies, and institutions.	PIO/T # 907-11-999-85-05-5073014 Dates: 11/30/84 - 02/01/84 Contract No. OTR-0000-1-00-3540	\$65,000
February 1985	New grant to UNDRO re-issuing the same scope of work of grant number PDC-0017-G-1084 with the following changes: <ul style="list-style-type: none"><li>◦ New activity descriptions for Phase III</li><li>◦ Training specialist position was deleted</li><li>◦ Part-time telecommunications specialist was added.</li></ul>	PIO/T # 907-11-999-85-17-5073033 Dates: 02/01/84 - 01/31/87 Grant No. ASB-0017-G-SS-5058	\$199,470
April 1983 to February 1985	The PCODPPP accomplished the following activities during Phase II (April 1983 to February 1985): <ul style="list-style-type: none"><li>◦ Sponsorship of 24 workshops/seminars/courses in emergency management, first aid, disaster health, communications, shelter, pollution, and emergency plan development</li><li>◦ Training of 358 participants, including instructors</li><li>◦ Performance of hurricane shelter surveys in Antigua, Dominica, St. Kitts/Nevis, and St. Vincent; a hurricane vulnerability study in St. Lucia; and a volcanic hazards assessment in Dominica</li><li>◦ Development of national and district plans in 6 countries</li><li>◦ Monitoring of seismic activity of Haiti</li><li>◦ Development of public information and public awareness documents for Antigua and Haiti</li><li>◦ Production of hurricane and flood risk maps in Belize</li><li>◦ Implementation of new building codes in Jamaica</li><li>◦ Development/review of national and/or district emergency plans in St. Vincent, Belize and 6 other countries</li></ul>	DISC, <u>Final Report: Program Evaluation of the PCODPPP</u> (March 29, 1985)	

DATE:

ACTION:

DATA  
SOURCE:

COST:

- ° Development of environmental health and hospital disaster plans surveys in 7 countries
- ° Critiques of airport simulation exercises in Jamaica and the Cayman Islands
- ° Production of a Front Line Team Manual for Antigua and Barbados for use during medical emergencies.

March 1985

DISC submitted 6 copies of program evaluation report to OFDA.

- ° Volume I - Country Reports - profiles each country's disaster management organization, their relationship with the PCDPPP, and disaster preparedness activities supported by the PCDPPP.
- ° Volume II - Final Program Evaluation Report - analyzes the products of phases I and II and whether the PCDPPP is the appropriate vehicle for dispersing OFDA preparedness funding for the Caribbean region.

Two volumes of reports delivered on March 31, 1985, under Contract No. OTR-0000-1-00-3540

June 1985

OFDA amended existing grant with UNDR0 to provide a second installment totaling \$251,525 toward Phase III projects for the period July 1 to Dec. 31, 1985. While the objectives remain the same, the area focus was changed to the Greater Antilles (Jamaica, Haiti, and the Dominican Republic) since the EEC and Canada's CIDA are providing funding for similar activities in the Eastern Caribbean. (A schedule of proposed activities for 1985 is attached to the PIO/T.)

PIO/T # 907-11-999-85-43-5073090 \$221,525  
(Amendment #1)

Dates: 02/01/84 - 01/31/87

Grant No. ASB-0017-G-SS-5058

December 1985

PCDPPP contractor issued "Draft Guidelines for Building Regulations" (DGBR), drawing on experience in hurricanes David and Allen.

DGBR, December 1985  
(in OFDA library)

1986 to 1987

PCDPPP Phase III major accomplishments during 1986-1987 included:

PCDPPP reports with the OFDA Assistant Director for LAC

- ° Sectoral assistance in search and rescue, EOC training shelter management, etc., done for 4 countries
- ° Training of education officials and head teachers in preparedness in 5 islands
- ° Development of a public awareness plan for 3 island countries
- ° Various workshops and conferences held
- ° British Virgin Islands national hurricane simulation held
- ° Various country needs assessments undertaken

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Radio propagation testing in 3 countries to plan emergency links
- Radio emergency simulations in 8 countries
- Technical assistance with radio installation in 6 countries
- Radio operators training in 5 countries
- Pan-Caribbean Regional Disaster Radio Network established, linking 14 countries
- Participation and organization of various conferences and seminars.

TOTALS

06/81-1987

\$1,298,995

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 502

1. ACTIVITY NUMBERS: 1016

2. COUNTRY BENEFITED: Costa Rica  
NOT COUNTRY SPECIFIC:   

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Title: University of California of Santa Cruz (UCSC) and RET Corp. - Costa Rican Earthquake and Hazards Mitigation Program - Grant to UCSC and later a contract to RET Corp. to assist Costa Rican organizations to improve their capabilities to predict and monitor seismic and volcanic events and organize disaster responses to major events.

5. DATA COLLECTOR: Mark Howard

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1981	Prediction by F. Guendel of a major seismic event in the Central Valley region of Costa Rica.	"Aplicacion del Metodo de Brecha Sismica para la Zona Central de Costa Rica America Central", F. Guendel, Boletin de Volcanologia, CR	
August 1981	Review of Guendel prediction and proposal for study of seismic activity in Costa Rica submitted to OFDA.	Dr. Karen McNally report on Guendel prediction	
September 1981	Dr. Karen McNally and John Lowe travel to Costa Rica (9/18/81-9/28/81) to provide the GOCR assistance in determining the seismic risk potential of a major earthquake in central Costa Rica.	TA 0719882 Dates: 8/27/81  TA 0719892 Dates: 9/81	\$2,670

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1983	Revised proposal submitted to OFDA by Dr. McNally for grant to study seismicity in Costa Rica.	Proposal 5/17/83, Dr. McNally	
September 1983	<p>The University of California at Santa Cruz was awarded a 13-month grant (covering the first year of a five-year project) to install a permanent national seismic network in Costa Rica and train Costa Ricans in network operations and procedures. First year scheduled outputs include:</p> <ul style="list-style-type: none"><li>o expansion and upgrading of the existing seismographic network to standardized group of 15 instruments through collaboration with the Instituto Costarricense de Electricidad (ICE)</li><li>o installation of a network of six (including three in place but non-functioning) strong motion accelerographs</li><li>o training of personnel to operate and maintain seismic instruments</li><li>o transfer of data reduction technology to Costa Rica</li><li>o development of fundamental knowledge of earthquakes and their relation to geologic features in order to locate and map regions of potential hazards.</li></ul>	<p>PI0/T 907-11-999-82-61-0729163 Dates: 9/30/82-10/30/83 Grant No.: PDC-0000-G-SS-2213</p>	\$164,729
September 1983	Amendment to initial grant to pay for seismographic equipment not budgeted in first-year funding and additional trips San Francisco-Costa Rica for installation of network. Four additional strong-motion accelerographs were also added to the project network.	<p>PI0/T 907-11-999-82-061-0732434 (amendment 1) Dates: 9/30/82-10/30/83 Grant No.: PDC-0000-G-SS-2213</p>	\$189,089
October 1983	Dr. James Dieterich, USGS/Menlo Park (CA) traveled to Costa Rica to help AID/San Jose and Costa Rica evaluate the UCSC prediction. Dr. Dieterich consulted with Dr. McNally in Santa Cruz before leaving for Costa Rica.	TA 0743001	\$1,240

6/3

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
December 1983	12-month grant amendment made to UCSC to continue the establishment of a national seismic network in Costa Rica. Other outputs include: <ul style="list-style-type: none"><li>o upgrade the strong ground motion network by acquiring and installing an additional ten accelerographs</li><li>o procurement and installation of volcanic risk studies laboratory equipment</li><li>o establishment of a 24-hour Costa Rican earthquake detection and notification alarm system, including installation of a computer with appropriate software in cooperation with CR civil defense</li><li>o analysis of seismic history with counterparts to identify regions of potential hazards to CR infrastructure</li><li>o analysis of accelerograph records to determine local building response characteristics from moderate earthquakes</li><li>o initiate preparedness project and response planning program with GOCR in cooperation with experts from CA.</li></ul>	PIO/T 907-11-999-82-061-0743029 (amendment 1)  Dates: 9/1/83-9/30/84  Grant no.: ASB-0000-G-00-4015-00	\$565,214
January 1984	Grant amended to extend the completion date until 12/31/84 (3-month extension at no cost).	PIO/T 907-11-999-82-061-0743029  Dates: 9/1/83-12/31/84  Grant no.: ASB-0000-G-00-4015-00 (amendment 1)	No cost
November 1984	Grant amended to include revised budget figures and one-month extension.	PIO/T 907-11-999-82-061-5075001 (amendment 2)  Dates: 9/1/83-1/31/85  Grant no.: ASB-0000-G-00-4015-00 (amendment 2)	\$102,149
November 1984	John Tomblin, UNDRO, Geneva, visited CR at the request of GOCR Vice President Don Armando Arauz to review OFDA's seismic monitoring and risk reduction project. The review took place after the GOCR expressed concern over the way that OFDA funds were being shared between CR national institutions with eye towards assuring a better equity in sharing of future funds and concern by OFDA over the amount of additional equipment and training needed and how	John Tomblin report of 12/18/84	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	much of this should be channelled through UCSC. Tomblin recommended a forum be held to discuss and settle the responsibilities of the different institutions involved.		
January 1985	Four-month no-cost extension granted to UCSC to complete work undertaken and prepare a proposal for work in Phase II (years 3-5).	PIO/T 907-11-999-82-61-0743029 (amendment 4)  Dates: 9/1/83-5/31/85  Grant no.: ASB-0000-G-00-4015-00 (amendment 4)	No cost
February 1985	Kenneth Michael Cline, a geological consultant, visited Costa Rica as part of a four-nation study tour of seismic networks in Central America. Reports problems of institutional rivalry and overlap in functions. Recommends to continue project but with much more "hands on" project management, limiting further purchases of equipment, and ending overlap in seismic networks.	PO AID/059A-347-85-14  Dates: 1/10/85	\$9,978
April 1985	Grant to UNA (National University at Heredia) to provide emergency funding to two Ph.D. candidates, Guendel and Malavassi, for six months. Their funding was not included in the last UCSC grant supplement.	Grant/MA JFDX-85-29515-H645	\$15,835
May 1985	Final report submitted by Dr. McNally. By this point, UCSC has opted not to seek further funding to continue working on the Costa Rican seismic network. Dr. McNally reports work accomplished or under way for the Costa Rican Earthquake and Volcanic Hazards Mitigation Project include: <ul style="list-style-type: none"><li>o eight of 15 seismic network stations installed and functioning; 3 installed but not functioning, 4 being prepared for installation, additional related equipment has been purchased and is in Costa Rica</li><li>o ten of 20 strong motion accelerographs have been installed and functioning; 10 have been purchased and shipped to Costa Rica</li><li>o six technicians trained in Costa Rica; various international conferences and workshops attended by Costa Ricans; 2 Costa Ricans studying in Ph.D. programs (one in seismology, one in volcanology)</li><li>o at UCSC; short-term training in seismic and other equipment in California</li></ul>	Final Report, Dr. Karen McNally, Principal Investigator, UCSC	

60

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o data reduction technology transferred to Costa Rica and monthly seismic activity catalogs published
- o systematic knowledge of Costa Rican geology as relates to earthquakes developed through seismic history study and study of preliminary instrument readings
- o 24-hour emergency monitoring procedures being established
- o volcanic risk studies procured with 4 volcanoes routinely monitored; gas and rock analysis being conducted
- o public education programs designed with network of volunteers enlisted to begin presentations in 1985; at least 100 talks already held with Costa Rican community groups in 1983 and 1984
- o oil and mineral geological studies completed.

June 1985

As UCSC had finished out its work in Costa Rica, there were some questions on whether they had accomplished all that they had set out in the SOW and reported accomplished in the final report. Further, there was a great deal of ill will towards the Principal Investigator from UCSC on the part of the Costa Rican institutions.

David Kitson, MDRO, USAID/San Jose reports  
Paul Bell, consultant, reports

Dates: 11/84-5/85

Cline was asked to come back to Costa Rica and do a further evaluation reviewing the progress towards completion of a functioning seismic network and risk reduction program. Major outputs from his evaluation include:

AID/OFDA-347-85-40  
Grant no.: ASB-0000-0-00-5099-00

\$6,295

- o ascertain and document if and what work needs to be completed by UCSC from the two grants it received
- o establishment of objectives, priorities, equipment needs, and responsibilities of government, universities, and electric institute to continue the project
- o a draft MOU/MOA to be established based on the above for circulation among GOCR and university officials.

July 1985

Cline visited UCSC for three days to discuss/evaluate the financial arrangements between UCSC and the Costa Rican universities. He also was to review/evaluate the equipment requirements of the project determining why some equipment was deleted or not delivered.

PO AID/OFDA-347-85-40  
Grant no.: ASB-0000-0-00-5099-00  
(amendment 1)

\$1,762

91

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1986	Contract awarded to RLI Corp. to continue the Costa Rican Earthquake and Volcanic Hazards Mitigation Program (all activities to be undertaken by RET were to only begin after the signing of an MOU/MOA between the counterpart institutions, AID, and RET). Major outputs include: <ul style="list-style-type: none"><li>o establishment of an Executive Committee to regulate activities of counterpart institutions</li><li>o review of operational condition of the two Costa Rican regional seismic networks to determine the feasibility of integrating the two networks into one</li><li>o comprehensive review of all equipment purchased under UCSC grants to determine additional equipment requirements</li><li>o technical support for aerial mapping of lineament and geomorphic features</li><li>o field mapping to delineate faults suggestive of quaternary activity to develop hazards and risks assessments</li><li>o field mapping of volcanic deposits.</li></ul>	P10/T 907-11-999-86-41-6073063  Dates: 8/1/86-12/31/86	\$232,147
October 1986	Trip by RET consulting team to develop a draft memorandum of agreement (MOA).	Trip report from Raul E. Truffat, RET Corp. Project Manager	
December 1986	Trip by RET consultants to Costa Rica to resolve major issues and identify points to be clarified by GOCR Vice President Dengo.	Trip report from Michael Cline and Raul Truffat	
December 1986	Contract amended for 3 months to extend completion date because of difficulty in getting MOU signed.	P10/T 907-11-999-86-41-6073063  Dates: 12/30/86-3/31/87	No cost  (amendment 1)
April 1987	No cost extension of contract to 10/31/87 due to delay in getting MOU signed.	P10/T 907-11-999-86-41-6073063  Dates: 8/1/86/10/31/87  Grant no.: OTR-0000-C-6108-02	no cost  (amendment 2)

82

<u>DATE:</u>	<u>ACTION:</u>	<u>UAIA SOURCE:</u>	<u>COST:</u>
October 1987	Host Country/USAID Project Agreement signed (an MOA) between UCR, UNA, ICE, GOCR, and USAID/Costa Rica.	P10/T 907-11-999-86-41-8073036 (amendment 4)	
November 1987	Contract amended (at no cost) to continue through 12/31/87 to allow for renegotiation of contract details.	P10/T 907-11-999-86-41-6073063 (amendment 3)  Dates: 8/1/86-12/31/87  Grant no.: OTR-0000-C-00-6108-03	No cost
December 1987	Contract amended to continue work on Costa Rican Earthquake and Hazards Mitigation Program. The scope of work was modified slightly to allow for an increased reliance on CR personnel and an increased management role by RET Corp.	P10/T 907-11-999-86-41-8073036 (amendment 4)  Grant no.: OTR-0000-00-C-6108-04  Dates: 10/86-9/30/89	\$296,337
March 1988	Contract amended to decrease funding by \$97,337 to accommodate overall OFDA budget constraints; no reflection on RET project or program.	P10/T 907-11-999-86-41-8073036 (amendment 5)	-\$97,337
May 1988	Federico Guendel graduates from UCSC with Ph.D. in seismology.	Interview with Paul Bell	
January 1989	Major outputs for 1988 include: <ul style="list-style-type: none"><li>o executive committee established</li><li>o development of final equipment lists and purchase of major portions of equipment</li><li>o initiation of earthquake database integration between 3 Costa Rican technical organizations</li><li>o preparation of preliminary fault lineament and volcano maps</li></ul>	Michael Cline, 1988 annual report prepared for RET Corp.	
<u>TOTALS</u>			
08/81-to date			\$1,490,108

62

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 203

1. ACTIVITY NUMBERS: 1118, 1226, 1567, 1080, 1077, 1510, 1075, 1076, 1073, 1069, 1097

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): REGIONAL ADVISORS FOR LATIN AMERICA AND THE CARIBBEAN. Personal services contracts, purchase orders and mission allotments in support of OFDA disaster preparedness and relief advisors based in Costa Rica.

5. DATA COLLECTOR: Valerie S. Wayman

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1981	PSC with Paul Bell to establish a disaster preparedness and response team responsible for the initiation and coordination of activities throughout the Caribbean. The team, based in Antigua, was entitled the Pan Caribbean Disaster Preparedness and Prevention Project. The U.N. Disaster Relief Relief Organization (UNDRO) contribution: \$250,000.	PIO/T: 938-11-999-014-81-3819622 Dates: 6/15/81 to 9/30/81 Contract No.: PDC-0014-S-00 1066-00	\$28,204
October 1981	PSC amended to provide an additional two days of consultation with Mr. Bell in Washington, D.C. September 17-18, 1981.	PIO/T: 938-11-999-014-81-3819622 (Amend. 1)	no cost
September/October 1983	Purchase Order and Travel Authorization (TA) for Paul Bell to lead a composed of Thomas Berry/FEMA, Zunial Burts and Larry Lindstrom/ City of L.A. to Costa Rica to assess the level of preparedness of the GOCR.	P.O. #147-83-40 TA's 0732834, -824A, -844, -864, Dates: 9/20/83-10/4/83	\$3,323 \$8,199
October 1983	Final report submitted on the review of the level of disaster preparedness in the Government of Costa Rica and recommendations for improving the GOCR's response capabilities. The report covers such items as: <ul style="list-style-type: none"> <li>◦ recommended actions needed to restructure and strengthen the response capabilities of the GOCR National Emergency Commission</li> </ul>	Final Report Paul Bell October 12, 1983	

100

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"> <li>◦ a listing of US and other sources of disaster related technical expertise</li> <li>◦ an overview of CR's emergency communications systems and recommendations for improvement/coordination</li> <li>◦ precautions which may be taken to avoid security problems at important public utilities during and after a disaster.</li> </ul>		
August 1983	<p>P.O. with Paul Bell to assist the Mission and the Government of Sri Lanka in the provision of goods and services supplied by USG to displaced persons (DPs) in Sri Lanka.</p> <p>Field report submitted August 31, 1983 outlines the disposition of USG donated commodities, DP statistics and descriptions of sites visited and a summary of PVO resources available, problems encountered and lessons learned.</p>	<p>P.O. 147-83-037 TA 0734005</p> <p>Contract No. OTR-0000-0-00-3374-00</p> <p>Field Report by Paul Bell August 31, 1983</p>	<p>\$3,773 \$4,325</p>
October 1983	<p>P.O. with Paul Bell to provide an assessment and recommendation of the situation in Grenada. Report due December 1983.</p>	<p>P.O. 147-84-001</p> <p>Dates: 11/22/83-12/1/83</p>	<p>\$6,355</p>
November 1983	<p>Purchase Order with Paul Bell amended to allow contractor to work with Costa Rican officials and to develop a plan of action to implement the recommendations of the September team. (Extended 4 days).</p>	<p>P.O. 147-03-40 (Amend. 1)</p> <p>Dates: Contract No.: OTR-0000-0-00-3485-01</p>	<p>\$863</p>
November 1983	<p>Report received on emergency situation in Grenada, outlining OFDA's response and recommending possible improvements.</p>	<p>Grenada Final Report; sections A and B November 30, 1983</p>	
December 1983	<p>Purchase Order with Paul Bell to develop a National Basic Emergency Plan for the Government of Costa Rica (In the style of Cresap, McCormick, &amp; Paget.) Prepare a contingency planning guide for guide for different GOCR entities and organize the emergency operations center.</p>	<p>P.O. 147-84-14 TA 0743022</p> <p>Dates: 12/15/83-12/23/83</p> <p>Contract No.: OTR-0000-0-00 4081-00</p>	<p>\$3,525 \$1,580</p>

140

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
January 1984	Purchase order for the purchase of communications equipment for disaster relief use in Costa Rica. The addition of this equipment follows recommendations made after the Sept./Oct. 1983 Costa Rican trip by Bell, Berry, Burts and Lindstrom.	P.O. 147-84-24 through -27	\$15,082
February 1984	TA for Mr. Bell to attend a meeting on emergency communications in Latin America and the Caribbean.	TA 0743055	\$435
February 1984	Purchase order with Paul Bell to finalize the Costa Rican National Emergency Plan and to develop an emergency management training program for Costa Rica. Contract was also required to consult with USAID and Panamanian officials on the possibility of support for a Panamanian Emergency Management Program.	P.O. 147-84-28  Dates: 2/2/84-3/5/84  Contract No.: ASB-0000-0-00-4077-00	\$9,767
April 1984	Purchase Order with Paul Bell, Jr. to develop an emergency operations manual in Spanish for the Costa Rican Civil Defense. The manual was to be used as a prototype for other Latin American Emergency Preparedness Programs and to implement a simulation	P.O. 347-84-36  Completion date: May 21, 1984  Contract No.: ASB-0000-0-00-4077-00	\$7,581
April 1984	<u>Plan Basico de Emergencia - Gobierno de Costa Rica</u> submitted in final form. The "Basic Emergency Plan" of the Government of Costa Rica outlines the hierarchy of responsibilities within the government available disaster response resources, definition, responsibilities, objectives and procedures. It also includes plans for the development of an Emergency Operations Center and a training plan for emergency management officials.	Final Report of Paul Bell April 4, 1984	
April 1984	The schedule of Actions and Activities for Emergency Preparedness and Training in Costa Rica was submitted (in English). The schedule list training topics, instruction and implementation dates for a two-year period.	Final Report April 4, 1984	
April 1984	Final Report and recommendations from the Panama consultation (March 6-10, 1984). The Panamanian emergency preparedness organization, SINAPROAC, was deemed inappropriate at the time to receive OFDA support.	Final Report April 4, 1984	

5

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
May 1984	Purchase order for Paul Bell's attendance at the UNDRO/ECLA/PAHO workshop on "Needs Assessments Following Sudden-Impact Disasters" held in Mexico City, May 14-17, 1984. Funding also covered the preparation of a report reviewing and critiquing the meeting.	P.O. 347-84-432  Contract No.: ASB-0000-0-00-4137-00	\$2,503
June 1984	Report on the UNDRO/ECLA/PAHO workshop in Mexico City on "Needs Assessments Following Sudden-Impact Disasters" ("Requisitos/ donos despues de desastres repentinos".) Overall disposition was that, while generating voluminous amounts of observations/ideas of a few high level experts, the value of the data was negligible due to its size and complexity. The workshop did not develop indicators for assessing disaster damages which would be helpful to an agency such as OFDA.	Final Report by Paul Bell, June 1, 1984	
June 1984	Purchase order with Paul Bell, Jr. to develop Spanish- and English-language communications manuals for the Emergency Operations Center and Costa Rica Civil Defense. Manuals intended for use as a Latin American prototype.	P.O. 347-84-46 Completion Date: July 20, 1984	\$2,528
July 1984	Submission of the English and Spanish versions (2 copies each) of the Communications Manual which was developed for the Emergency Operations Center of the Civil Defense of the GOCR. The manual covers: (1) Operational Concepts (such as chain of command and geophysical coverage); (2) Mobilization procedures; (3) Field Mobile Repeater System; (4) Control; (5) Amateur Radio Operations and miscellaneous guidelines.	Contract No.: ASB-0000-0-00-4157-00	
July 1984	Costa Rican <u>Manual for Emergency Operations at the Community Level (Organizacion Para la Emergencia Nivel de Comunidad)</u> presented to the Costa Rican civil defense organization, la Comision Coordinadora de Emergencia.		
July 1984	Final Report on Belize Emergency Preparedness and Emergency Communications. Highlights are as follows: <ul style="list-style-type: none"> <li>◦ The ICOM M-700 Transceiver was installed at the Belize Weather Service. July 10, 1984, and tested</li> <li>◦ Total cost of M-700, a MAXCOM Automatic Matcher and antenna was less than \$2,500.</li> </ul>		

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>◦ Assessments and recommendations were made for the level of preparedness of these organizations;<ul style="list-style-type: none"><li>- Central Emergency Organization</li><li>- National Fire Service</li><li>- Civil Aviation entities</li><li>- Meteorological Office</li><li>- Belize Red Cross</li><li>- Belize Amateur Radio Society</li><li>- US Mission.</li></ul></li></ul>		
July 1984	Purchase order for the design of a training module for emergency management personnel in Costa Rica and to assess the state of hurricane preparedness and emergency communications in Belize.	P.O. 347-84-51	\$9,975
August 1984	Purchase order with Paul Bell for the design of a "Preparedness Matrix," strategic planning guideline and for a needs assessment of the Bahamian Red Cross Emergency Communications Network.	P.O. 347-84-60 Dates: 9/4/84-10/19/84 Contract No. ASB-0000-0-00-4189-00	\$8,348
September 1984	Preparedness Matrix delivered. This Matrix is a recommended program strategy for preparedness in the Latin American and Caribbean region. Countries are rated on the basis of: 1) risk or vulnerability, 2) current level of preparedness, 3) country resources, 4) local commitment and 5) U.S. government strategic interest.  This purchase order also requires the contractor to assess the need and capacity of emergency preparedness of several Bahamian organizations with special attention to emergency communications capabilities and needs.		
September 1984	Assessment of the emergency communications capabilities and needs of the southern islands of the Bahamas. The report includes: <ul style="list-style-type: none"><li>◦ testing results of the transceiver and antenna brought to the islands by the contractor</li><li>◦ testing results of the communications network capabilities of several Bahamian organizations</li><li>◦ recommendations for the procurement and installation of a ICOM M-700 Transceiver and MAXCOM antenna matcher to serve 10 island stations; priced around \$32,000.</li></ul>	Final Report Paul Bell September 10, 1984	

11

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
September 1984	<p>Personal Services Contract with Paul Bell, Jr. obligating \$224,924 for a two year period to cover his duties as OIDA Regional Advisor for the Latin American/Caribbean region. The Regional Advisor is to be based in Costa Rica, dedicating one-half of his time to activities to strengthen the GOCCR's disaster preparedness and response capabilities and one-half of his time to such activities in other Latin American countries, as directed by OFDA. Specific duties include:</p> <ul style="list-style-type: none"> <li>◦ a review of the legal base and policy review of emergency law in Costa Rica</li> <li>◦ a preparation of a draft of new legislation providing more specific authority to the office</li> <li>◦ draft new decrees required to provide presidential authority</li> <li>◦ organize the Costa Rican Emergency Operations Center</li> <li>◦ guidelines for the CR National Basic Plan and Sector Plans</li> <li>◦ monitor the University of California at Santa Cruz's Costa Rican Seismic Network Project</li> <li>◦ establishment of training programs for qualified personnel in Costa Rica.</li> </ul>	<p>MA JFDX-84-29515-HG45            Dates 10/15/84-10/14/86</p>	\$61,260
January 1985	Paul Bell traveled to Ecuador and Bolivia.	TA 507325 1/9/85	\$1,428
June 1985	Per diem and travel support for Paul Bell.	MA #JFDX-85-29515-HG45 (Amend 1) 6/11/85	\$5,000
November 1985	Travel support for Regional Adviser, Paul Bell.	MA #JFDX-86-29575-HG45 (original) 1/6/85	\$5,000
December 1985	PSC with Paul Bell extended to provide for second year of Regional Advisor's activities.	MA #JFDX-86-2915-HG45 (Amend 2) 12/5/85	\$51,560
1985	Paul Bell dispatched to all regional disasters which received OFDA response. The Regional Advisor was responsible for coordinating OFDA disaster relief efforts for such major occurrences as the Chilean earthquake in March, the Mexico City earthquake in September and the Colombian earthquake in November.		
April 1986	Travel authorizations for Alejandro James and Ricardo Bermudez to attend disaster preparedness meetings in Washington, D.C. and to interview for the regional advisor posts in Costa Rica.	TA's 6073055, -056 4/18/86	\$2,260

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1986	Per diem and miscellaneous expenses for Paul Bell through 9/30/86.	MA #JFDX-86-29515-HG45 (Amend 3)	\$12,000
	PSC's awarded to Alejandro James and Ricardo Bermudez to assume the duties of Regional Advisors based in Costa Rica.	MA #JFDX-86-29515-HG45 (Amend 4)	\$92,800
	Ricardo Bermudez' and Alejandro James' duties mirror Paul Bell's (see September 1984, contract No. 515-0000-S-00-4451-00) with emphasis placed on developing disaster preparedness and relief efforts in Ecuador and Honduras and other LAC countries, as necessary. The organization and coordination of regional training programs is high priority in these contracts.		
June 1986	PSC with Paul Bell for technical support required to prepare documentation related to regional disaster preparedness. An Administrative Assistant was hired.	MA #JFDX-86-29515-HG45 (Amend 5) 6/6/86	
October 1986	Per diem and miscellaneous travel cost for the LAC Regional Disaster Expert.	MA # JFDX-87-29515-HG45	\$12,000
October 1986	Mission allotment amended to extend PSC with Paul Bell for another year.	MA # JFDX-87-29515-HG45 (Amend 1)	\$65,750
1986	OFDA detailed the Regional Advisors to all disasters in the region including: <ul style="list-style-type: none"><li>o Bolivia floods - March</li><li>o El Salvadorean earthquake</li><li>o Peruvian floods.</li></ul>		
January 1987	Alejandro James detailed to Honduras to assist the "Consejo Permanente de Emergencia Nacional" with the start-up of an emergency readiness training program.	Dates: 2/1/87-2/15/87	
February 1987	TDY for Alejandro James to assist the Honduran emergency organization, COPEN, with an emergency training program. Mr James ran communications tests, using an OFDA emergency repeater, antennas and hand-held radios.	Reftel: San Jose 01055 January 29, 1982 Dates: 2/15/87-3/6/87	
March 1987	PSC's with Alejandro James and Ricardo Bermudez extending their contracts on a full-time basis rather than 180 days per year.	MA # JFDX-87-29515-HG45 (Amend 2) Reftel: San Jose 02216-2/27/87	\$137,500

69

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1987	Alejandro James gave a presentation at the Regional Seminar, "Preparing for Emergencies," held in Panama on April 2-4, 1987. Partners of the Americas sponsored the seminar.	letter from: Gladys C. de Laur President of Panamanian Partners of the Americas April 10, 1987	
June 1987	Per diem and miscellaneous travel costs for LAC regional advisors.	MA #JFDX-87-29515-HG45 (Amend 3) Dates: 7/11/87-3/31/88	
April 1987	Alejandro James detailed to prepare and evaluate a proposal to enhance the emergency communications capability of the El Salvadoran Municipal Fire Service.	Reftel: State 107549 Date: 4/1/87	
July 1987	Regional Advisor Paul Bell dispatched to Santiago for 1987 flood disaster.	Reftel: San Jose 08257 Date: 7/27/87	
July 1987	Mission allotment amended to cover the purchase of computer and word processing equipment for disaster preparedness and relief use. Funds supported the procurement and maintenance costs of a WANG personal computer to be housed at the USAID Mission and a WANG laptop for TDY use. Appropriate software and auxiliary equipment were also provided.	MA # JFDX-87-29515-HG45 (Amend 4) \$14,419 7/17/87	
August 1987	TDY for Regional Advisor Team to Washington, D.C. 8/10/87-8/25/87 OFDA/FEMA.		
September 1987	Training of more than 60 Argentineans, Brazilian and Paraguayan officials at the Pasadas flood mitigation seminar.		
September 1987/ October 1987	Paul Bell coordinated and presented earthquake simulation exercise in Caracas U.S. Embassy. PSC with Paul Bell extended for another year.	Reftel: San Jose 05640 MA # JFDX-88-29515-HG45 (Amend 2)  October 26, 1987	\$59,990
November 1987	Per diem and miscellaneous travel costs for LAC Regional Advisor.	MA # JFDX-88-2951-HG45 (Amend 3)	\$12,000
1987	The Regional Advisors were detailed to coordinate the OFDA response to all disasters in the region.	November 9, 1987	

100-

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
February 1988	Extension of PSCs with Alejandro James and Ricardo Bermudez	Dates: 3/1/88-2/28/89	\$155,150
Summer 1988	Paul Bell was detailed to OFDA relief efforts in response to the earthquake in Nepal		
November 1988	PSC Extension for Paul Bell for services up until 10/31/89	MA # JFDX-89-29515-HG45	\$70,755
December 1988	Ricardo Bermudez detailed to Bogota, Colombia to assist in the evaluation of the Ruiz Volcano eruption. The Regional Advisors were detailed to all disasters in the region. They coordinated the OFDA efforts in such major disasters as the Jamaican hurricane		
1988-1989	The success of the Regional Advisors program in the Latin America and Caribbean region led OFDA to extend the program to the South Pacific starting in 1988 and to begin thinking about extending it to Africa as well.		
<u>TOTALS</u>			
06/81-to date			\$875,238

101-

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 201

1. ACTIVITY NUMBERS: 1205, 1228, 1208, 1150, 1215, 1145, 1146
2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC:
3. REGION BENEFITED: Latin America/Caribbean (1000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Lamont-Doherty Geological Observatory. Dominican Republic Seismic Network.
5. DATA COLLECTOR: Valerie Wayman
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1982	Columbia University submitted a technical proposal to OFDA entitled, "Development of a Seismic Hazard Reduction Plan for the Greater and Lesser Antilles."	Proposal, W.R. McCann et.al. Lamont-Doherty Geological Observatory no date	
July 1982	Six month grant to Columbia University's Lamont-Doherty Geological Observatory (LDGO) to integrate the data collection and interpretation capabilities of seven existing seismic networks. Lamont-Doherty assisted participating countries in developing a hazard reduction plan, risk analysis maps and varied data analyses.	PIO/T 907-11-999-046-82-0729962 Dates: 7/1/82 - 12/1/82 Grant No. 14-08-0001-19748	\$61,416
July 1983	Two-month grant with LDGO to conduct a feasibility study for the development of an earthquake monitoring system for the Dominican Republic (GODR). The GODR, and the Seismological Institute (ISU) of the Autonomous University of Santo Domingo (USAD) had requested requested assistance. LDGO had established and operated the Eastern Caribbean Seismic Network since 1975.	PIO/T # 907-11-999-83-021 -0732524 TA 732004 Dates: 6/30/83 - 9/30/83 LDGO Feasibility Study Grant No. OTR-0021-G-SS-3279	\$10,244 \$3,330

102

DATE:

ACTION:

DATA

SOURCE:

COST:

July 1983

Mila Brooks, as part of a \$55,237 technical assistance PSC, initiated the seismic net project plan and secured the cooperation of host-country officials.

PIO/T: 907-11-999-83-024-0732544 \$55,237\*

Contract No: OTR-0000-C-00  
-3265-00, 01

August 1983

Memorandum of understanding signed between the Autonomous University of Santo Domingo (UASD), the Secretariat of State for Public Works and Communications (SEOPC), the Civil Defense (DC), the Dominican Electricity Corporation (CDE), U.S. AID Mission Director Phil Schwab and OFDA Director Julius Becton. The Agreement includes provision by the above organizations of office space and staff support, technical assistance, building and equipment renovations, operational support "throughout life" and financial support of varying proportions.

Letter to Col. Martin Howell,  
OFDA Director

August 30, 1983

The host country organizations were to support the operation and maintenance of the project as follows:

- 72% Autonomous University of Santo Domingo
  - 25% Secretariat of State for Public Works
  - 3% Civil Defense
- 100%

Total cost of the project was estimated at US \$2,400,000, of which state institutions were to contribute RD \$1,400,000.

September 1983

The grant to Columbia University's LDGO to study the feasibility of earthquake monitoring was completed as of September 30, 1983.

PIO/T 907-11-999-83-021-0732524

Completed: 9/30/83

Grant No. OTR-0021-G-SS-3279

\* It is assumed that this sum covered not only the planning TDY in the Dominican Republic, but also various other disaster preparedness activities, i.e., development of Mission disaster plan and interagency liaison duties.

103

DATE:

March 1984

PASA with the U.S. Geological Survey (USGS) to implement the rehabilitation of seismic data equipment acquired from the terminated USG Northeastern Caribbean Seismic Network. Equipment was earmarked for use in the seismic network planned for installation in the Dominican Republic.

USGS was to:

- Provide for the dismantling, relocation to St. Thomas, VI and Palisades, New York of seismic equipment and power supply stationed throughout the northern Lesser Antilles.
- Test and check each components' operational capability and utility.
- Certify the operational condition of all equipment and provide inventory to OFDA.
- Prepare all equipment for customs clearance and deliver to UASD, Santo Domingo.
- Prepare a final report.

June 1984

Grant to the Trustees of Columbia University, Lamont-Doherty Geological Observatory (LDGO) to develop an Earthquake Monitoring and Seismic Hazard Analysis Capability in the Dominican Republic. The project was to be 3 years in duration.

First Year Scheduled Output:

- Procurement and shipping of seismic central recording and data analysis equipment, materials and supplies.
- Assistance to the Seismological Institute (ISU) of USAD in the installation, operation, testing a maintenance of:
  - a) recording site equipment and a computer system within 7 months of the grant award.
  - b) remote seismic network within eight months of the grant award.
- Assistance to ISU and GODR personnel in procedures development and scientific analyses.

July 1984 -

October 1984

Faults on the islands were found, assessed and mapped. Numerous landslides generated by seismic activity were located.

DATA

SOURCE:

COST:

PIO/T # 907-11-999-84-016-0743070 \$173,040

PIO/T # 907-11-999-84-03-0743016 \$382,586

First year project: 7/15/84 - 7/14/85

Completion date: 7/14/87

Grant No. ASB-0000-G-SS-4161-00

Quarterly Report No. 1  
November 27, 1984

Dates: 7/15/84 - 10/14/84

*see*

DATE:

ACTION:

DATA

SOURCE:

COST:

- Assistance to the ISU in developing a quarterly seismic bulletin.
- Assistance to the ISU in developing a data dissemination mechanism for the GODR (for the grant's 1st year)
- The production of quarterly reports, and an annual report.

The total sum granted was \$1,034,243, of which \$382,586 was originally funded and \$651,657 was to be thereafter incrementally disbursed.

Second Year Scheduled Output

- Procurement of accelerographs and assistance to ISU throughout the year in their installation, testing, operation, and maintenance.
- Assistance to ISU in the installation, etc. of 9 out of 12 of the permanent seismic stations in the network.
- Assisting ISU in the relocation of the portable seismic network to the western part of the DR.
- Assistance to ISU and GODR personnel in procedures development and scientific analyses, as well as in the reporting and analysis of data emanating from the strong motion accelerograph network.
- Submission of quarterly reports and an annual report.

Third Year Scheduled Output

- Procurement of additional accelerographs and assisting the ISU the installation, etc. of the completed 27 unit, earthquake "strong motion" network which measures ground acceleration.
- Assistance to ISU in phasing out their portable network operation.
- Assistance in the installation of solar panels at six (6) remote seismic stations in the eastern part of the network.
- Completion of the technical and earthquake data analysis training activities and phase out of direct support of ISU.
- Submission of quarterly reports and an annual report.

October 1984

Quarterly Report No. 2 lists the following accomplishments:

- Assessments were made of numerous potentially active faults in the northwestern part of the country
- Organization began on several conferences in New York to make Dominicans more aware of the risk to them.

Quarterly Report No. 2  
February 28, 1985

Dates: 10/15/84 - 1/14/85

10/84

DATE:

ACTION:

DATA

SOURCE:

COST:

January 1985

Mr. Roger Acosta, the Director of ISU inspected the facilities prepared for the LDGO team's arrival.

Memorandum from Bette Cook, LEG to Alan Swan, OFDA  
Date: October 17, 1986

February 1985

William McCann of LDGO arrived to find the AUSD/ISU facilities incomplete. There were delays in obtaining public works funds for remodeling and AUSD was not able to respond with financial or management support. Civil Defense did not deliver the generators needed to supply electricity; however, the electric company fulfilled its portion of the agreement and did provide electricity. Training was started in-country. Numerous conferences were held in New York and in the Dominican Republic explaining earthquake hazards in the Dominican Republic.

Memorandum from Bette Cook, LEG to Alan Swan, OFDA  
Date: October 17, 1986

April 1985

Quarterly Report listed the following accomplishments  
o Equipment began arriving at the institute.  
o Six (6) stations are now sited  
o Aerial geologic field occurrences in them south are analyzed.  
o Much of the remodeling of the ISU has been completed

Quarterly Report Year 1: 4  
October 10, 1985

Dates: 4/15/85 - 6/14/85

September 1985

Grant to LDGO amended to provide for the second year of incremental funding, covering the period July 15, 1985 through July 14, 1986.

PI0/T # 907-11-999-84-03 \$372,486  
-5074005 (Amendment 1)

The second year statement of work was revised in its entirety, with the only important changes were as follows:

Dates: 7/15/85 to 7/14/86  
To be completed: 7/14/86

- o An increase in the permanent equipment budget due to an increase in the technological capacity of the transmitter/receiver pair and a decision to modify the proposed accelerograph network in order to provide indigenous capability for the portable system.
- o The materials budget was increased to provide ISU personnel with spares and replacement parts.
- o A subcontract to the Center for Energy and Environmental Research (CEER) of the University of Puerto Rico was included to provide for the services of an electrical engineer.

Grant No.  
ASB-0000-G-SS-4161-00  
(Amendment 1)

November 1985

Douglas Johnson arrived to help install the equipment and to hook up the CDE network to the Seismological Institute (ISU)

Quarterly Reports Year 2: 1 & 2  
March 15, 1986

Dates: 7/15/85 - 1/14/86

106

DATE:

ACTION:

DATA

SOURCE:

COST:

March 1986

1985 Quarterly Reports covering July 15, 1985 through January 14, 1986. The following accomplishments are cited:

- o Eight stations and three repeaters have been situated in the East
- o Signals from 8 stations are being received at ISU
- o The catalog of historical earthquakes (1492-1946) has been analyzed to reveal a lack of important seismic data

Quarterly Reports Year 2: 1 & 2  
March 15, 1986

Dates: 7/15/85 - 1/14/86

July 1986

William McCann and Robert Ryan left the Dominican Republic.

Memorandum from Bette Cook, LEG  
to Alan Swan, OFDA  
Date: October 17, 1986

August 1986

Robert Ryan returned to the Dominican Republic to implement additional computer software he had designed while away and to train personnel in its use.

Memorandum from Bette Cook, LEG  
to Alan Swan, OFDA  
Date: October 17, 1986

September 1986

Dr. William McCann resigned. Douglas Johnson and Professor Lynn Sykes continued the grant activity.

letter from LDOG to AID Grants  
Officer.  
Date: September 17, 1986

September 1986

As of September 30, 1986 the following items had been accomplished:

- o The recording system was in operation.
- o The C.D.E. stations will be received at Santo Domingo and recorded.
- o The Sun computer was in operation with limited data analysis capability.
- o Two (2) to four (4) of the new field stations of the eastern net were in operation.
- o Equipment supporting eight other stations was on hand with ISU personnel capable of installing them.
- o LDOG/OFDA supplied additional spare parts and materials to support system operation.
- o The strong-motion accelerograph and western networks were not undertaken.

Outgoing cable 162213Z JUN 86  
Alan Swan

DATE:

ACTION:

SOURCE:

COST:

October 1986

Grant with LDGO modified to extend the completion date from July 14, 1986 to September 30, 1986, deleting the remaining amount of \$279,171.\*

PI0/1 # 907-11-999-no cost  
84-03-5074005 (Amendment 2)

Completion date: 9/30/86

- ° The total cost of the development activity was reduced from \$1,034,243 to \$755,072.
- ° Procurement of seismic central recording and data analysis equipment was dropped from the scope of work.
- ° LDGO was also relieved from assisting the ISU in the installation, operation and maintenance of a portable seismic network in sections of the Dominican Republic not served by the permanent network.
- ° The Accelerocorder data retrieval unit was deleted from the Second Year.
- ° The third year of the project was deleted in its entirety.

\* Due to personality conflicts and the inability of the USAD's ISU to uphold its commitments to the activity, OFDA discontinued funding, deeming that these funds would be better used by alternative activities.

December 1986

OFDA Project Manager visited the Dominican Republic and after assessing lack of host country commitment and personality conflicts between LDGO and host country individuals, OFDA made a conscious decision to cease funding.

TOTALS

05/82-12/86

\$682,523

10/86

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 102

1. ACTIVITY NUMBERS: 1246

2. COUNTRY BENEFITED: Chile  
NOT COUNTRY SPECIFIC:

3. REGION BENEFITED: Latin Am./Carib. (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): THRUST (Tsunami Hazard Reduction Utilizing System Technology). PASA with NOAA's Pacific Marine Environmental Laboratory (PMEL) to develop, test and evaluate a near-shore tsunami warning system in Valparaiso, Chile.

5. DATA COLLECTOR: Lew Toulmin and Lydia Kan

6. CHRONOLOGY:

DATE:

ACTION:

DATA  
SOURCE:

COST:

June 1982

Proposal received for NOAA/PMEL (Pacific Marine Environmental Laboratory) to establish a Pacific Tsunami Warning System with 3 elements:

"Proposal to Conduct a Feasibility Study on Mitigating Pacific Tsunami Hazards".  
6/14/82

- o data collection -- including design and placement of detection instruments
- o data processing -- including theoretical analysis and modeling
- o dissemination -- including real time warning, training and education.

July 1982

PASA awarded to NOAA to develop a Pacific Tsunami System which would include a strategy for integrating national disaster preparedness programs with current technical advances in satellite-based tsunami early warning. Tasks included:

PI0/T No.:  
907-11-999-942-82-0729942

\$37,014

Dates:  
7/2/82 - 12/31/82

- o Reviewing literature and research
- o Drafting strategy and master plan

PASA No.:  
BOF-0000-P-CC-2196-00

109

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
May 1983	<p>PASA amended to add funds and extend completion date. Specific new tasks included:</p> <ul style="list-style-type: none"> <li>o select appropriate site for THRUST - Tsunami Hazard Reduction Utilizing System Technology.</li> <li>o develop tsunami database, maps and model.</li> <li>o evaluate local infrastructure and make recommendations for integrating THRUST with local emergency management systems.</li> <li>o define real-time warning specifications.</li> </ul>	<p>PIO/T No.: 11-999-82-042-0732044</p> <p>Dates: 2/2/82 - 5/31/84</p> <p>PASA No.: BOF-0000-P-CC-2196-00 Amend. No. 1</p>	\$196,873
September 1983	An initial site assessment of Chile found it to be a suitable site for tsunami warning system, especially due to the warning and hydrologic experience of the Chilean Navy Hydrologic Institute.	THRUST quarterly report 9/30/83	
August 1984	PASA amended to install demonstration THRUST System hardware in Valparaiso, Chile; to install and test satellite links; to assist GOC in preparing a Tsunami Warning Standard Operating Plan; and run and maintain THRUST for 1 year.	<p>Dates: 7/2/82 - 3/1/86</p> <p>PASA No.: BOF-0000-P-CC-2196-00 Amend. No. 4</p>	\$396,456
October 1984	Map produced on "Tsunamis in the Pacific Basin," and a digital Pacific database for 20th century tsunamis completed.	THRUST quarterly report 12/31/84	
November 1984	Government of Chile signed lengthy contract agreeing to support THRUST, including to "maintain a 24-hour warning facility," "incorporate THRUST into the existing Chilean Tsunami warning system," and to contribute US \$1,633,068 to the system from the University of Chile, the Chilean Emergency Office, the Chilean Navy Hydrographic Institute.	Letter No. 102, AmEmbassy Santiago, 11/30/84	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1985	GOC formally endorsed THRUST project in Chilean Supreme Decree #42	THRUST quarterly report, 6/30/85	
August 1985	NOAA completed installation and began testing of seismographic instruments.	THRUST quarterly report, 9/30/85	
October 1985	NOAA granted a no-cost time extension.	PASA No.: BOF-0000-P-CC-2196 Mod. No. 4  Dates: 7/2/82 - 9/1/86	
February 1986	NOAA completed the first phase of seismic data collection.	Quarterly report 3/25/86	
December 1986	PASA extended and funds added to install an uninterruptable power supply for THRUST.	Dates: 7/2/82 - 9/30/87  PASA No.: BOF-0000-P-CC-2196-00 Amend. No. 6	\$22,517
November 1987	Final reports and other THRUST documents were delivered to OFDA.		
April 1988	New PASA awarded to provide assistance to GOC to conduct a 3-day workshop at Valparaiso for 6 Latin American tsunami experts, to be briefed on project THRUST.	PIO/T No.: 907-11-999-88-031-8073085  DATES: 4/15/88-9/30/88  PASA No.: PDC-0000-P-CC-8084-00	\$30,000
	NOAA report on project THRUST states that: <ul style="list-style-type: none"><li>o THRUST has developed a low-cost, local tsunami warning system with a response time of about 2 minutes</li></ul>	"On Mitigating Rapid-Onset Natural Disasters: Project THRUST," no date	

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o 99% of tsunami deaths occur within 400 km of the epicenter.
- o About 5,600 people were killed in the last 10 years by 6 Pacific tsunamis that hit unmonitored coastlines;
- o about 51,000 coastal residents were killed by tsunamis worldwide in the last century.
- o The efficiency of local and regional tsunami warning systems has been demonstrated by the Japanese, who had 6,000 killed before and only 200 killed since installation of a regional warning system.
- o THRUST was designed to have maximum compatibility with local systems and emergency management institutions.
- o The original THRUST goal of providing warnings to authorities within 10 minutes was exceeded; teleprinted warnings are now delivered to local authorities throughout the tsunami-affected area within 2 minutes of the quake.
- o Chile was chosen as a demonstration site because of its high tsunami awareness, good emergency management system, and excellent local technical support in the Chilean Navy Hydrographic Institute.
- o THRUST products have included a database on over 1,989 tsunamis, run-up maps, greater understanding of the high risk of close-in tsunamis, statistical data, tsunami models, etc.
- o A result of THRUST has been the development of the THRUST emergency ops plan, which involves the responsibilities of 16 of 16 Chilean agencies and constitutes the first ever broadly-based emergency coordination plan for the city of Valparaiso.
- o Hardware costs of replicating the THRUST system elsewhere are only about \$15,000 (now that the R and D has already been done).

1982-1987

Numerous articles and presentations on THRUST (too numerous to list here) were published during the project, including at least nine scholarly presentations, six scholarly articles, and several articles in newsletters and general circulation newspapers in Chile and Hawaii.

TOTALS

06/82-04/88

\$682,860

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 402

1. ACTIVITY NUMBERS: 1007, 1008

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): OAS Information Management in Metropolitan Areas: Natural Hazards Risk Assessment and Reduction of Vulnerability in the Caribbean Basin. The principal objective of the Natural Hazards Risk Assessment and Disaster Mitigation Pilot Project in Latin America and the Caribbean Basin is to promote the use of natural hazards information in the integrated development planning process and the mitigation of disasters in the OAS member states.

5. DATA COLLECTOR: Beverly Youmans and Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1983	Grant awarded to the Organization of American States/ Department of Regional Development (OAS/DRD) to fund the start-up phase of a Natural Risk Assessment and Disaster Mitigation Project. OAS/DRD developed and tested field methods to assess risks and recommend disaster mitigation activities against natural hazards in Latin America and the Caribbean Basin. Activities concentrated on Paraguay, Honduras, and St. Lucia.	PIO/T No. 907-11-999-83-022-0732564  Dates: 7/1/83-12/31/83  Grant: OTR-0000-G-IN-3337-00	\$95,000
Sept. 1983	Grant to OAS/DRD amended to extend completion date to May 31, 1984.	PIO/T No. 907-11-999-83-022-0743146.  Dates: 7/1/83-5/31/84  Grant No. OTR-0000-G-IN-3337-00 (Amendment 1)	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1984	Grant to OAS/DRD amended to extend expiration date to February 28, 1986, to expand services in the statement of work, and clarify what types of data collection were required. The specific focus was on data collection of natural hazards risk information and selection of mitigation techniques.	PIO/T No. 907-11-999-83-022-0743146 Dates: 7/1/83-2/28/86 Grant No. OTR-0000-G-IN-3337-00 (Amendment 2)	\$150,000
Sept. 1984	Grant to OAS/DRD modified to set forth a financial reporting requirement (to be submitted on a quarterly basis) to permit Financial Management at A.I.D. to liquidate the drawdowns.	Grant No. OTR-0000-G-IN-3337-00 (Amendment 3)	
March 1985	Grant to OAS/DRD amended to provide balance of funds needed to complete the Natural Hazard Risk Assessment and Disaster Mitigation Project.	PIO/T No. 907-11-999-83-022-5073031 Dates: 7/1/83-2/28/86 Grant No. OTR-0000-G-IN-3337 (Amendment 4)	\$202,200
June 1985	Grant to OAS/DRD amended to extend completion date to 12/31/87.	PIO/T No. 907-11-999-83-022-5073116 Dates: 7/1/83-12/31/87 Grant No. OTR-0000-G-IN-3337-00 (Amendment 6)	No cost
July 1985	OFDA amended above grant to OAS, providing funding for two additional objectives of the Hazard Risk Assessment and Disaster Mitigation Project: <ul style="list-style-type: none"><li>o Identify high risk areas for priority disaster preparation actions</li><li>o Integrate assessment methods into development planning training courses</li></ul>	PIO/T 907-11-999-83-22-5073116 Grant No. OTR-0000-G-IN-3337 (Amendment 5)	\$485,300
May 1987	OFDA awarded a grant to OAS for phase one of "Natural Hazard Information Management for Disaster Preparedness: Metropolitan Areas of the Latin American Region." Specifically, this grant will provide technical assistance to disaster preparedness and sectoral	PIO/T 907-11-9999-87-016-7073109	\$84,800

114

DATE:

ACTION:

DATA  
SOURCE:

COST:

infrastructure agencies of Latin America. This grant will focus on activities that will enhance the ability of infrastructure agency counterparts and disaster preparedness organizations of Latin American governments at both the national and local levels to identify key lifeline elements and populations most at risk from natural hazards.

May 1987

OFDA awarded another grant to the OAS for phase one of Natural Hazard P10/T 907-11-999-87-015- Assessment for reduction of vulnerability in the Caribbean Basin. 7073108)

Specifically, this grant will provide technical cooperation to individual Caribbean countries for the assessment of natural hazards. It will:

\$60,800

- o complement already existing disaster preparedness and prevention training activities
- o strengthen the host country institutions capabilities.

February 1988

OAS grants amended to support phase two (the execution phase) of the dual program activities in the Caribbean Basin and metropolitan areas of the Latin American Region. For both these areas. Phase two will:

P10/T 907-11-999-87-016-8073056

\$329,000

Dates: 5/1/87-9/30/89

- o Strengthen host country institutions' ability to gather and analyze information to enhance their disaster preparedness and mitigation capabilities.

Grant No. PDC-0000-G-IN-7079-00  
(Amendment 1)

- o Identify countries in the Caribbean Basin and metropolitan areas in Latin America that will receive technical assistance.
- o Focus on the areas of drought, desertification, floods, landslides, natural hazard mapping, computer-assisted geographic information systems, integrating development with risk reduction, and the shared use of natural hazard and natural resource information.

1983-1988

OAS disaster-related accomplishments during this period in the area of technical assistance to particular countries included:

OAS "Summary of Project Activities-  
1983-88

- o Dominica-landslide hazard assessment
- o Dominican Republic-natural hazard assessments
- o Grenada-settlement and lifelines vulnerability analysis and mitigation measures recommendations

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>o Haiti-natural hazards assessment</li><li>o Jamaica-use of information management system in relief efforts</li><li>o St. Kitts-settlement and lifeline hazards assessment</li><li>o St. Lucia-survey of small farmers risk perceptions, coastal settlement hazard assessment, landslide assessment, natural hazards assessment, and various mitigation measures and manuals produced</li><li>o Costa Rica-use of geographic informations systems for national, regional and local planning and mitigation</li><li>o Honduras-planning strategy for Tegucigalpa, use of GIS for planning landslide hazard assessment, flood hazard assessment, and lifeline hazard assessment</li><li>o Bolivia-flood hazard assessments</li><li>o Brazil-desertification hazard assessments</li><li>o Paraguay-flood and desertification assessments</li><li>o Venezuela-seismic vulnerability assessment and building retrofitting.</li></ul>		
1983-1988	OAS accomplishments in the area of training during this period included six major workshops and participating in 28 conferences on natural hazard mitigation, development and disasters, and related areas.	OAS "Summary"	
1983-1988	During this period OAS established an internship program for graduate and other students interested in natural hazards reduction. Students from Bolivia, Peru, Argentina, Venezuela, Barbados and Uruguay have participated in the program.	OAS "Summary"	
1989	Highlights of current OAS projects include: <ul style="list-style-type: none"><li>o developing a three-year course on natural hazards reduction</li><li>o developing an environmental training program</li><li>o developing a technical manual on urban watershed development</li><li>o acquisition of relevant hazard databases</li><li>o preparation of an energy sector vulnerability study</li><li>o beginning the installation of GIS capabilities in Ecuador, El Salvador, Honduras, Guatemala and Peru</li><li>o joint studies with NOAA and EPA of Amazon Basin changes and possible effects on world climate</li><li>o watershed hazard assessments for 115,000 low income residents in Maceio, Brazil</li></ul>	OAS "Status of Activities as of 3/89"	

DATE:

ACTION:

DATA  
SOURCE:

COST:

o participating in a national Environmental Action Plan for  
Development in Uruguay  
development of a GIS for the Government of Jamaica on coastal and  
natural hazards.

March 1989

This grant activity is ongoing.

TOTALS

07/85-03/89

\$1,407,100

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 703

1. ACTIVITY NUMBERS: 1046, 1066

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Partners of the America's Disaster Preparedness Training. Grant to National Association of Partners of the Americas to develop and run a community-based preparedness program, designed to link Latin American and U.S. communities and their emergency-related institutions

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

December 1983

Proposal received from Partners of the Americas (POA) to set up a 3-year community-based program to link U.S. and Latin American/Caribbean (LAC) countries and their emergency management-related agencies into "partnerships" for exchange and technical assistance. Purposes were to:

POA Proposal

Date: 12-19-83

- o Establish institutional linkages
- o Expand the number of local community leaders in LAC involved in preparedness
- o Provide access to communities in 43 U.S. states
- o Reach a large number of LAC countries at low cost.

May 1984

Grant awarded to POA for \$1,082,091, with \$375,552 to be obligated for 5/15/84 - 2/28/85 and the balance to be incrementally funded by later modification. Purposes were to:

- o Establish disaster subcommittees in each of 18 Partnerships
- o Establish community to community links

PIO/T: 9107-11-999-84-31-0743097 \$1,082,091

Dates:

5/15/84-2/28/85

1/5

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>o Integrate disaster planning into existing exchange programs</li><li>o Administer small grants up to \$5,000 in target countries for preparedness purposes</li><li>o Provide short-term technical assistance</li><li>o Organize a 20-30 day disaster seminar in the U.S. for 15-20 LAC specialists.</li></ul>	Grant No. ASB-0000-G-SS-4132-00	
July 1984	POA achievements to date include: <ul style="list-style-type: none"><li>o Dominican Republic - 2 slide mitigation grants approved and assessment visits conducted</li><li>o Jamaica - preparedness committee formed</li><li>o Antigua - assessment visit conducted</li><li>o Dominica - assessment visit conducted</li><li>o St. Lucia - fire prevention and traffic safety program initiated.</li><li>o Barbados - assessment visit conducted and committee formed</li><li>o Monserrat - committee formed</li><li>o Peru, Colombia, Honduras, Brazil - assessment visits conducted</li></ul>	July 1984 POA "Progress Report"	
March 1985	Progress report states that the "first 10 months of program has been spent working with each side of the partnership" to develop this new area. Specific accomplishments included: <ul style="list-style-type: none"><li>o Publishing a brochure and Coordinator's Guidelines</li><li>o Publicizing the program via meetings and articles</li><li>o Helping arrange Costa Rican and Mexican EMT training</li><li>o Helping organize an LAC Emergency Preparedness Workshop</li><li>o Setting up a bibliographic resource system.</li></ul>	Jan. 1985 "Progress Report"	
February 1986	By this date 48 POA partnerships had exchanges or initiated preparedness projects, exceeding the target goal of 18. Also, various seminars and workshops were conducted, including an Oct. 1985 successful seminar on "Toxic Spills".	Letter Proposal from POA 2/18/86	
September 1986	POA funding proposal states POA accomplishments to date include: <ul style="list-style-type: none"><li>o Becoming one of the most visible POA programs, comprising over 12% of the overall Partners' program</li><li>o Facilitating the exchange of over 300 disaster management experts</li><li>o Holding numerous project planning workshops in all 5 regions of the Americas</li></ul>	POA Emergency Preparedness Program Proposal 9/86	

119

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>o Holding various subject-matter workshops in Brazil and the Caribbean</li><li>o Holding 3 Disaster Management Seminars of 15-20 participants each on Toxic Spills and Disaster Response</li><li>o Holding firefighter training projects in Honduras, Brazil, and El Salvador</li><li>o Developing EMS training programs in Brazil, Dominica, Guatemala, &amp; the Dominican Republic</li><li>o Developing a disaster communications system in Ecuador</li><li>o Conducting workshop on Toxic Spills in Chile, Brazil, Jamaica, and Trinidad and Tobago.</li></ul>		
July 1987	Grant given to POA to continue partnership, training, and technical assistance activities. Of the total amount, \$344,610 was obligated through 2/28/88 and the balance remained for future obligation.	Dates: 3/1/87-2/28/88  Grant PDC-0000-G-SS-7068-00	\$1,148,421
July 1987	POA revised grant proposal states that recent accomplishments include: <ul style="list-style-type: none"><li>o Playing a major role in Ceara, Brazil drought mitigation via developing hydraulic information databases</li><li>o Arranging the first Brazilian Interagency First Responder Program for emergency medical personnel, in Sao Paulo</li><li>o Developing model HAZMAT response programs in Sao Paulo and Minas Gerais, Brazil</li><li>o Developing flood mitigation, HAZMAT and EMS programs in Santa Catarina, Brazil</li><li>o Developing a six-month, 20-student EMT program in Dominica for local responders</li><li>o Conducting a regional workshop in Antigua on disaster response related to health and sanitation</li><li>o Training fire service professionals in Honduras and El Salvador.</li></ul>	Revised Grant Proposal attached to July 1987 grant	
June 1988	Proposal from POA received to increase grant by \$150,000 to develop greater capacity to prevent and prepare for disasters, via development of approximately 5 training events.	June 14, 1988 proposal	\$150,000

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1988	POA grant amended to add \$150,000 to develop and put on 5 training events and to allow Partners to do disaster response.	PIO/T Dates:	\$150,000

Grant No. PDC-0000-G-55-7068-00  
(Amendment No. 1)

December 1988	Letter from POA lists the following accomplishments, in addition to the ones already listed:	12/19/88 POA letter from POA President	
---------------	--	---	--

12/19/88  
POA letter from POA President

- o 100 Brazilian first responders from 4 states trained in radiological detection after a fatal disaster in 1987
- o Donations of \$11,700 in radio gear provided the Dominica Fire Dept. with its first working communications system
- o Intensive training of 20 Honduran firefighters
- o Bringing "Basic Life Support" and CPR to numerous communities throughout LAC
- o Sponsoring the exchange of 477 LAC emergency responders
- o Leveraged non-OFDA-funded travel for an additional 100 U.S. emergency management professionals to provide technical assistance to LAC target countries
- o Organized and conducted 11 major disaster training events in LAC, with over 300 attendees
- o Provided 24 small "seed" grants throughout LAC totaling \$106,000, which leveraged over \$250,000 in donated ambulances, firetrucks, and other equipment
- o Enabled the S. Brazil Disaster Training Center to launch a program of comprehensive human resources training
- o Leveraged \$326,000 in U.S. corporate and individual donations following major LAC disasters. Some of these funds were used to completely rebuild two schools destroyed by the Mexico City quake
- o Set up and ran a successful emergency relief effort after disastrous flooding in Rio de Janeiro.

This grant activity is ongoing.

TOTALS

12/83-to date

\$2,530,512

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 707

1. ACTIVITY NUMBERS: 1005

2. COUNTRY BENEFITED: Belize, Brazil, Colombia, Costa Rica, Honduras, Jamaica, Trinidad, Grenada, St. Lucia, Barbados, Dominican Republic  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): University of Miami training in Pesticide Residue Analysis. Grant to University of Miami to conduct four 3-month training programs for 31 Latin American/Caribbean (LAC) participants in Pesticide Residue Analysis

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1984	Proposal received from the University of Miami School of Medicine to set up a Pesticide Training Program for Latin American/Caribbean (LAC) chemists and pesticide inspectors, to improve LAC pesticide handling, export monitoring and analysis capabilities.	U. of Miami Proposal, 2/9/84	
March 1984	Grant awarded to U. of Miami to conduct three 3-month training programs for 24 LAC chemists.	PIO/T: 907-11-999-84-24-5073065 Contract #: ASB-0000-G-55-4096 Dates: 4/15/84-5/1/85	\$174,938
5/15/85	Miami grant amended to add one more 3-month program for 7 participants.	PIO/T: 907-11-999-84-24-5073065 Contract#: ASB-0000-G-SS-4096, Amend. #1 Dates: 5/15/85-8/31/85	\$34,515

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1985	Accomplishments under this grant included: <ul style="list-style-type: none"><li>◦ training of 32 LAC chemists, exceeding the 31 original goal</li><li>◦ achieving passing grades for all participants, despite very low entrance exam scores for many trainees</li><li>◦ training participants in lab safety, chemodynamics, pesticide chemistry and formulation, standards for pesticide storage and preparation, thin layer chromatography, identification of pesticide residues and methodology pesticide extraction and clean-up</li><li>◦ launching of the International Pesticide Residue Network, a University of Miami/World Health Organization Network to keep open lines of communication among trainees and other pesticide chemists.</li></ul>	"Final Report: Caribbean Regional Pesticide Residue Training Program" 8/30/85	
1985	Benefits of the grant included: <ul style="list-style-type: none"><li>◦ Increased human safety and improved pesticide use and handling in the involved LAC countries, thus contributing to the health of local LAC consumers</li><li>◦ Increased pesticide monitoring of LAC food exports to the US, thus increasing the health and safety of US consumers</li><li>◦ Increased exports of food from LAC countries to the US, due to reduction in US objections to Caribbean Basin Initiative foods as having excessive pesticides. (Current exports exceed \$600 million/year)</li><li>◦ Increase in local knowledge of pesticides and in-country ability to identify pesticide spills, mismanagement, dumping and other problems.</li></ul>	"Final Report: Caribbean Regional Pesticide Residue Training Program" 8/30/85	
<u>TOTALS</u>			
02/84-08/85			\$209,453

123

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 0 1 0

1. ACTIVITY NUMBERS: 1 0 4 5

2. COUNTRY BENEFITED: Chile  
NOT COUNTRY SPECIFIC:

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

SEISMIC ZONATION AND IMPLEMENTATION OF EARTHQUAKE RESISTANT DESIGN - Grant to the USGS Office of International Geology, to improve and implement seismic zoning and earthquake resistant building design program in Chile through the preparation of groundmotion maps for site planning and approval, improvement of building design criteria and codes, and educational and technical assistance in cooperation with scientists, engineers, and disaster officials.

5. DATA COLLECTOR: Kimberly Caulfield Vasconez

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
March - April 1985	USGS employees performed a field investigation of the damage caused by the March 3, 1985, earthquake which affected central Chile. This report led to the USGS proposal for a Seismic Zoning and Improved Earthquake Resistant Design Project in Chile.	USGS report titled "Preliminary Report of Investigations of the Central Chile Earthquake of March 3, 1985" (in OFDA library)	
July 1987	OFDA provided first-year funding toward a 3-year, USGS seismic zoning and earthquake-resistant building design program in Chile, utilizing an existing PASA with the USGS. The following activities were projected for the first year (1987-1988):	P10/T # 907-11-999-87-04-7073068 Dates: 06/01/87 - 09/30/90 PASA No. PDC-0000-P-IC-7050	\$97,416

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
October 1987	<ul style="list-style-type: none"><li>◦ develop plan and probabilistic seismic groundmotion map of Chile</li><li>◦ workshops and short-term training of Chileans in mathematical and statistical techniques, computer coding, data reduction, and compilation for mapping earthquake groundmotion on regional and micro-zonation scales, as related specifically to Chile</li><li>◦ assistance in gathering seismic data for groundmotion analyses and simulations</li><li>◦ procurement of a micro-computer through a sub-contract with the University of Chile</li><li>◦ preparation of a preliminary probabilistic seismic hazards map for the central region of Chile</li><li>◦ quarterly reports</li><li>◦ end-of-year reports.</li></ul>	Letter to OFDA from the USGS dated Sept. 23, 1987, in budget file.	
April 1988	<p>USGS PASA amended to provide second-year funding (FY 1989) in order to complete the following technology transfer and hazard mapping activities:</p> <ul style="list-style-type: none"><li>◦ implementation of the plan developed during the first year with the continuation of technical assistance and reviews</li><li>◦ improvement of statistical databases created under the University of Chile sub-grant</li><li>◦ periodic meetings and on-site visits with Chilean counterparts</li><li>◦ completion of preliminary regional probabilistic groundmotion maps for all of Chile</li><li>◦ technical assistance with further software development and hardware applications as adapted from the USGS</li><li>◦ quarterly progress reports</li><li>◦ end-of year reports.</li></ul>	<p>P10/T # 907-11-999-87-04-8073071 (Amendment #1)</p> <p>Dates: 06/01/87 - 09/30/90</p> <p>PASA No. PDC-0000-P-IC-7050</p>	\$75,297

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1988	USGS's Algermissen collaborated with the University of Chile personnel to develop seismic source zones, seismic wave attenuation relationships and the evaluation of site response correction factors for use in the computation of probabilistic hazard maps. Group also delineated preliminary seismic source zones.	Status report submitted August 1988	
August 1988	Algermissen submitted a project report titled "Seismic Zoning and Implementation of Improved Earthquake-Resistant Design in Chile."  ◦ analyzed 30+ recordings of strong groundmotion from the March 3, 1985, earthquake.  ◦ purchased and shipped IBM PC system, operational program packages, and scientific program packages.	Status report submitted August 1988	
August 1988	Algermissen and Dr. Edgar Kausel of the University of Chile submitted a paper titled "Earthquake Hazard Assessment in Chile" to the 5th Chilean Geological Congress.  PROGRAM WILL CONTINUE THROUGH SEPTEMBER 30, 1990. AS A RESULT OF THIS PROGRAM, THE GOVERNMENT OF CHILE ESTABLISHED A COMMITTEE TO CONSIDER CHANGES IN THE EARTQUAKE-RESISTANT DESIGN PROVISIONS OF THE CHILEAN BUILDING CODE.	Status report submitted August 1988  Progress report submitted August 1988	
<u>TOTALS</u>			
03/85-to date			\$172,713

116

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 002

1. ACTIVITY NUMBERS: 1032

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

DADE COUNTY DISASTER MANAGEMENT SUPPORT AND EQUIPMENT - Grant to Dade County, Florida, for the implementation of a disaster preparedness and relief program in support of OFDA's Latin America and the Caribbean disaster preparedness and relief efforts; Dade will provide (1) technical assistance; (2) training to emergency managers and first responders; and (3) general emergency management assistance. A 3-year grant in FY 1988 continued the earlier activities while adding funds to support the development of Metro Dade's Fire and Rescue urban rescue unit for potential deployment to international disaster sites.

5. DATA COLLECTOR: Kimberly Caulfield Vasconez

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1985	OFDA awarded a grant to Dade County, Florida to provide county resources to support OFDA's Latin America and Caribbean disaster preparedness and relief efforts. Major areas of the scope of work include the provision of: <ul style="list-style-type: none"><li>o technical assistance</li><li>o training of emergency managers and first responders</li><li>o general emergency management assistance.</li></ul>	PIO/T # 907-11-999-85-52-5073110 Date: 07/85 - 07/87 Grant No. ASB-0000-G-SS-5144	\$200,000
September 1985	Two Dade County Fire and Rescue personnel traveled to Mexico City to assist in relief operations.	Memo from Dade County to OFDA on travel expense report for 1985-1987	
1985	The following include accomplishments under the grant during 1985:  <u>Training:</u> <ul style="list-style-type: none"><li>o 1 training course held in Venezuela</li><li>o 70 Venezuelans trained</li></ul>	Ibid.	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<u>Assessments:</u> <ul style="list-style-type: none"><li>o 1 assessment of the Port au-Prince airport</li></ul>		
1986	The following include accomplishments under the grant during 1986:  <u>Training:</u> <ul style="list-style-type: none"><li>o 6 training courses held in the Dominican Republic, Costa Rica, Haiti, and Venezuela</li><li>o 70 Costa Ricans, 40 Haitians, 185 Dom Republic, 170 Venezuelans and 48 other participants of unidentified origin trained.</li></ul> <u>Meetings/Conference Attendance</u> - Coordinators Meeting (Washington), Airport Safety Conference (Orlando), Lessons Learned meeting on the San Salvador Earthquake (Washington), and the PCDFPP meeting (St. Lucia).	ibid.	
September 1986	Dade County Fire and Rescue personnel participated in the San Salvador relief effort on behalf of OFDA.		
September 1987	OFDA amended original grant to allow for a three-month, no cost extension.	PIO/T # 904-11-999-85-52-5073110 (Amend #1)  Dates: 07/85 - 12/87  Grant No. ASB-0000-G-SS-5144-01	
December 1987	OFDA canceled Amendment #1 in its entirety.	PIO/T # 904-11-999-85-52-5073110 (Amend #2)  Dates: 07/85 - 07/87  Grant No. ASB-0000-G-SS-5144-02	
December 1987	OFDA extended the grant and provided the balance of the funding due through the original grant to complete activities undersay and to support OFDA relief activities.	PIO/T # 904-11-999-85-52-5073110 (Amend #3)  Dates: 07/85 - 07/87  Grant No. ASB-0000-G-SS-5144-03	\$71,515

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1987	<p>The following include accomplishments under the grant during 1986:</p> <p><u>Meeting/Conference Attendance</u> - Disaster '87 (Orlando), Search and rescue clinic, PAHO/UNDRO meeting in Mexico City, Second International Earthquake Conference (Los Angeles), Response '87 Conference and 1st International Disaster Dog Symposium (Orlando), Structural Collapse Rescue Meeting (Washington), Natural Hazards Reduction Workshop (Boulder, Colorado), Instructors Training Course (Emmitsburg, Maryland), search and rescue meeting (Fairfax, Virginia), Airport Safety Conference meeting (Washington).</p> <p><u>Training:</u></p> <ul style="list-style-type: none"><li>o 9 training courses held in Peru (with the National Fire Protection Association), Ecuador, Antigua, Haiti, Trinidad</li><li>o 100 Peruvians, 58 Haitians, 155 Ecuadoreans, 11 Antiguans, 12 Trinidadians, 9 from Eastern Caribbean trained.</li></ul> <p><u>Assessments:</u></p> <ul style="list-style-type: none"><li>o equipment needs in Ecuador (Quito and Guayaquil)</li><li>o emergency management services in Costa Rica.</li></ul> <p><u>Production/Presentation of Papers/Proposals:</u></p> <ul style="list-style-type: none"><li>o "Field Inspection Report of the Radio Communication System of the Costa Rican Fire Service"</li><li>o Equipment needs for the Rescue Unit for Structural Collapse (RUSC)</li><li>o Metro Dade Structural Collapse Rescue Team Requirements for student firefighters course (in Spanish and English).</li></ul>	ibid.	
Summer 1987	Dade County purchased 2 TCS-9000 Satellite communications equipment units.	Correspondence in LAC files	
January 1988	<p>OFDA provided additional money to the Dade County grant and amended it to extend the completion date for 3 years.</p> <p>New outputs expected from the grant include:</p> <ul style="list-style-type: none"><li>o development of a structural collapse rescue team</li><li>o procurement of search and rescue equipment for a cache to be located with and maintained by the Dade County Fire and Rescue Department</li></ul>	PI0/T # 907-11-999-85-52-8073054 (Amend #4)	\$375,000
		Dates: 01/85 - 01/91	
		Grant No. ASB-0000-G-SS-5144	

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o provision of its communications equipment, including the 2 TCS-9000s for use during an OFDA orchestrated disaster along with a continuation of other scope of work elements outlined in the original grant.

OFDA changed the grant administration to O.I.C., Bureau for International Programs, Dade County Fire and Rescue Department.

1988

The following include Dade County accomplishments under the grant during calendar year 1988:

Correspondence and cables in LAC files, including quarterly reports (10-24-85 and 03-09-89)

Meeting/Conference Attendance:

- o presentation on building collapse at a Seminar sponsored by the Salisbury Fire Department in Salisbury, Maryland,
- o traveled to Venezuela, Jamaica, Peru and Ecuador to present a proposed training program to countries' emergency coordinators
- o attended the Advanced Instructor Training Workshop held in Emmitsburg, Maryland,
- o attended NASAR Response '88 conference (Salt Lake City)
- o participated in the Regional Disaster Management Workshop (Segunda Jornadan) (San Jose, Costa Rica)
- o attended Disaster Conference (Puerto Rico), Disaster Conference (Venezuela)
- o traveled to Washington, DC for Lessons Learned meeting on Jamaica and later to meet President Reagan with other members of the USG team that worked in Armenia
- o attended 16th Congres de Bombaros in Preira, Colombia

Training:

- o 2 courses held in Venezuela and Colombia
- o 40 Venezuelans and 80 Colombians trained

Assessments:

- "in cooperation with OFDA and PAHO, assessed disaster preparedness in Guatemala; assessed firefighting equipment and potential training facilities" in Jamaica, Peru, Paraguay, Belize, Ecuador and Venezuela"
- o Purchase training materials using OFDA grant monies
- o trained 5 trainers to be used on projects in Latin America
- o Hosted 3 Costa Rican firefighters to observe and work with Dade County counterparts.

DATE:

ACTION:

DATA

SOURCE:

COST:

September 1988

Dade County purchase relief supplies for OFDA's disaster response to the Dominican Republic disaster. Items were used to repair water main damaged due to heavy hurricane winds and rains.

September 1988

Dade County team traveled to the Grand Cayman Islands to assess damage from Hurricane Gilbert.

October 1988

Dade County team traveled to Jamaica to assist the OFDA-sponsored relief effort after Hurricane Gilbert. The team also coordinated the flow of donated resources through the Kingston International Airport. Two Dade County personnel returned to advise the government on the communications requirements of the Ministry of Health, selected hospitals, parish health departments, and field facilities.

Correspondence and cables in LAC files, including quarterly reports (10-24-85 and 03-01-89)

December 1988

Dade County team joined other elements of the OFDA-orchestrated field response team to assist in the aftermath of the earthquake which struck Armenia.

Correspondence and cables in LAC files, including quarterly reports (10-24-85 and 03-01-89)

March 1989

OFDA and Dade agreed that a change in project management was necessary.

Conversation with Barry Heyman, OFDA

TOTALS

07/85-to date

\$646,515

191

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 001

1. ACTIVITY NUMBERS: 1033

2. COUNTRY BENEFITED: Ecuador  
NOT COUNTRY SPECIFIC:

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

UNDRO VOLCANO, SEISMIC AND TSUNAMI HAZARDS PREPAREDNESS PROGRAM - Grant to UNDRO to implement a volcano, seismic, and tsunami hazards preparedness program in Ecuador, in cooperation with UNDRO and the Ecuadorean Instituto Geofisico of the Escuela Politecnica Nacional (ESPONA), by mapping high-risk volcanoes, installing monitoring equipment, implementing public education programs, establishing a rapid public warning system, creating evacuation plans, re-evaluating building codes, and other activities.

5. DATA COLLECTOR: Kimberly Caulfield Vasquez

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1986	<p>OFDA provided a grant to UNDRO to implement a volcano, seismic, and tsunami hazards preparedness and prevention project in Ecuador. UNDRO worked through the Ecuadorean Defensa Civil and ESPONA, which proposed the following activities: to map the areas most vulnerable to volcanic eruptions, to install modern, rapid-response monitoring instruments, to initiate public education programs, and to establish procedures for warning and organization of evacuations. The grant also envisioned the recording and evaluation of the level of seismic activity along fault zones in populated areas as a basis for re-evaluating building codes, mapping coastal zones vulnerable to tsunamis, and developing and instituting emergency evacuation plans.</p> <p>The volcano, seismic, and tsunami hazards preparedness and prevention project was expected to yield the following results:</p> <ul style="list-style-type: none"> <li>o Installation of 4 permanent seismographs with telemetry for Guagua Pichincha, Tungurahua, Cotopaxi, and Chimborazo;</li> </ul>	<p>PIO/T # 907-11-999-86-45-6073093</p> <p>Dates: 08/30/86 - 12/31/87</p> <p>Grant No. OTR-0000-G-IC-6126</p>	\$261,630

1001

DATE:

ACTION:

SOURCE:

COST:

- 40 radiocarbon date analyses
- 7 man-months in technical advisory service,
- 3 workshops including volcanic hazard zoning and emergency planning; seismic hazard evaluation; and tsunami hazard mapping and development of evacuation plans;
- individual activity reports;
- special reports and analyses as required
- final report.

December 1986

OFDA amended grant to UNDRO to change the method of payment from letter of credit to periodic advance.

PI0/T 907-11-999-86-45-6073093 -----

Dates: 08/30/86 - 12/01/82

Grant No. OTR-0000-G-1C-6126

July 1987

OFDA amended grant to document USAID/Quito contribution of \$50,000 for the project.

PI0/T # 907-11-999-86-21-6073093 No Cost  
(Amendment #1)  
and 518-0000-3-70068

Dates: 6/30/83 - 9/30/83

Grant No. OTR-0000-G-1C-6126

July 1987

A report by the Instituto Geofisico of ESPONA summarizes all activities accomplished by July 31, 1987, as follows:

Report from the Instituto Geofisico of ESPONA which summarized 1986-mid-1987 projects. Sent to Mr. Alan Swan on 09/01/87 (in project files.)

◦VOLCANIC HAZARD AND RISK EVALUATION FOR ECUADOR'S 6 HIGHEST-RISK VOLCANOES (Cotopaxi, Tungurahua, Guagua Pichinca, Antisana, Reventador\*, and Cuicocha)

- 4 radiocarbon date analyses
- risk maps and accompanying text on Cotopaxi, Antisana, Tungurahua, Cuicocha, Pululagua, and Guagua Pichincha volcanoes.

\*NOTE: The March 5, 1987, earthquake impeded access to the Roventador Volcano, so work during the first year was limited on this volcano.

133

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Field work to reconstruct types and extent of prehistoric eruptions
- 10-day workshop and field training on methods of hazard zoning emergency planning. 19 geologists representing 10 Latin American countries participated. The workshop demonstrated and carried out a risk assessment of rural areas that could be affected by different volcanic phenomenon.
- 25-page report from above-mentioned workshop.
- risk assessment of the Latacunga and Chillos valleys which are located on the mudflow plains of Volcan Cotopaxi. The study was produced by Dr. Patricia Mothes and the Ecuadorean National Directorate of the Civil Defense (DNDC).

June 15-24, 1987

ESTABLISHMENT OF VOLCANO AND EARTHQUAKE MONITORING SYSTEMS ON GUAGUA PICHINCHA, TUNGURAHUA, COTOPAXI, AND CHIMBORAZO VOLCANOLS

- 4 permanent seismographs with telemetry ordered for each volcano (including 2 repeaters)
- 4-station seismic telemetry network for emergencies, including 1 repeater, installed on 4 additional volcanoes; as a result, 8 volcanoes, not 4 as planned, are monitored.
- Installation of equipment and creation of volcanological databases using U.S. experts
- telemetry net designed and permission for radio transmissions and frequencies obtained from the Ecuadorean Institute of Electricity and Communications
- new software obtained to manage seismic data and to publish a regular bulletin.

SEISMIC HAZARDS/RISK EVALUATION AND MAPPING

- Field investigation of active fault zones, including the Pallatanga fault. (Some conclusions of the investigation included in the ESPONA annual report)
- 10-day workshop on seismic hazard evaluation and micro-zoning with participation of neighboring countries. Identified and characterized major fault systems.

STRONG EARTHQUAKE MONITORING AND VULNERABILITY ANALYSIS

- Purchase of 10 strong-motion accelerographs, including supplies and spares
- IBM AT computer, Texas Instrument printer, Hewlett-Packard plotter, and a Houston Instruments digitalizer purchased and installed to bank all seismic events
- 3 engineers selected to review Ecuadorean building codes.

1987

DATE:

ACTION:

DATA

SOURCE:

COST:

November 1987

Contributions by others- \$28,350

OFDA amended the grant to provide additional funding for FY 1988 and to extend the deliverable date to June 30, 1989.

P10/T # 907-11-999-86-45-8073030 \$330,000

The new scope of work outlined to following tasks:

Dates: 08/30/86 - 06/30/89

- Hazard evaluations for 6 more volcanoes (Cayambe, Quilotoa, Imbabura, Ninaquilcha, Chimborazo, and Pasuzaco)
- Emergency plans and simulation for an eruption of Cotopaxi
- Mudflow hazards, mapping, defecation, and alarm systems workshop
- 8 new seismograph stations to expand earthquake and volcano monitoring
- volcanic gas analysis system established
- hazard and risk maps/reports of earthquake hazards in Guayaquil and coastal areas
- tsunami simulation and emergency evacuation plans
- Defensa Civil's telecommunications equipment upgraded

Grant No. OTR-0000-G-ic-6126

UNDRO contributed approximately \$30,000 toward the project

December 1987

Ing. Patricia Mothes of ESPONA submitted a report to OFDA, titled "Un Inventario de la Poblacion e Infraestructura en el Valle de los Chillos y el Valle de Latacunga, y Como Los Flujos Laharicos Afectarian Las Provincias de Pichincha, Cotopaxi, Esmeraldas, Tungurahua, Pastaza y Napo." The report provides an inventory of population and infrastructure in the two valleys likely to be affected by an eruption and subsequent lahars of Cotopaxi Volcano.

Mothes report in OFDA library

December 1987

Ing. Patricia Mothes submitted an assessment of the Defensa Civil's progress in creating a plan of emergency in the event of an of the Cotopaxi volcano.

Mothes report dated 12-28-87 in the OFDA budget files

135

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1988	Grant amended to decrease project funding without substantially changing expected outputs of the grant.	PI0/T # 907-11-999-86-45-807303	-\$59,900
		Dates: 08/30/86 - 06/30/89	
		Grant No. OTR-0000-G-IC-6126	
January 1989	<p>The 1988 report by ESPONA summarized all activities accomplished during 1988 as follows:</p> <ul style="list-style-type: none"><li>° Field work to evaluate volcanic Hazard evaluations began on the Chimborazo and Quilotoa volcanoes. Field work on Imbabura Volcano was planned but was not initiated during 1988 as expected.</li><li>° Emergency Plans and Simulation of the Cotopaxi Eruption, producing the following outputs:<ul style="list-style-type: none"><li>--Eruption scenario and simulation implementers</li><li>--Emergency evacuation plans for areas affected by a Cotopaxi eruption (specifically, Latacunga, Salcedo, San Rafael, Selva Alegre, and Puerto Napo) in planning stages</li><li>--Emergency plans and related maps produced by the Ministerial representation to the National Directorate of the Civil Defense (DNDC)</li><li>--Simulation held in Latacunga for 250-300 participants</li><li>--Review and revision of simulation exercise and emergency plan by OFDA advisers Rene Carrillo and Ricardo Bermudez.</li></ul></li><li>° Mudflows Hazards Workshop on Mapping, Identification of Lahar Deposits and Alarm Systems held from Dec. 14-21, 1988, and was attended by 14 Ecuadoreans representing 9 state institutions and 10 participants representing Peru, Colombia, Argentina, Costa Rica, El Salvador, Guatemala, and Panama. 2 days spent in classroom and 5 days spent on the flanks of Cotopaxi or along one of major drainages. Dr. Richard Janda of the USGS prepared a report and assisted ESPONA in the preparations for the course. UNDR0 has copies of course manuals produced.</li></ul>	<p>Report titled "Summary of Activities During 1988 of the ESPONA/USAID/UNDR0 Project" sent to Dr. John Tomblin of UNDR0 by Dr. Minard Hall. The report, dated 01/23/89, was forwarded to OFDA.</p> <p>December 1, 1988</p>	

-136

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Under the scope-of-work element "Expansion of Earthquake and Volcano Monitoring Equipment," the purchase of 8 new seismographic stations (as planned for year 2) was put on hold until equipment purchased during year 1 could be tested. Most computer and associated display equipment for this element was purchased. The USGS which is adapting the equipment for ESPONA's use before being sent to Ecuador.
- Diversification of volcano monitoring equipment involved the purchase of the EDM (Geodimeter 114) coupled with theodolite (Wild T-2) and accessories. In addition, baseline data on Guagua Pichincha Volcano expanded in September and October 1988 due to increased activity. Quotes have been sought on the purchase of equipment for a volcanic gas analysis system.
- Field investigation on active fault zones begun by ESPONA.

1986 to 1988

The following maps were produced through project funding:

Report submitted by ESPONA in Feb. 1989

- HAZARD MAP OF THE NORTHERN ZONE OF COTOPAXI VOLCANO
- HAZARD MAP OF THE SOUTHERN ZONE OF COTOPAXI VOLCANO
- HAZARD MAP OF GUAGUA PICHINCHA VOLCANO, PICHINCHA PROVINCE
- HAZARD MAP OF CUICOCHA VOLCANO, IMBABURA PROVINCE
- HAZARD MAP OF PULULAGUA VOLCANO, PICHINCHA PROVINCE
- HAZARD MAP OF TUNGURAHUA VOLCANO, TUNGURAHUA PROVINCE
- HAZARD MAP OF ANTISANA VOLCANO
- List of volcanology, seismotectonics, seismology, geotectonics, and other reports resulting from the project is included in the Ecuador Mission Disaster Relief Plan in the OFDA library.

TOTALS

08/86-to date

\$531,730

137

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 704

1. ACTIVITY NUMBERS: 1092, 1063

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Latin America/Caribbean (1000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): OFDA Regional Advisor in Peru; Rene Carrillo. Create and staff OFDA Regional Disaster Advisor (RDA) position in Peru to assist preparedness and relief in the LAC region.

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
Fall 1987	Regional Disaster Advisor (RDA) contract employee position in Peru created and filled. FY 87 budget was \$151,056, FY 88 budget was \$130,296	AID cables in budget file	\$281,352
1988	Accomplishments this year included: <ul style="list-style-type: none"> <li>◦ RDA helped prepare plan for Peruvian government and AID mission to begin 2 year emergency management training project. This project began 11/88 and has a \$360,000 budget - 3/4 from AID Peru and 1/4 from the GOP</li> <li>◦ RDA visited and assessed severe river flooding in Paraguay. Issued report praising USG and Red Cross relief efforts</li> <li>◦ RDA began preparation of project proposal to strengthen civil defense of Ecuador, using deob and reob funds, local currency, and other funds, totaling \$800,000</li> </ul>	Cable Asuncion 02729; 9/16/88 USG Memo from Carrillo; 3/9/89 phone interview with Rene Carrillo	

1988

DATE:

ACTION:

DATA  
SOURCE:

COST:

1989

Accomplishments so far this year include:

- RDA assisted Argentina in 3 large regional training events for emergency managers.
- RDA assessed Guyana power outage disaster in Feb. 1989 and made relief recommendations
- RDA assessed recent S. Peru flooding disaster, helped coordinate relief, and will soon do a post-relief evaluation.

Phone interview with Rene Carrillo, 3/9/89

TOTALS

10/87-to date

\$281,352

## Africa and Europe Region

In the last decade, due to continued extensive relief requirements, very few non-relief activities have been implemented by OFDA's Africa Region. One notable exception is the NOAA Africa Agro-Climate Early Warning Program which evolved over the years into the Famine Early Warning System (FEWS). This program, which is currently managed by A.I.D.'s Africa Bureau, was initially funded by monies allotted to the OFDA IDA account from various sources. The Agro-Climate Early Warning Program systematically monitored rainfall amounts and distributions over the African continent and also developed techniques for monitoring crops and vegetation during the rainy season. The major drought in the 1980s in Africa resulted in a need for increased lead times for food shortage information.

In addition to drought, food shortages and famine, Africa has been besieged by locust and grasshopper infestations of plague proportions. OFDA has implemented programs with the U.S. Department of Agriculture to provide training and expert assistance to strengthen the managerial and operational capabilities of the Desert Locust Control Organization for East Africa. This has been deemed a successful intervention and has been credited with mitigating locust impacts on food crops in Africa. But the locust problem has also led to the extensive use of pesticide chemicals in Africa, creating the need for ways to dispose of unused pesticides. New technologies have been explored in the effort to protect the environment from chemical contamination.

Preparedness activities in the Africa region, as elsewhere, are driven by those disasters which typically affect the region. In African countries, disasters often occur concurrently, exacerbating the effects and complicating relief efforts. For example, simultaneous drought and civil strife led to famine in Ethiopia, Sudan, and Mozambique. Although saving lives is the overall goal, it is apparent that the problems are related and must be approached within the context of an overall development strategy. Until the typical African slow-onset disasters are addressed as part of A.I.D.'s Africa's Bureau's development strategy, there is little likelihood that Africa will substantially reduce its absorption of OFDA relief resources.

## II. AFRICA AND EUROPE

### ACTIVITY PROFILES

#### A. AFRICA - Country Specific

##### G H A N A

- o Grant to the World Trade Institute to provide tuition, transportation and per diem for two Ghanaians to attend the Port Administration and Operation Workshop held in New York from March 25-April 20, 1984. Topics for study included port and cargo security personnel management and port agency legal responsibilities. FY 84 - \$15,150. (C)
  
- o Travel authorizations for J. Baker and J. Chambers of the USDA/USFS to assess brush fire management training activities in Ghana and to make recommendations. FY 85 - \$3,600.
  
- o Mission allotment for a grant to the Government of Ghana's National Mobilization Committee (NMC) to provide vehicles and equipment to accumulate, analyze, and disseminate data on subsector items (e.g. food availability, water, etc.). FY 85 - \$41,000.

##### Outputs:

- 1) Purchase of one 4-wheel drive Blazer-type vehicle and two small pick-up trucks (C)
  - 2) Purchase of photocopier, typewriters, and other office equipment and supplies (C)
- 
- o Travel authorization for B. Garbrah of the EPC office in Ghana to attend the 20th Symposium on Remote Sensing in Nairobi; travel from Dec. 4-10, 1986. FY 87 - \$1,600.

K E N Y A

- o Contract given to Food Supply Analysis Group to test the utility of a food forecasting monitoring system in Kenya and to plan responses to short-run food shortages. FY 81-82 - \$83,831.

Outputs:

- 1) Reliable data base built (C)
- 2) Modification, application, and testing of an econometric model designed to incorporate models of producer and consumer behavior into a food commodity flow matrix (C)

L I B E R I A

- o Grant to the League of Red Cross Societies (LRCS) to fund 50% of operating expenses for an LRCS delegate stationed in Monrovia for the purpose of developing disaster preparedness activities to strengthen the capacity of the Liberian Red Cross. FY 83 - \$17,500. Contributions: LRCS/\$17,500.

Outputs:

- 1) The Liberian Red Cross chapter and of its financial base reorganized and redirected (PC)
- 2) First-aid training for local Red Cross chapters provided, as required (C)
- 3) A national disaster relief plan developed
- 4) Progress report submitted after 6 months (C)
- 5) End-of-project report, including an assessment of the Liberian Red Cross' operational capacity, produced after 12 months

M A D A G A S C A R

- o Travel authorization for G. Michaels to assist the Government of Madagascar in training host-country nationals in the operation of the Trozler Density Gauge. The gauge was used in road construction following a disaster. FY 83 - \$3,625.

142

- o Grant to the American Red Cross (ARC) to send ARC delegate Edward Amos to Madagascar to assist the Malagasy Red Cross Society (MRCS) in developing and strengthening its capacity for disaster preparedness and relief. Mr. Amos was to continue the planning and administrative work begun in FY 85-86 by French League delegate Mme. Paule Rousseau. FY 87-89 - \$143,803. Contributions: LRCS/\$10,000; ARC/\$10,000.

Outputs:

- 1) First-aid training courses provided (C)
- 2) Action teams for disaster response (field training) organized (C)
- 3) MRCS' disaster preparedness and response plan revised (C)
- 4) National stockpile management/relief procedures developed (C)
- 5) Curriculum for first aid training and instruction materials developed in conjunction with the Malagasy Ministry of Health/Commission Medicale (PC)
- 6) Disaster relief training program for Red Cross youth volunteers developed and implemented in collaboration with MRCS (C)
- 7) MRCS disaster relief plan evaluated (C)
- 8) Malagasy replacement who will continue delegate functions after March 1989 trained (C)
- 9) Quarterly reports submitted (C)
- 10) Year end reports to ARC and OFDA submitted (Activity still in progress)

M A U R I T A N I A

- o Travel authorization for Clarence M. Sakamoto of NOAA to discuss with the Mauritanian government the possibility of applying NOAA's AISC program in Mauritania. FY 84 - \$3,200.

M O Z A M B I Q U E

- o IQC contract with Louis Berger International to perform an evaluation of OFDA and A.I.D.'s Office of Food for Peace (FFP) grants to CARE for its operations in Mozambique. FY 88 - \$60,000.

Outputs:

- 1) Organizational structure of the emergency logistical support unit (LSU) of the Mozambique DPCCN reviewed (C)
- 2) Operational functions of the LSU and its effectiveness in carrying out these functions to achieve targeted relief aid distribution goals evaluated (C)

143

N I G E R

- o Travel authorization for S. Leduc to coordinate and administer a workshop in Niger on agrometeorological assessment of crop conditions and drought-related food shortages. FY 85 - \$3,475.
  
- o Grant to USDA/OICD/ITD to facilitate the participation of two agricultural pilots from Niger in an Agricultural Aeronautics training course from May 1 to June 30, 1987, in Tulane, California. FY 87 - \$24,530.

Output:

- 1) Administration and logistics provided for the training of 2 Nigeriens in agricultural flying (C)

S U D A N

- o Contract with the Remote Sensing Institute of South Dakota State University for a report on the evaluation of Landsat data following the 1978 Sudan flood. FY 79 - \$8,102.
  
- o Bill of lading to ship via airfreight firefighting training materials to Sudan. FY 84 - \$158.
  
- o Travel authorization for Mohamed Ismail from the Sudan to attend the International Association of Fire Chiefs (IAFC) meeting in Los Angeles from Sept. 30 to Oct. 3, 1984, and a stop-over in Washington, D.C., on Oct. 4, 1984. FY 84 - \$1,750.
  
- o Purchase order with TERRAN Corporation to provide technical assistance to the Government of the Sudan on the possible use of a rotary cement kiln as a tool for pesticide disposal. Includes 1987 and 1988 travel authorizations for chemical and environmental experts and for 3 host country nationals. Also includes funds for an air charter in support of the team's 1987 assessment activities. FY 87-88 - \$88,907.

144

Outputs:

- 1) Logistical arrangements provided in support of the visit of 3 Sudanese nationals to the SYTECH cement kiln incineration facility in Paulding, Ohio, and their introduction to pesticide disposal (C)
- 2) Briefings given at A.I.D./OPDA and EPA (C)
- 3) Sudanese kiln site and formulation of a plan for a possible modification/adaption of the kiln evaluated (PC)
- 4) Flow chart/schematic diagram of a system suitable for processing pesticide mixtures and transferring them to the kiln using U.S. equipment produced (C)
- 5) Report with recommendations, flow charts, and diagrams produced (C)

T U N I S I A

- o Mission allotment to USAID/Tunis to contract Medical Care Development (MCD) to implement a 3-phase disaster management plan and to contract Mrs. Harvel Sebastian to monitor MCD work. FY 84 - \$6,950. Contributions: USAID/Tunis/ \$90,000.

Outputs:

- 1) 3-phase national disaster management program in Tunisia implemented by MCD (PC)
- 2) Inter-related activities of MCD and Tunisian Civil Defense monitored (C)
- 3) Final recommendations report submitted (C)

- o Contract with Motorola Inc. to purchase radio equipment for an emergency communications network for the Tunisia Protection Civile. FY 87 - \$141,401.

Outputs:

- 1) 31 HF radios (fixed station), 1 mobile unit, spare parts, and accessories procured (C)
- 2) Radios and equipment shipped to Tunisia (C)

145

B. AFRICA - Non Country Specific

F Y 1 9 7 9

- o PASA with the U. S. Department of Agriculture (USDA) to provide training and technical assistance to strengthen the managerial and operational capabilities of the Desert Locust Control Organization for East Africa (DLCO/EA). FY 79-81 - \$154,900.

Outputs:

- 1) Accounting system developed for DLCO/EA (C)
  - 2) Managerial system evaluated and recommendations for organizational overhaul made (C)
  - 3) Intensive state-side management training provided to 4 DLCO officials by USDA in Washington, D.C. (C)
- o PASA with USDA to send a 3-man team to Khartoum, Sudan, to determine in conjunction with the Desert Locust Control Organization whether or not there are pesticide substitutes for Dieldrin and BHC. FY 79 - \$330,000.

Outputs:

- 1) Determination of possible substitutes for the pesticides Dieldrin and BHC (C)
- 2) Alternative pesticides and related equipment purchased if acceptable alternative found

F Y 1 9 8 1

- o Travel authorization for Stephen Green, an expert on East Africa, to participate in a debriefing of an East Africa preparedness team. FY 81 - \$280.
  
- o Contract with Food Supply Analysis Group to explore the utility of agrometeorological forecasting crop yield for planning responses to short-run food shortages and surpluses, using an interactive computing facility to simulate the effects of different response strategies. FY 81-83 - \$219,104. Contributions: Central Bureau of Statistics in Kenya/\$229,530.

146

Outputs:

- 1) Simulation of probable changes in food commodity flows to different groups of households accomplished through incorporation of a Food Accounting Matrix into pre-programmed portable microcomputer (C)
  - 2) Effective visual displays showing location and extent of shortages and groups affected by drought designed in collaboration with demonstration country planning staff (C)
  - 3) System designed to input commonly used strategies used for short-run food shortfalls in collaboration with national staff (C)
  - 4) Forecasting method tested for 6 months under working conditions in Kenya (C)
  - 5) System evaluated for validity of results and ease of use
  - 6) Seminar on implementation of computer system held in Kenya (C)
  - 7) Suitability of model for other countries with food shortage problems determined (C)
- o IQC with Development Alternatives Inc. to review A.I.D. and other major donor programs in the western Sahel and to make recommendations for possible complimentary OFDA disaster preparedness activities. FY 81-82 - \$11,712.

Outputs:

- 1) A.I.D. documentation describing regional and country development activities reviewed (C)
- 2) Major donors (e.g., World Bank, Club du Sahel) development programs (regional and international) and disaster preparedness activities reviewed (C)
- 3) Appropriate individuals of Sahelian governments, A.I.D., and major donor organizations responsible for disaster preparedness identified (C)
- 4) Relevant disaster preparedness literature on the Sahel reviewed (C)
- 5) Final report prepared (C)

F Y 1 9 8 2

- o PASA with NOAA/EDIS to develop qualitative and quantitative weather/crop condition early warning systems in the Horn of Africa. FY 82 - \$55,190.

Outputs:

- 1) Climate/crop yield models and regional agroclimatic indices developed for crops in each country (C)
- 2) Climate/crop yield models tested/evaluated for major gain-producing areas (C)

141

- 3) Operational procedures developed for the implementation of an early warning system
  - 4) Strategies developed for the introduction of appropriate agrometeorological technologies
  - 5) Biweekly weather/crop assessment reports produced (C)
  - 6) Monthly impact assessments of severe weather generated (C)
  - 7) Final report provided by 12/83 (C)
- o Travel authorization for B. Mwaba to attend a task force on Disasters and the Disabled. FY 82 - \$3,050.

F Y 1 9 8 4

- o Grant to the League of Red Cross Societies (LRCS) to plan, provide logistics, and manage a regional training seminar on disaster preparedness; the focus of the seminar was on cyclone threat to countries comprising the WMO regional Cyclone Committee: Comoros, Madagascar, Malawi, Mauritius, Mozambique, Reunion, the Seychelles, and Tanzania. FY 84 - \$43,147. Contributions: UNDRO/\$10,000; LRCS/\$10,000.

Outputs:

- 1) Planning and management of disaster preparedness seminar for 35 participants from southwestern Indian Ocean region (C)
  - 2) 33 officials trained in disaster preparedness (C)
  - 3) Final conference report submitted in English and French (C)
- o Purchase order with Barbara Brown to develop a Mission Disaster Preparedness and Response Plan (MDRP) for USAID/Cape Verde and to consult with USAID Mission Disaster Relief Officer (MDRO) and LRCS delegate in Monrovia to determine disaster preparedness needs and opportunities in Liberia. FY 84 - \$6,782.

F Y 1 9 8 5

- o Grant to the World Environment Center for scholarship support of participants to the Fourth International Conference on Environment and Development: Opportunities in Africa and the Middle East, held in The Hague from Sept. 25-27, 1985. FY 85 - \$25,000.

148

Outputs:

- 1) Officials from 19 government organizations (13 African, 5 Middle Eastern, 2 Asian) trained (C)
- 2) WEC survey of developing countries' needs for safety and emergency response training prepared (C)

- o Contract with Tulane School of Public Health and Tropical Medicine to develop Famine Early Warning System (FEWS) to provide long lead-time warnings of droughts and famines in 7 at-risk African countries. FY 85-86 - \$2,421,303. Contributions: A.I.D. Africa Bureau/\$6,000,000.

Outputs:

- 1) FEWS field representatives hired, trained, equipped and placed in 6 target countries. (The seventh target country was Ethiopia and a representative was not placed there due to hostilities) (C)
- 2) FEWS data collection methodology designed and implemented (C)
- 3) Accurate warnings of regional famine provided (PC)
- 4) Regular briefings, reports and other documentation provided to A.I.D. and other parties on African crop production forecasts, drought and famine prospects, and related matters (C)

- o Mission allotment to REDSO/ESA to support a regional workshop on pesticide management in Nairobi, Kenya. FY 85 - \$30,000.

F Y 1 9 8 6

- o Contract with the University of Pennsylvania to design and acquire computer-based regional transport models to design the African food transport system and to identify vulnerabilities and choke points in support of the FEWS project. FY 86 - \$65,000.

Outputs:

- 1) Computer models acquired and customized (C)
- 2) Models installed and integrated into FEWS (C)

- o Contract with the Greenhorn and O'Mara Inc. to determine requirements for a geographic information system (GIS) in order to synthesize and analyze large volume of Famine Early Warning System (FEWS) field data. FY 86 - \$60,000.

Output:

- 1) Feasibility and design studies of FEWS GIS completed (C)

- o Contract with Price, Williams and Associates to analyze a vast volume of Famine Early Warning System (FEWS) data in order to provide long lead warnings of droughts and famines. FY 86 - \$798,050.

Outputs:

- 1) Analysis team established (C)
- 2) Field data analyzed (C)
- 3) Monthly, bi-weekly, and other reports produced and distributed (C)
- 4) Accurate warning given of 1986 W. Sudan famine (C)

- o PASA with the USDA to assess eastern Sudan millet and sorghum crop and to develop new remote-sensing crop-monitoring technology. FY 86 - \$633,000.

Outputs:

- 1) Assessment of eastern Sudan wheat and sorghum crops performed
- 2) Remote sensing crop monitoring methodology developed (C)

- o RSSA with the Department of State to hire a full-time expert to develop and evaluate the Famine Early Warning System (FEWS). FY 86 - \$120,000.

Outputs:

- 1) Expert hired (C)
- 2) FEWS operationalized within 6 months of inception (C)

F Y 1 9 8 7

- o Three purchase orders to provide technical assistance to A.I.D. Locust/Grasshopper Control Pesticide Safety Training Workshops. One went to Oregon State University to provide technical assistance for 3 A.I.D. Pesticide Train-the-Trainer workshops held in the Gambia, Senegal, Ivory Coast and Niger (FY 87 - \$23,095). The second was awarded to Spraying System Co. for materials for the workshop in Niger (\$4,359). Finally, a purchase order went to Barbara Sheer to prepare approximately 50 drawings for the "Training Program for Pesticide Users: Trainee's Manual." (\$520). FY 87 - \$27,974.

Outputs:

- 1) Available training materials on pesticide safety training reviewed and adapted for locust/grasshopper control specialists (Oregon State University) (C)
- 2) 3 A.I.D. "Train-the-Trainer" workshops on pesticide safety provided (Oregon State University) (C)

- 3). Technical measuring/sensing equipment provided for the Niger Workshop on Locust/Grasshopper control including oil- and water-sensitive paper, folding linen tester pocket lens with case, and pamphlet continuing aid (French and English) (Spraying Systems Company) (C)
  - 4) 50 drawings completed for incorporation into the "Training Program for Pesticide Users: Trainee's Manual" which was used in the Train-the-Trainer Locust/Grasshopper Control Workshop held in Gambia, Senegal, Sudan, Ivory Coast, and Niger (Barbara Sheer) (C)
- o Contract with the World Environment Center to provide an entomologist to head a team of government and industry experts in evaluating several options for the disposal of pesticide wastes in East Africa. FY 87 - \$17,464. Contributions: U.S. Industry/\$30,000; WEC/\$2,000+.

Outputs:

- 1) Pros and cons of the following 14 pesticide disposal methods evaluated for appropriateness in the Sudan, Ethiopia, and Somalia: [1] incineration in shell incinerator; [2] incineration in cement kilns; [3] incineration on an ocean incineration ship; [4] other incinerators as appropriate; [5] land burial; [6] on-site detoxification; [7] long-term warehousing; [8] thinly-spread application over large non-populated, environmentally insensitive area; [9] thin-spread, but reformulating the substance; [10] ultraviolet disposal units; [11] ship to developed countries for land burial, reprocessing or incineration; [12] ocean dumping certain chemicals; [13] deep well disposal; and [14] other techniques (C)
  - 2) Cost estimates developed for each alternative (C)
- o PASA with NOAA to accelerate the rehabilitation and disaster recovery process associated with the African drought/famine by using available climate impact assessment technology as an instrument for agricultural program implementation. Specifically, the program assists each country in the improvement of its operational capability for drought impact early warning, agricultural crop monitoring, crop production, forecasting, and rangeland management. PIO/T amended to extend through 03/31/81. FY 87 - \$2,000,000.

Outputs:

- 1) Monthly crop yield assessments and rangeland biomass conditions prepared and reported (C)
- 2) Quantitative forecasts of weather impacts on major crop yield prepared annually (C)

- 3) Meteorological satellite data (METSAT) of climate assessment data collected daily (C)
  - (4) 11 project countries visited to increase Mission and host country use of agroclimatic and METSAT data
- o Mission allotment to USAID/Banjul and USAID/Dakar to provide logistical support for the Training Workshop for Crop Protection Services in the Gambia and Senegal. FY 87 - \$53,385. Contributions: Government of the Gambia/\$1,000+.

Outputs:

- 1) Logistical support arranged for Gambia "Train-the-Trainer" workshop (C)
- 2) 26 participants trained in the Gambia (C)
- 3) Logistical support arranged for Senegal "Train-the-Trainer" workshop (C)

C. EUROPE - Country Specific

ITALY

- o Travel authorization for 3 individuals to participate in a U.S./Italian exchange study on Forest Fire Prevention and Combatting from July 6-19, 1984. FY 84 - \$8,950.
  
- o Travel authorization for Craig Weaver of the USGS to travel to Washington, D.C., from April 12-13, 1984, to participate in a meeting on Italy's volcanological problems with State and A.I.D. officials. FY 84 - \$500.

PORTUGAL

- o Travel authorization to support travel of 2 geophysicists to provide technical assistance to the Government of Portugal on geophysical prediction and seismic risk management. FY 80 - \$2,380.
  
- o Travel authorization for Dr. Oliver of NOAA to provide technical assistance in training meteorologists at the National Institute of Meteorology to enhance Portugal's disaster preparedness & early warning capability. FY 81 - \$5,000.
  
- o Travel authorization for two experts sent to Portugal to train disaster preparedness personnel in satellite meteorology and its applicability to severe local storms. FY 82 - \$3,970.

D. EUROPE - Non Country Specific

There are no activities in this category.

E. AFRICA AND EUROPE - Non Country Specific

There are no activities in this category.

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 401

1. ACTIVITY NUMBERS: 2105, 2101
2. COUNTRY BENEFITED: Sudan; Ethiopia  
NOT COUNTRY SPECIFIC: \_
3. REGION BENEFITED: Africa and Europe (2000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Title: USDA-Desert Locust Control Organization/East Africa - PASAs with USDA to provide training and expert assistance to strengthen the managerial and operational capabilities of the Desert Locust Control Organization for East Africa.
5. DATA COLLECTOR: Beverly Youmans/Mark Howard
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1979	OFDA negotiated a PASA with the United States Department of Agriculture (USDA) for services of a management specialist for the Desert Locust Control Organization/East Africa (DLCO/EA).	P10/T 938-11-999-015-79-4098042 Dates: 2/14/79-3/3/79	\$4,900
August 1979	USDA PASA amended to provide for the services of a management team to work with DLCO/EA for the year to strengthen DLCO's operational and managerial capabilities.	P10/T 938-11-999-015-79-4098042 (amendment 1) Dates: 8/1/79-8/1/80	\$150,000
August 1979	OFDA negotiated a PASA with USDA to send a 3-person team to Khartoum to work with DLCO in determining possible substitutes for the pesticides Dieldrin and BHC. A total of \$250,000 was available for alternative pesticides and equipment.	P10/T 938-11-999-037-4098156	\$330,000
Early 1980s	Approximately 10 staff from DLCO came to USDA/Washington for training Carol Siegal interview, 3/89 In financial management, budgeting, accounting and related topics.		

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
January 1980	USDA PASA amended to change scope of work of field support team (above) and provide for rental of automobiles and administrative support. Also, alternative pesticides were recommended, but DLCO/EA officials preferred to continue using Dieldrin and BHC.	PI0/T 938-11-999-015-79-4098042 (amendment 2) Dates: 1/80-4/80	No cost
January 1981	TDYs of Bill Kelly and Gudrun Huden to DLCO/EA.	LAI database	
January 1981	By this point, a much more effective accounting and management system was in place.	Gudrun Huden, oral communication, 3/15/89	
April 1981	USDA PASA amended to extend expiration date of PASA to 9/30/81 and fund two USDA people to provide management training for DLCO and an additional four officers for DLCO/EA.	PI0/T 938-11-999-015-79-3819232 (amendment 4) Dates: 5/11/81-8/7/81	\$11,000
June 1981	USDA PASA amended to provide funds to support technical assistance already provided and for the training of four DLCO officers by USDA in financial management and related topics.	PI0/T 938-11-999-015-79-4098042	No cost
1979-1981	Achievements under this effort included the following: <ul style="list-style-type: none"><li>o A large percentage of DLCO received advanced training in budgeting and financial management</li><li>o As a result, the DLCO was a better managed and more viable organization</li><li>o The environmental work achieved limited objectives, in that alternative pesticides were identified. However, the host country chose not to accept these recommendations.</li></ul>		
<u>TOTALS</u>			
02/79-06/81			\$495,900

157

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 302

1. ACTIVITY NUMBERS: 2204

1a. ACTIVITY TITLE: League of Red Cross Societies - Management Training and Delegate Sponsorship in Liberia and Madagascar

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Africa-Europe (2000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Strengthening of disaster preparedness through grants to the League of Red Cross and Red Crescent Societies (LRCS) to fund services of delegates in Liberia and Madagascar and to sponsor subregional training seminar in Maldives and Mauritius

5. DATA COLLECTOR: Faye Henderson

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

July 1983

OFDA provided a grant to LRCS to cover one-half of the operating expenses for one League delegate to Monrovia, Liberia, for one year. [The Canadian International Development Agency (CIDA) and the Canadian Red Cross funded the other half of operating expenses as well as the salary.] The delegate was assigned to develop preparedness activities to strengthen the capacity of the national society, reorganize and redirect the society and its financial base, and develop a national society disaster plan.

APF

\$17,500

PIO/T No. 907-11-999-83-018-0732484

Dates:

8/15/83 - 8/14/84

(extended to 11/30/84)

The delegate submitted a 6 month progress report and a 12-month end-of-project report.

September 1984

Grant extended to Nov. 30, 1984.

No cost

15/10

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1984	<p>OFDA executed a grant to LRCS to provide travel expenses for participants and miscellaneous support costs for a regional seminar in the Maldives, focusing on the issues and problems of disaster preparedness in South Asia.</p> <p>The seminar, sponsored by LRCS, the Office of the United Nations Disaster Relief Coordinator (UNDRO) and the World Meteorological Organization (WMO), was attended by senior government officials and representatives of Red Cross/Red Crescent Societies, who were responsible for disaster relief in their respective countries.</p>	<p>PI0/T No. 907-11-999-84-15-0743067</p> <p>Dates: 2/28/84 - 03/03/84</p>	<p>\$44,737</p>
February 1984	<p>OFDA funded expenses of NASA participant in the Maldives seminar.</p>	<p>Funding Records Travel authorization #9743066 (\$3,450)</p>	<p>\$3,837</p>
October 1985	<p>A report on the Maldives training seminar was submitted to OFDA by UNDRO. A copy is in the OFDA library.</p>		
May 1984	<p>OFDA provided a grant to LRCS to assist with expenses of a subregional disaster preparedness seminar held in Mauritius. The participants of the seminar, which was jointly sponsored by LRCS, UNDRO, and WMO, were officials concerned with disaster prevention and preparedness in the Southwest Indian Ocean countries.</p> <p>The objectives of the seminar, as stated in the LRCS proposal, were to outline procedures in disaster preparedness planning, structures and functions of national disaster management organizations, and the responsibilities of various national ministries and services in case of natural disasters.</p>	<p>PI0/T No. 907-11-999-84-37-0743129</p> <p>Dates: 05/21/84 - 05/25/84</p>	<p>\$49,461 (Funding Records)</p> <p>(\$43,147 in P10/T)</p>
January 1986	<p>A report on the Mauritius subregional training seminar was submitted to OFDA by UNDRO. A copy of the report is in the OFDA library.</p>		

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1984	OFDA executed a grant with LRCS to support the services of a LRCS delegate to work with the Malagasy Red Cross (MRCS) to strengthen its operational capacity to respond to disasters. The LRCS delegate, Mme. Paule Rousseau of France, was to promote development of the national society with emphasis on disaster preparedness, conduct training courses for first aiders, assist the society in drafting a relief plan and in preparing plans and estimates for a national warehouse.	PIO/T No. 907-11-999-84-47-0743213  Dates: 09/01/84 - 08/31/85 modified to end 01/31/86	\$55,000
January 1985	Delegate did not arrive in Madagascar until January 1985, and grant was extended at no cost.  Delegate submitted quarterly and end of Mission reports.		No-cost extension
April 1987	OFDA prepared a grant with the American Red Cross (ARC) for the fielding of a delegate to assist the Malagasy Red Cross Society (MRC) for one year. The delegate, Edward James (Pete) Amos of the American Red Cross, was to continue the work begun during the previous year's project and assist the MRC in planning and administration as it related to the proper functioning of the society.  The delegate submitted four quarterly reports and a year-end report to the ARC and OFDA.	PIO/T No. 907-11-999-87-014-7073107  Grant No. PDC-0000-G-SS-7125-00	\$71,857  (Funds channeled through ANRC with LRCS having administrative management)
January 1988	Grant to the American Red Cross for a delegate to assist the Malagasy Red Cross was amended to provide an increase in the overhead rate.	PIO/T No. 907-11-999-87-14-8073042 (Amendment 1)	\$21,946

16

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
June 1988	Grant to the ARC for a delegate to the Malagasy Red Cross was amended to provide support for an additional 10 months. The 10-month extension was to focus particularly on strengthening the Society's field units, improve training, and leave a Malagasy counterpart in place to assume responsibility when LRCS delegate leaves.  The League and the ARC contributed \$10,000 each toward the project.	PIO/T No. 907-11-999-87-14-8073042 (Amendment 2)	\$50,000
March 1989	The grant agreement with the ARC was concluded, and the delegate returned to the US.		
1987-1989	Accomplishments under this grant included: <ul style="list-style-type: none"><li>o holding training seminars in each province at which draft disaster plans for the provinces were prepared</li><li>o publishing the Malagasy Red Cross national guidelines for responding to disasters, which were translated into Malagasy and distributed to Red Cross committees in each province</li><li>o reaching agreement with the Malagasy police for the Red Cross to transmit reports to the capital (Antananarivo) through the police national radio net</li><li>o hiring a Malagasy counterpart to the League delegate. The ARC will continue to channel funding through the LRCS for the Malagasy counterpart, with assistance being phased out over a period of 2-3 years. The French Red Cross agreed to send a delegate to work on fundraising and general management for at least one year.</li><li>o developing contacts with the Comite National de Secours (CNS), the national government's disaster management organization. More work remains to be done in this area, especially in coordinating the Red Cross and CNS disaster plans.</li></ul>		
<u>TOTALS</u>			
07/83-03/89			\$314,338

161

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 7 0 0

1. ACTIVITY NUMBERS: 2 4 0 0, 2 4 0 1, 2 4 0 2, 2 4 0 3, 2 4 0 4, 2 4 0 5
2. COUNTRY BENEFITED: Mauritania, Burkina, Chad, Mali, Niger, Sudan  
NOT COUNTRY SPECIFIC: X
3. REGION BENEFITED: Africa & Europe (2000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Famine Early Warning System (FEWS) - a system developed to give long lead time warnings of impending Sahelian droughts and famines to U.S. and local policy-makers
5. CHRONOLOGY SUGGESTED BY: Data collector: Lew Toulmin  
  
(# 7 ON PROFILE FORM)
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1985	Proposal received from Tulane School of Public Health & Tropical Medicine to develop a Famine Early Warning System (FEWS). The purpose was to collect and report demographic health and other data on at-risk populations in 7 African countries, to monitor and predict possible future droughts and famines.	Proposal by Dr. William Bertrand	
August 1985	Contract amended to Tulane to develop FEWS via hiring 7 Public Health Advisors (PHAs) in 7 countries, training them, equipping them, supervising them; and via developing FEWS data collection methodology.	PIO/T 907-11-999-85-60-5071867 Dates: 8/1/85-1/31/86  Contract #: ASB-0000-C-00-5150	\$1,063,313
October 1985	Contract amended to Greenhorne and O'Mara to determine requirements for a geographic-based data system for FEWS, to synthesize and analyze the large volume of field data.	PIO/T 907-11-999-86-05-6078002 Dates: 10/17/85-11/7/85	\$60,000

10/1

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
November 1985	Contract with University of Pennsylvania to acquire and install a set of computer-based regional transportation models, designed to model the African food transport network and ID vulnerabilities, accessibility and choke points.	P10/T 907-11-999-86-04 Dates: 11/5/85-2/5/86	\$65,000
November 1985	Contract amended to Price Williams and Associates (PWA) to establish a team of analysts in D.C. to review and summarize large amount of FEWS field data, and develop methods for identifying high risk populations.	P10/T 11-999-8612-6078022 Contract #: OTR-0000-C-00-6019-00 Dates: 11/22/85-12/31/86	\$268,120
February 1986	PASA amended to USDA to assess eastern Sudan's millet and sorghum crop and to develop a new crop monitoring methodology using remote sensing, as requested by AID Khartoum	P10/T 907-11-999-86-30-607-8070 Dates: 3/18/86-3/18/87 PASA #: AFR-0000-P-AG-6020-0	\$633,000
March 1986	Tulane contract amended to reduce budget, to reflect lower personnel and meeting costs.	P10/T 907-11-999-85-60-607-8073 Dates: 8/1/85-12/31/86 Contract #: ASB-0000-C-00-5150 Mod. #2	(\$80,000)
March 1986	RSSA amended to Department of State to hire expert (Jonathan Olsen) for 24 months to provide full-time input into the development and evaluation of FEWS.	P10/T 907-11-999-86-40-6078097 Dates: 3/14/86-3/14/88	\$120,000
March 1986	Tulane contract amended to increase funding in order to continue FEWS monitoring work previously done on a trial basis, and to: <ul style="list-style-type: none"><li>o add 2 more PHAs in 2 new countries (thus achieving the original intended 7), and add assistant PHA in Chad or Sudan</li><li>o build in-country capacity to monitor FEWS data</li><li>o produce FEWS manual</li><li>o hold PHA meetings.</li></ul>	P10/T 907-11-999-85-60-607-8073 Dates: 3/21/86-12/31/86 Contract #: ASB-0000-C-00-5150 Amend. 3	\$1,437,990
March 1986	Contract with PWA amended to continue work on FEWS, analyzing field data and providing expert judgments and reports on at-risk populations.	P10/T 907-11-999-86-12-607-8022 Dates: 3/3/86-12/31/86 Contract #: OTR-0000-C-00-6019-00 Mod. 1	\$529,930

163

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1986	<p>Article in <u>Horizons</u> states that FEWS:</p> <ul style="list-style-type: none"> <li>◦ started from scratch in compiling many famine indicators</li> <li>◦ is the first system to comprehensively integrate demographic, nutritional, satellite, social and economic indicators</li> <li>◦ is able to give lead times for famine warnings of 9-12 months, allowing time for decisionmakers to take appropriate action</li> <li>◦ allows U.S. decisionmakers to target levels of food aid needed to avoid crisis, without ruining the existing economy.</li> </ul>	<u>Horizons</u> reprint, April 1986, p. 1.	-
Spring 1986	<p>Tulane achieved the following after 6 months of operation:</p> <ul style="list-style-type: none"> <li>◦ 12 IBM-compatible FEWS microcomputers and related software purchased, developed and installed</li> <li>◦ FEWS microcomputer backup power developed and operational</li> <li>◦ Field training materials developed for each Public Health Advisor</li> <li>◦ 5 PHAs hired and sent to Mali, Mauritania, Niger, Sudan, and Chad</li> <li>◦ Nutritional and health status of these 5 countries monitored continuously and reported on each two weeks</li> <li>◦ Contacts with relevant in-country PVOs/NGOs made by all PHAs.</li> </ul>	P10/T 907-11-999-85-60-607-8073	
Spring 1986	<p>FEWS "demonstrated its credibility and timeliness in Sudan by rapid relocation of population at risk in the west (Sudan) and by [producing] food production estimates." Without FEWS, the regional nature of this drought would not have been understood or predicted, and targeted relief would have been lacking. FEWS gave sufficient warning and understanding to permit accurate, effective response.</p>	3/15/86 AID/Africa Bureau memo and interview with Jonathan Olsen, AID/AFR	
1986	<p>OFDA transitions the FEWS project, which it originally funded and helped start, over to the Africa Bureau in AID.</p>	Interview with Paul Krump, OFDA	
December 1986	<p>Direct OFDA involvement ends.</p>		
1986	<p>FEWS funded at a level of about \$2,000,000 per year after the transition to AFR. FEWS became part of locust reduction effort.</p>	Interview with Jonathan Olsen, AFR	
1987	<p>FEWS continued funding at about \$2,000,000. U.S. Geological Service EROS satellite tied into FEWS system.</p>	Interview with Jonathan Olsen, AFR	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1987	FEWS unable to predict Ethiopia famine/drought because FEWS not allowed to place an employee inside Ethiopia, due to GOE hostile attitude toward U.S.	Interview with Jonathan Olsen, AFR	
1987-1988	FEWS ceased publishing reports on Mozambique, due to apparent lack of AID Mission interest. FEWS began publishing "vulnerability assessments" on a country-by-country basis.	Interview with Jonathan Olsen, AFR	
1988	FEWS staff attended and provided support for Sahel Early Warning Meetings (AID-wide).	Interview with Jonathan Olsen, AFR	
1988	FEWS continued funding at \$2,000,000 level.	Interview with Jonathan Olsen, AFR	
February 1989	Since its inception, the FEWS project has: <ul style="list-style-type: none"><li>◦ changed the way AFR and AID understand famines. Previously staff thought that famine automatically followed drought. Now understand that it usually takes 2-3 years of drought to cause famine</li><li>◦ led to understanding in AFR that emergency work <u>as well as</u> development work is important</li><li>◦ led to understanding in AFR that emergency preparedness is essential to protect good development projects</li><li>◦ led to "spinoff technologies" usable by other AID offices, e.g., satellite data and computerized geographic information systems.</li></ul>	Interview with Jonathan Olsen, AFR	
March 1989	FEWS continues to produce: <ul style="list-style-type: none"><li>◦ monthly reports on crop status, famine early warning</li><li>◦ bi-weekly reports during growing season</li><li>◦ FEWS Alert Memoranda for distribution to top AID decisionmakers</li><li>◦ special reports</li><li>◦ briefings</li><li>◦ analyses</li><li>◦ responses to special inquiries.</li></ul>	Interview with Jonathan Olsen, AFR	
March 1989	FEWS continues to: <ul style="list-style-type: none"><li>◦ be funded at \$2,000,000/year</li><li>◦ have PHAs (now called FEWS Field Reps) in Mauritania, Burkina, Chad, Mali, Niger, Sudan</li></ul>	Interview with Jonathan Olsen, AFR	

165

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
March 1989	FEWS is now transitioning out of locust project aegis, is now recognized as full-fledged independent AID project.  For the future, FEWS will: <ul style="list-style-type: none"><li>◦ sit on Food Security Committee, composed of U.S. and European food donors, to coordinate food aid</li><li>◦ place a staffer in Ethiopia using OFDA emergency funds, to achieve original goal of serving 7 African countries (now serve 6); proposed funding over the next 3 years at \$250,000.</li></ul>	Interview with Jonathan Olsen, AFR	
March 1989	FEWS has not predicted a major, national famine since its establishment, because: <ul style="list-style-type: none"><li>◦ rains and crops have been generally good in FEWS-served countries</li><li>◦ political situation made it impossible to gather essential data locally in Ethiopia in 1987 and in Southern Sudan in 1988-89</li></ul>	Interview with Jonathan Olsen, AFR	
March 1989	FEWS is ready and able to predict national or sub-national famines/droughts in all 6 served countries.	Interview with Jonathan Olsen, AFR	
March 1989	OFDA leverage achieved to date on this project: <ul style="list-style-type: none"><li>◦ OFDA funds to date contributed: \$4,097,353</li><li>◦ AFR funds leveraged: approximately \$6,000,000 (\$2,000,000 each for 1987, 88, 89).</li></ul>		
<u>TOTALS</u>			
07/85-to date			\$4,097,353

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 4 0 0

1. ACTIVITY NUMBERS: 2 0 1 5, 2 0 1 4

2. COUNTRY BENEFITED: Sudan; Ethiopia; Somalia; Kenya  
NOT COUNTRY SPECIFIC: -

3. REGION BENEFITED: Africa and Europe (2000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Title: World Environment Center Survey of Pesticide Problems in E. Africa. Grant to the World Environment Center to send an entomologist and an evaluation team to Sudan, Ethiopia and Somalia to evaluate the alternatives to pesticide disposal. A contract was amended to the Terran Corporation for an expert to review possible use of a cement kiln for pesticide disposal.

5. DATA COLLECTOR: Beverly Youmans and Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1987	<p>OFDA amended contract to the World Environment Center to provide a team of experts to:</p> <ul style="list-style-type: none"> <li>o travel to Sudan, Ethiopia, Somalia and Kenya</li> <li>o evaluate a list of options for disposal of pesticides in the specific environments of the above visited countries</li> <li>o provide AID and other interested parties, through official reports, with conclusions and recommendations for pesticide disposal in the above named African countries.</li> </ul> <p>This assessment trip was undertaken, conclusions were drawn about the pesticide problem in East Africa, and a final report issued as required in the SOW.</p>	PO/FDA-0000-0-00-7033-00	\$17,464
May 1988	<p>OFDA amended contract to the Terran Corporation to provide technical assistance for a pilot project of pesticide disposal in the Sudan. The project aimed to:</p> <ul style="list-style-type: none"> <li>o train Sudanese nationals on pesticide disposal technology at a cement kiln incineration facility in Paulding, Ohio</li> <li>o evaluate Sudan kiln site and formulate action plan with specs for proposed modifications/adaptations of the kiln.</li> </ul>	PO/FDA-0000-0-00-8029-00	\$19,830

DATE:

ACTION:

DATA  
SOURCE:

COST:

1988

Terran Corporation completed its work and wrote a final report as required in the SOW. This report has been circulated to numerous interested parties. Lessons learned from this project are being applied in developing potential similar pesticide programs elsewhere in the world, notably Pakistan.

Interview with Gudren Hudon,  
Of DA, 3/20/89

TOTALS

06/87-05/88

\$37,294

## Asia and Pacific Region

In 1979, OFDA convened a regional disaster preparedness conference in New Delhi to establish direction and continuity in host country disaster management in Asia. Another disaster preparedness conference was held in Manila in 1980 and set the stage for a decade of increased monitoring of natural hazards, implementation of early warning systems, host country disaster preparedness, regional training, and institutional development.

Over the past decade, OFDA's Asia/Pacific non-relief programs have sought to reduce the region's vulnerability to drought, flood, storms, volcanic eruptions, earthquakes, tsunamis and other hazards. This has largely been accomplished through establishing a regional hazards reduction network comprising host country disaster experts, institutions, agencies and organizations. Major emphasis was placed on establishing centers of excellence in disaster management at the East-West Center in Honolulu and the Asian Institute of Technology (AIT), as well as establishing host country institutions in India, Indonesia, the Philippines, Fiji and Thailand. The East-West Center program in disaster preparedness and rural development disaster planning and training in the South Pacific paved the way for a broader training effort through AIT in Thailand for all of Asia. AIT has established a regional disaster information network which forms the backbone of most disaster preparedness activities in the region. This approach was also used by OFDA and UNDP in the establishment of the Indonesian Disaster Management Center. This program focuses on training Indonesians in monitoring and managing most natural hazards affecting that country, and works in cooperation with the Indonesian Volcanological Survey and the OFDA and USGS technical assistance effort in volcano surveillance and warning/evacuation planning. Indonesia is one of the most disaster-prone countries in the world and is a target country for OFDA preparedness planning.

In conjunction with building national and local community preparedness, and promoting mitigation and response capabilities in the Asia/Pacific host countries, OFDA has also placed a priority on providing equipment and technical assistance to improve monitoring and early warning systems for volcanoes, earthquakes and severe storms. The objectives of these systems, host country training and emergency response planning are to strengthen institutional linkages among host country and other early warning systems operators, international organizations and disaster management authorities. The program in Fiji to install a South Pacific severe storm detection and warning system was created to ensure access to quick, accurate, usable information by the A.I.D. Regional Development Office/South Pacific, host governments, disaster managers and others for rapid decision making. A similar project for typhoon early warning was initiated in the Philippines in the mid-1980s.

In the Asia and Pacific region since FY 1986, where feasible, target-country governments have been given the opportunity for greater participation in the use of storm probability forecasting techniques to improve their disaster warning leadtimes and emergency evacuation procedures. Closer working relationships between early warning agencies and civil defense authorities and other decision makers have been developed with OFDA and A.I.D. mission assistance. We have placed

emphasis on encouraging self-reliance and sound financial and budgetary planning for operations, equipment maintenance, and emergency relief response. We concentrate as well on building disaster preparedness and mitigation strategies into development goals and objectives at the host country level by attempting to ensure that vulnerability to hazards is considered in the A.I.D. project planning cycle of the Asia Near East Bureau's programming process.

Towards this end, in the early 1980s, in cooperation with the U.S. Geological Survey, OFDA helped to create the Southeast Asia Association of Seismology and Earthquake Engineering (SEASEE) under ASEAN auspices to conduct earthquake hazards analysis and develop mitigation techniques for improved hazard reduction in the region. A series of volumes for each country of Southeast Asia defining the seismic threat was produced and widely disseminated. Complementing this effort was the Cornell University seismic monitoring and risk analysis program in Fiji, Vanuatu and other earthquake areas of the South Pacific.

OFDA has also accelerated contingency planning in the region with Department of Defense technical and managerial assistance and conducted simulation activities based on identifiable, quantified threats. We have sought to delineate in-country emergency response resources and develop specific plans to measure progress towards host government disaster management institution-building, including training of key policy level and operational individuals.

### III. ASIA AND THE PACIFIC

#### ACTIVITY PROFILES

##### A. ASIA - Country Specific

##### BANGLADESH

o Contract with Mr. Se Gun Park of P & P Industries, College Park to spend five days finalizing a portion of the Bangladesh Interior Cyclone Warning System. FY 79-80 - \$900.

o Contract with the Department of Commerce to design, develop, configure, transport, and install a TIROS High Resolution Picture Transmission (HRPT) satellite-based cyclone tracking system; and a GMS high resolution WEFAX system for disaster alert and cyclone early warning for Bangladesh. A training component is also included. FY 80 - \$546,000.

##### Outputs:

- 1) Conclusion of PASA Agreement
- 2) Procurement of GMS High Resolution Equipment
- 3) Procurement of TIROS HRPT Equipment
- 4) Passing conditional acceptance test at vendor
- 5) Installation and final acceptance test with contractor
- 6) Completion of on-site operations & maintenance training
- 7) Completion of meteorological data training

o Purchase order with American National Red Cross (Los Angeles Chapter) for Ali Hassan Quoreshi and TA for A. Hassenquoreshi for an OFDA-sponsored training program at the Southern California Disaster Institute, Pomona, California. Due to funding restrictions in Bangladesh, the ANRC provided in advance the tuition, per diem, and miscellaneous travel expenses for Mr. Quoreshi. FY 86 - \$2,065.

o Mission allotment to USAID, India in support of travel and per diem for participation in the India Sub-Continental Disaster Preparedness Seminar (South Asia). FY 79 - \$39,000.

##### Outputs

- 1) Financial support to participants of New Delhi conference (C)
- 2) Publication of a final report summarizing report proceedings (C)

I N D I A

- o Travel authorization for Prakash Shamsheer, Director of the Central Building Research Institute of Roarkee, U.P., India, to travel to Washington, D.C., on March 22, 1984, to discuss low-cost housing and earthquake engineering projects in India as these areas relate to OFDA support of project with University of Roarkee. FY 84 - \$75 (Per Diem only).
  
- o Travel authorizations and Mission allotment to individuals, the Government of Indonesia and the USAID Director in Jakarta for the disaster preparedness seminar for the South Pacific Region, held in Indonesia on July 10, 1981. FY 81 - \$38,000.

I N D O N E S I A

- o Travel authorization for C. Vermillion of NASA to brief Indonesian officials on the use of domestic satellite technology for disaster monitoring and early warning. FY 83 - \$355.
  
- o Travel authorization for Aspen Danuatmodjo, an Indonesian, to attend an ASEAN Meeting in Colombo, Sri Lanka in Narler 1983. FY 84 - \$1,383.
  
- o PASA with the USGS to renew the Indonesia-U.S. Cooperative Program of Volcanic Monitoring and Research, and supplementing work previously accomplished under a 1979-83 PASA; specifically, the USGS provided consultancy services to the Government of Indonesia's Volcanological Survey of Indonesia (VSI) through advisory vulcanologist Robert Casadevall, an instrument specialist, volcanic specialist, seismic specialist, and tilt measure specialist. APF includes 1985 MA for Dr. Casadevall's rent and utilities and a 1988 MA for the packing (shipping of his household effects). Contributions: GOI \$300,000. FY 84-87 - \$733,282.

Outputs:

- 1) Provision of consulting services of a vulcanologist and up to 23 technical specialists (C)
- 2) Assessment of national volcanic-hazards in Indonesia (PC)
- 3) Development of a mobile "rapid-response" team at the Volcanological Survey of Indonesia (VSI) to respond to volcanic crises (C)

172

- 4) Systematic monitoring and field studies at Merapi (C)
  - 5) Upgrading volcano monitoring networks (PC)
  - 6) Preparation of reports assessing hazards and recommended monitoring strategy for several high-risk volcanoes (PC)
  - 7) Trip reports produced
  - 8) Quarterly reports produced (C)
  - 9) End of Project status report produced (C)
- o Purchase order with Alarm Supply Company to procure siren equipment to be placed in the Mt. Merapi area in order to assist in the heavy rains already being experienced around Mt. Merapi (4 40-watt speakers and 4 drivers).  
FY 85 - \$132.80
- o Grant to UNDP to train experienced host country personnel in new disaster management technologies and methods through the Indonesian Disaster Management Center. FY 86-89 - \$350,910. Contributions: GOI/\$1,056,727 and UNDP/\$350,000.

Outputs:

- 1) Government disaster management training courses integrated (C)
- 2) An organizational and procedures handbook of the host country's natural disaster emergency organizations and resources completed (C)
- 3) Host country inter-departmental communication and information management structures assessed (PC)
- 4) A resource and procedures study examining cross-sectoral risk monitoring and control measures was conducted (PC)
- 5) A study examining future options for disaster management in Indonesia, with recommendations, was completed (C)

LEBANON

- o Mission allotment for the provision of a personal services contract for Mrs. Deeb to write a country profile for Lebanon. Activity was extended one month. FY 82-83 - \$9,000.
- o Travel authorization for R. Gersony for travel from New York to Washington, D.C. to discuss contingency plans for the Lebanon relief program. FY 83 - \$415.

M A L D I V E S

- o Travel authorization for J. Dodge of NOAA to travel to the Maldives from Feb. 23 to March 4, 1984, to participate in the LRCS Regional Disaster Preparedness Seminar. FY 84 - \$3,837.

N E P A L

- o Purchase order with Davide Read Barker to coordinate, develop, and implement an earthquake disaster simulation exercise in cooperation with senior officials of the government of Nepal, IO, NGOs, and other USAID/Kathmandu Embassy officials. FY 85 - \$9,995.

Outputs:

- 1) Planning and scheduling of an earthquake disaster simulation exercise with USAID/Kathmandu, UNDRO, UNDP, Nepalese government and secondary contracting personnel (C)
  - 2) Development and implementation of a six-hour earthquake simulation in Kathmandu, controller's manual and a player's manual
  - 3) Post-simulation assessment to:
    - Provide orientation to UNDRO consultancy (C)
    - Record level of interest and participation of Nepalese government and NGO officials (C)
    - Identify training needs and recommend methods to institutionalize disaster management in Nepal (C)
  - 4) Production of an after-action report for OFDA (C)
  - 5) Debriefing of USAID Mission, Embassy, UNDP, and OFDA personnel
- 
- o Grant to Nepalese geologist for an on-the-job training program (7/19-8/15/87) on earthquake-induced landslides; the trainee traveled to Menlo Park (California), Corvallis (Oregon), Mt. St. Helen's (Washington), and Sierra National Forest (California). The USDA/OICD/ITD provided logistical services, assisted OFDA in program design, and performed an evaluation of the program. FY 87 - \$7,857.

P H I L I P P I N E S

- o Travel authorization for P. Warnken to assist the USAID Mission in the Philippines in assessing the drought situation. FY 83 - \$3,830.

174

- o Contract with Science Applications, Inc. to transfer state-of-the-art typhoon forecasting technology--including hardware, software, training and technical assistance--to the Government of the Philippines (GOP). This APF includes the purchase of 50 Reiter scientific and professional publications. FY 83-84 - \$559,544.

Outputs:

- 1) Analysis and dissemination to gp of typhoon early warning mechanisms (C)
- 2) Procurement and installation of a word processing system to store and analyze atmospheric data (C)
- 3) Programming probabilistic forecasting analysis models (C)
- 4) Provision of software for local weather impact studies (C)
- 5) Procurement and installation of a mainframe computer, with training of personnel (C)
- 6) Provision of Analog Forecasting Techniques software for mainframe computer (C)
- 7) Provision, installation and training for a KALMAN Filter Typhoon Tracker (C)
- 8) Training local officials in satellite interpretation (C)
- 9) Training local officials in maintenance of satellite data receiving and test equipment (C)

1984 amendment added:

- 10) Exchange of U.S. and Philippine scientists (C)
- 11) Coordination of radar maintenance training (C)
- 12) Procurement and modification of river flood forecasting software models (C)
- 13) Development of training programs and materials for tropical cyclone probability models (C)
- 14) Analysis of the current warning system and possible alternatives; (C)
- 15) Quarterly reports (C)
- 16) Additional reports - Framework for a National Typhoon Mitigation Program in the Philippines report and the Review of the PAGAS Tropical Cyclone Warning System report (C)

- o Purchase order with Reiter Scientific and Professional Books to provide 50 publication titles (2 each) on such technical subjects as atmospheric, meteorology, and climatology for the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA) in support of the Science Applications International Corporation (SAIC) grant for upgrading the Philippine typhoon early warning system.

- o Travel authorizations for C. Arafles and C. Reyes of the Philippines to attend typhoon technical training. FY 85 - \$9,510.

- o Contract with Air Vice Marshal W. (Nick) Carter, an Australian citizen, to assess the disaster preparedness and response capabilities of the Philippine governmental and non-governmental organizations which respond to the country's relief and preparedness needs as well as international organizations operating in the Philippines. FY 86-87 - \$9,330.
  
  - o Purchase order for Dr. A. H.-S. Ang to review project documents on the Earthquake Hazard Mitigation Program in Southeast Asia and a final technical report on the program prior to publication FY 85 - \$5,470.
  
  - o Purchase order with Cubic Precision and K & E Electro Optical Products to provide a Class B field maintenance kit for Ranger V-A. (The Ranger is a device to help detect impending volcanic and seismic activity; the kit includes test equipment plus spare parts.) Purchase order with Cubic Precision to design a course and train 2 Filipino participants from the Philippines Institute of Technology on the Ranger V-A Laser Long-Range Distance Meters including maintenance and repair; the contractor provided a Ranger V-A Maintenance Manual and other maintenance documentation to each participant. Includes travel authorization for the stateside training of 2 Filipinos. FY 86-88 - \$18,381.
- Outputs:
- 1) Ranger V-A Laser long-range distance meter field maintenance kit purchased (C)
  - 2) Two Filipino participants from the Philippines Institute of Technology trained in the use, maintenance and repairs of the instrument (C)
- 
- o Travel authorization for 5 individuals to participate in a disaster planning seminar - workshop on Lahars and Landslides held in Legaspi, the Philippines, from early to mid-December 1986. FY 87 - \$12,162.
  
  - o Mission allotment with USAID/Manila for a contract with Lita Garcia of the Philippine agency PAGASA to perform a planning study on Technical and Public Information Dissemination on Natural Hazards. FY 87 - \$2,500.

- o Mission allotment to US/AID Manila as a grant to the Government of the Philippines to conduct a workshop on the seismic design and construction of structures in conjunction with AIT/ADPC. FY 87 - \$37,078.

Outputs:

- 1) Execution of seismology workshop (C)
- 2) Provision of report for GOP to provide guidance for planning housing improvement programs in earthquake-prone regions
- 3) Final report submitted (C)

- o Purchase order with Charles Holliday to assess the current capabilities of the Philippine Government to provide typhoon early warning to remote coastal populations and other population centers and to mitigate related loss of life. FY 88 - \$9,363

- o Mission allotment to USAID/Manila to support to Philippine Disaster Preparedness Workshop in March 1988. FY 88 - \$10,000.

Outputs:

- 1) Logistics and per diem provided (C)
- 2) Approximately 30 participants attended workshop from 3/16-18/88 (C)
- 3) Preliminary and final reports of workshop prepared (PC)

- o Mission allotment to USAID/Manila to support a PAGASA-proposed pilot project called Program for Disseminating Public Information on Natural Hazards. FY 88 - \$80,000.

Outputs:

- 1) Information packages in the form of brochures, pamphlets, and postures developed, published, and distributed
- 2) Public service advertisements for radio and TV developed and produced
- 3) Curriculum for public grade schools on natural hazards awareness developed and implemented  
(This grant recently commenced and is ongoing)

THAILAND

- o Purchase order with Dr. Kuppusamy Thirumalai to assess the training network and methodology utilized by the AIT/ADPC to determine whether the current approach will provide participants with significant planning and operational skills in disaster management and to make recommendations for changes and improvements. FY 87 - \$9,987.

111

**B. ASIA - Non Country Specific**

- o Grant with the Department of Commerce (NOAA) Center for Climatic & Environmental Assessment to develop weather/crop yield forecast models in Southeast Asia and the India subcontinent. FY 79-83 - \$468,739.

Outputs:

- 1) Weather and crop yield forecast models for drought-prone LDCs developed, tested, and evaluated (C)
  - 2) Qualitative assessment index of pasture-and-range lands, based on weather data, developed (famine, early warning indicators) (C)
  - 3) Weekly weather and crop assessment reports produced (C)
  - 4) Workshop on Agroclimatic Information System planned and executed
  - 5) Weather & crop field forecast models associated data bases upgraded (C)
  - 6) Quarterly reports produced (C)
  - 7) Country reports produced (C)
  - 8) Final project report produced (C)
- 
- o Contract with Dr. Flemming, a Landslide Specialist, for a 6-day trip to New Delhi in support of the South Asia International Disaster Preparedness Seminar. FY 79 - \$4,100
  
  - o Travel authorization for planning team and USGS experts in support of an ASEAN seminar. FY 80 - \$20,126
  
  - o PASA with USGS to conduct an Earthquake Hazards Mitigation Program in Southeast Asia by training southeast Asian government officials in the techniques of risk and hazard analyses, the process of earthquake zoning, building and land-use code formulation and building design. FY 81-83 - \$673,617.

Outputs:

- 1) Selection of SEA government participants
  - 2) Orientation and instruction of participants in United States
  - 3) Orientation report (three months after orientation program) (C)
- Amendment 1 added:
- 4) Collection of instrumental data (C)
  - 5) Collection of macro-seismic data (C)
  - 6) Publication of results, listing instrumental earthquake parameters, macro-seismic data, and probabilistic ground-motion maps (C)
  - 7) Preparation of quarterly progress reports
  - 8) Issuance of a final report (C)

178

Amendment 2 added:

- 9) Compilation and publication of all earthquake focal mechanism solutions in SEA (C)
  - 10) Building period survey, estimating earthquake attenuation (C)
  - 11) Earthquake alarm system feasibility study
  - 12) Revised and updated existing seismo-tectonic maps (C)
  - 13) Organization of the Project Review Committee meeting at the SEASEE annual meeting (C)
- o Purchase order with Jeffery Clark to analyze and evaluate plans for a South Asian seminar. FY 81-82 - \$7,231.
- o PASA with USGS to conduct a feasibility and planning study to identify and determine the scope, location, logistical considerations, and professional/technical personnel required to implement a South-East Asian regional program for Earthquake Hazard Mitigation. This activity was later subsumed by Southeast Asia Association of Seismology and Earthquake Engineering (SEASEE). FY 81 - \$195,350.

Outputs:

- 1) Existing catalogues of seismicity history, for participating countries identified and evaluated
  - 2) Existing studies of regional geologic hazards, tsunami analysis, seismotectonics and risk analysis evaluated
  - 3) Program coordination sites evaluated
  - 4) Recommendation and possible funding levels for program implementation alternatives provided
  - 5) Ten radio telemetry sets, some for use over phone channels, procured and installed in Southeast Asian countries (C)
  - 6) Final report produced
- o Travel authorization for Charles Vermillion and Richard Grothemell to a number of South Asian countries to conduct an inspection and investigation of the weather monitoring system. FY 1981 - \$4,655.
- o Travel authorization for S. Brand, meteorologist with the Naval Environmental Prediction Research Facility (NEPRF), to attend the OPDA meeting on the Bay of Bengal Cyclone Wind/Surge Probability Analysis System. FY 82 - \$1,175.

- o PASA with the National Science Foundation to conduct international seminar on seismology and earthquake engineering in Jakarta with the cooperation of the Japanese government. FY 82 - \$55,000.

Outputs:

- 1) Seminar arranged and conducted (C)
- 2) Final report issued

- o Travel authorizations for one meteorologist from NOAA and two systems specialists from NASA to travel to Thailand and Bangladesh. The experts are to meet in Bangkok with the head of the Royal Thai Meteorological Service to install the HRPT Satellite Receiving System and perform on-station acceptance testing. FY 82 - \$10,065.

- o Mission allotment with U.N./ESCAP to procure 14 Apple IIE micro-computer packages for participating countries as part of the A.I.D./OFDA/NOAA agroclimatic assessment and technology transfer plan for south and southeast Asia. FY 84 - \$79,100.

Outputs:

- 1) 14 Apple IIE micro-computers for agroclimatic assessments of participating countries (C)

- o Mission allotment and travel authorization for the A.I.D./NOAA/ESCAP Workshop on Agroclimatic Models Assessment of Drought-Related Food Shortages in south and southeast Asia. FY 84 - \$56,680.

- o Purchase order with Mr. A. H.-S. Ang to conduct an independent review, analysis, and evaluation of the progress, current status, and draft deliverables resulting from A.I.D./USGS PASAs on seismic risk and earthquake hazard mitigation in southeast Asia (SEA). FY 85 - \$15,292.

Outputs:

- 1) Evaluation of technical accomplishments and institutional advances under the AID/USGS PASA from 1980-85. (C)
- 2) Evaluation of all draft documents submitted by the project management, including the final project technical report and catalogues of earthquake data (C)
- 3) Preparation of recommendations for future AID activities in support of SEA earthquake hazards mitigation (C)
- 4) Evaluation of final technical report (C)

- o Travel authorization for Dr. Czhu Chuanzhen of the Institute of Geophysics, State Seismological Bureau, the People's Republic of China, to travel to Washington, D.C., from Dec. 15-18, 1985, to make a presentation on disaster management preparedness in China. FY 86 - \$800.
  
- o Travel authorization for 3 participants to attend the 19th General Assembly of the IUGG from Aug. 8-16, 1987. FY 87 - \$14,943.
  
- o Travel authorization for T. Boen, Geologist Dr. Paul Thenhaus, and Dr. A. H.-S. Ang, to participate in the Thai National Conference on Earthquake Engineering in conjunction with the Seventh SEASEE Executive Committee Meeting held in Bangkok from Nov. 4-7, 1986. FY 87 - \$7,193.
  
- o Grant to the U.N. Economic and Social Commission for Asia and the Pacific (ESCAP) to implement NOAA/A.I.D.-funded advanced training of agroclimatic experts in new satellite-based crop monitoring technologies. FY 88-89 - \$50,000. Contributions: UNDP/\$199,400.

Outputs:

- 1) Travel arrangements for 12 South East Asian (SEA) agroclimatic experts provided to attend training at Asian Institute of Technology (AIT) (C)
  - 2) SEA agroclimatologist trained at NOAA facilities in preparation for his management of the AIT training program (C)
- 
- o Grant to the University of Hawaii to fund partial overhead, travel, and subsistence expenses of 17 participants to attend the U.S.-Asia Conference on Engineering for Mitigating Natural Hazards Damage held in Bangkok from December 14-18, 1987. FY 88 - \$25,000

Outputs:

- 1) Identification of up to 25 participants from developing countries to attend the conferences of which 17 attended (C)
  - 2) Provision of logistical arrangements for the participants, including transportation and subsistence (C)
  - 3) Final report of the University of Hawaii documenting expenditures (C)
- 
- o Letter authorization to the CDC for M. Lanin, and travel authorization for M. Lechat, to travel to Indonesia to attend the WHO/Government of Indonesia Workshop on Disaster Preparedness and Health Management. FY 88 - \$7,000.

C. SOUTH PACIFIC - Country Specific

F I J I

- o Amendment to a FY 78 Cornell University grant authorizing Columbia University to sub-contract with Teledyne Geotech for the installation of seismic equipment for the Government of Fiji. FY 79 - \$27,585 (Total amount of contract FY 78-79 - \$130,842).

Outputs:

- 1) Installation of seismic equipment for the Fijian government (C)
- 2) Commencement of operation of seismic equipment (C)

- o PASA with NOAA National Weather Service/ODD to design, configure, procure and install a meteorological satellite reception station in Fiji; amended in FY 83 to update satellite reception hardware. Travel authorizations for selected experts and host country professional has been included. FY 81-85 - \$361,180.

Outputs:

- 1) Site survey in Fiji to determine optimum (most cost effective) location of satellite receiving station facility (C)
- 2) Identification of training requirements for equipment operation and maintenance, imagery analysis and severe storm forecasting (C)
- 3) Design, configuration, procurement, categoration and testing of the equipment and system in the U.S. prior to delivery to Fiji (C)
- 4) Installation of satellite receiving station as selected site (provision of antenna foundation specifications and other requirements data on a scheduled basis prior to equipment shipping) (C)
- 5) Provision of spare parts, expendible supplies, instruction manuals, maintenance/operations manuals, tools and test equipment as required to maintain and operate system for a one year test and evaluation period (C)
- 6) Quarterly reports submitted (C)
- 7) Final reports submitted with detailed log of program development (C)
- 8) Color, 8' x 10' photos of installed system and imagery products submitted (C)

- o Grant to the Salvation Army World Service Office (SAWSO) to rebuild or strengthen 160 homes damaged by Cyclone Oscar, using a construction program designed by INTERTECT. FY 83 - \$52,780.

Outputs:

- 1) Rebuilding and strengthening of 160 homes damaged in Fiji by Cyclone Oscar (C)
  - 2) Implementation of a construction program designed by INTERTECT (C)
  - 3) Provision of a narrative and financial report to OPDA by SAWSO upon completion of the project (C)
- 
- o Purchase order for the technical assistance of Charles Holliday to analyze the products and deliverables under the severe storm detection and early warning system (SPSSD/WS) in the southwest Pacific region, which was installed in mid-August 1986 in Fiji; Holliday offered recommendations on future OFDA actions. (FY 87 - \$7,824).
  
  - o PASA with NASA to enhance the South Pacific Severe Storm Detection and Warning System (SPSSD/WS) in Fiji by designing, configuring, procuring, and installing equipment and technical system enhancements and by providing training in hardware maintenance and imagery analysis. FY 87-89 - \$250,250.

Outputs:

- 1) Design, procurement, and installation of equipment and technical system enhancements for the SPSSD/WS including the installation of an uninterruptible power supply unit (C)
  - 2) Installation of a hard copy image processing unit capable of receiving high resolution picture transmissions for the GOES and Japanese weather satellites. Provision of software development and equipment modifications (C)
  - 3) Maintenance training for one Civil Aviation authority facility to support the system for routine diagnostics and minor repairs (C)
  - 4) Training in imagery analysis (C)
  - 5) Development of draw down from PASA to cover the cost of emergency field maintenance replacement and spare parts. (C)
- 
- o Purchase order with Data General of New Zealand Limited to provide a specialist to perform corrective maintenance to the SPSSD/WS (the Fiji Met Service MV/4000 system) which experienced a technical problem in early 1987. FY 87 - \$1,382. (C)

- o Mission allotment to USAID/Suva as a grant to the Fijian government to print and distribute the "Cyclone Safety Guide." FY 88 - \$6,000.

D. SOUTH PACIFIC - Non Country Specific

F Y 1 9 8 1

- o Grant to East West Center to provide an analysis of how independent island nations can prepare and respond to natural disasters. FY 81-82 - \$68,294.

Outputs:

- 1) Provision of a report containing country and disaster preparedness/ experience profiles (C)
  - 2) Provision of monthly progress reports
  - 3) Organization and implementation of a forum to discuss research findings and disseminate their results
- 
- o Contract with INTERTECT to analyze house and public building vulnerability in the South Pacific and to identify remedial actions to reduce vulnerability. FY 81 - \$43,348

Outputs:

- 1) Current building techniques in selected South Pacific Islands assessed (C)
- 2) Housing reconstruction program, initiated following a 1979 cyclone, assessed (C)
- 3) Final Reports produced, one on the Cook Islands and one on Tuvalu (C)

F Y 1 9 8 2

Grant to Cornell University's Department of Geology to produce information on the seismic hazard in the Tonga, Fiji, Vanuatu region of the SW Pacific. Output includes the production of seismic country reports and scientific papers; assistance in earthquake prediction and institutionalization of the project locally. FY 82-85 - \$606,304.

Outputs:

- 1) Catalog and map of all reported regional earthquakes located by local seismographs compiled (C)
- 2) Map series showing seismotectonic provinces and active faults completed (C)

F Y 1 9 8 6

- o Grant to the International Maritime Organization (IMO) as the U.S. government's contribution toward the cost of the South Pacific Regional Environment Program Workshop on Marine Pollution, Prevention, Control, and Response held in Suva, Fiji, from November 26-30, 1986. FY 86 - \$15,000.

Outputs:

- 1) Pacific regional workshop on marine pollution, prevention, control and response held (C)
  - 2) Summary of papers and proceedings produced at the workshop (C)
- 
- o Purchase order with UNDRO for the U.S. government's contribution toward the cost of the U.S. orientation visit of John Flavell, the Suva-based regional disaster representative for the South Pacific Bureau for Economic Cooperation; this visit enables OFDA to brief him on its disaster preparedness programs and objectives for the region. FY 86 - \$2,000.
  
  - o Travel authorization for Dr. Edward Koenigsberg to participate in the World Health Organization meetings to coordinate disaster preparedness programs between American regional offices and the West Pacific regional offices. FY 86 - \$2,420.

F Y 1 9 8 8

- o Mission allotment to USAID/Suva to provide 1st year funding for a 2-year Personal Services Contract for the OFDA Regional Disaster Preparedness Adviser to be based in Suva. The advisers' responsibilities include evaluating the disaster preparedness and mitigation needs of 10 A.I.D. recipient nations and managing USAID's Regional Development Office response to natural disasters. The regional adviser will identify development opportunities including fisheries, housing and agriculture, and will coordinate USAID disaster preparedness and response efforts with other assistance programs. FY 88 - \$30,000.

Output:

- 1) OFDA Pacific Regional Adviser, based in Suva, selected (C)

- 3) Earthquakes correlated with plate tectonic models--as feasible--to determine relative regional seismic hazard
- 4) Local seismologists and technicians trained in instrument maintenance and new seismological advances (C)
- 5) Shallow seismicity of subregions analyzed (C)
- 6) Seismologist to provide detailed seismicity and risk study plans for Fiji Islands provided
- 7) New seismic instrumentation purchased and maintained (C)
- 8) Seismic hazard country reports completed (C)
- 9) Scientific papers from the project produced (C)
- 10) Project institutionalized in regional governments (PC)
- 11) Progress reports submitted (C)
- 12) Final Report submitted (C)

F Y 1 9 8 5

- o Travel and per diem for H. Nakamura and I.S. Tulele to attend SEASEE Seminar and workshop in Manila. FY 85 - \$4,732.
  
- o Grant to the East/West Center's Pacific Islands Development Program for first year funding of a three-year community preparedness and rural development program in the South Pacific Program which would build the capability of Southern Pacific region national governments in: (1) post-disaster impact assessment, (2) vulnerability analysis and identifying mitigation options; and (3) assessing and building community preparedness capability. FY 85 - \$188,835. Contributions: PIDP/ \$15,414.

Outputs:

- 1) "Regional Overview" of current state of regional preparedness (C)
- 2) Vulnerability analysis of Tonga and Western Samoa performed (C)
- 3) Workshop to produce a field handbook for "Post-Disaster Survey and Assessment" organized and implemented (C)
- 4) Quarterly progress reports submitted (C)
- 5) Final report submitted

E. ASIA AND PACIFIC - Non Country Specific

F Y 1 9 8 2

- o Contract with INTERTECT to conduct two workshops on the findings, conclusions and recommendations of their Housing Vulnerability Assessment and related hazard analysis. FY 82 - \$12,387.

Outputs:

- 1) Workshops in both Bangkok and Honolulu to disseminate results of the Housing Vulnerability Assessment organized and implemented (C)
  - 2) Workshop outline provided prior to the first conference in Bangkok.
  - 3) Workshop session summaries provided
  - 4) Summary and outline of the Housing Vulnerability Assessment Methodology submitted
- 
- o Grant to East West Center and INTERTECT to develop a strategy and program plan to implement regional disaster policy planning and training programs in the Pacific Islands. FY 82-84 - \$256,829.

Outputs:

- 1) Program plan designed and developed (C)
- 2) Quarterly progress reports submitted
- 3) Final report produced at end of the initial six-month planning phase
- 4) Disaster strategies seminar for senior disaster management officials planned and executed (C)
- 5) Problem-oriented workshop on reducing housing vulnerability planned and implemented for government department heads and staff (C)
- 6) Demonstration project, including construction of a model house, planned and executed to train local staff and apply techniques learned in workshops (C)
- 7) Report documenting proceedings of strategies seminar produced (C)
- 8) Report summarizing workshop results produced (C)
- 9) Report summarizing demonstration program results submitted (C)
- 10) Final report written

187-

F Y 1 9 8 5

- o Grant to the Asian Institute of Technology (AIT) to develop a disaster management center that will train trainers, explore/develop applications of modern technology appropriate to disaster management in the region, and serve as a think tank for Asian disaster managers, technicians and policy makers. The AIT/Asian Disaster Preparedness Center (ADPC) is envisioned to become a self-sustaining institution. FY 88 amendment extended grant for three years. FY 85-89 - \$835,000.

Outputs:

- 1) Regional training facility established to instruct future trainers and students in disaster management (C)
  - 2) Technology appropriate to disaster management developed and disseminated (PC)
  - 3) Wide range of courses and workshops in disaster management planned and implemented (PC)
  - 4) Library, software, and audio-visual collections expanded (C)
  - 5) Services of Edward Ressler provided as ADPC program coordinator, faculty representative, and Asian field representative of OFDA (C)
  - 6) Quarterly progress reports submitted (PC)
  - 7) Annual reports submitted (C)
- This is an ongoing activity.

F Y 1 9 8 6

- o Contract with the Consortium for International Crop Protection (CICP) as a "buy-in" under A.I.D./ST/AGR's integrated pest management and environmental protection project for 101 person days (a 2-3-person staff) of technical assistance to Thailand and Western Samoa. Experts identified appropriate technology measures needed to address a potential hazardous materials emergency or to mitigate and/or prevent a serious threat to public health and the human environment, focusing on the storage, handling, and disposal of pesticides. FY 86 - \$40,933.

Outputs:

- 1) Potential pesticide disposal sites identified and prioritized (C)
- 2) Local personnel and agencies that could clean up identified sites identified (C)
- 3) Appropriate technology provided to local government personnel to clean or contain identified hazard sites (C)
- 4) Final report submitted (C)

158

F Y 1 9 8 8

- o Travel authorization for Fred Krimgold of Virginia Polytechnic Institute, Stephen Bender of the OAS, and three others to travel to Bangkok to lecture at the Asian Institute of Technology's Asian Disaster Preparedness Center from April 30- , May 7, 1988. Krimgold taught a course "Search and Research Techniques in Urban Settings" and developed a training module for search and rescue while Bender taught sessions on "Hazard and Vulnerability Analysis" and "Disaster Mitigation." FY 88: \$17,122. (C)

OFDA  
NON RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 601

1. ACTIVITY NUMBERS: 3202

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Asia and Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Cornell University: Evaluation of Seismic Risk in the Southwest Pacific. Grant to Cornell University Department of Geology to produce information on the on the seismic hazard of the Tonga, Fiji and Vanuatu region of the Southwest Pacific. Cornell University will produce seismic country reports and scientific papers, aid in earthquake prediction and institutionalize the project locally.

5. DATA COLLECTOR: Keith Johnston

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1978	Grant to Cornell University for the "Study of Hazards Related to the Suva/Mbongga Seismic Zone in Fiji." Grant was to provide support to Cornell for improving the earthquake disaster capabilities of Fiji by acquiring, installing and testing seismic instrumentation in addition to providing technical assistance for data analyses.	PIO/T: 938-11-099-013-78 -3889043, (& Amend 1)  Dates: 8/1/78-7/31/80  Grant: AID/SOD/PDC-G-0062	\$103,257
July 1979	Grant amended to sub-contract with Teledyne Geotech for a technician to install seismic equipment being purchased for the Government of Fiji (GOF).	PIO/T: 938-11-099-013-78 -4099063  Dates: 8/1/78 - 7/31/80  Grant: AID/SOD/PDC-G-0062 DATA	\$27,585
April 1980	Seismograph network completed by Teledyne Geotech and GOF and operations commenced	Letter from P.I. at Cornell to Paul Krump April 6, 1980	

<u>DATE:</u>	<u>ACTION:</u>	<u>SOURCE:</u>	<u>COST:</u>
1981	Final technical report submitted by Cornell University, outlining the successful installation of a seismic network in Fiji.	Final Technical Report 6/1/78 - 3/31/81	
February 1982	Grant amended, extending the contract period to March 31, 1981. All other terms and conditions of the grant remained in effect.	Letter from Edward Thomas of AID to Frank Ferro February 2, 1982	no cost
May 1982	Eighteen-month grant amended to Cornell University to perform a detailed evaluation of seismicity of the Fiji-Vanuatu region of the Southwest Pacific. Cornell agreed to <ul style="list-style-type: none"><li>o develop seismotectonic maps</li><li>o conduct regional earthquake risk analyses</li><li>o train local seismologists in modern techniques and instrumentation.</li></ul>	PIO/T: 907-11-999-077-82 -07297872  Dates: 6/82 - 12/83  Grant No: PDC-0000-G-SS -2134-00	\$148,062
March 1983	Grant amended to expand project in terms of staffing, instrumentation and geographical area. Expanded scope of work includes: <ul style="list-style-type: none"><li>o further seismic studies and analyses</li><li>o installation of seismic instrumentation</li><li>o installation of strong motion accelerographs</li></ul>	PIO/T: 907-11-999-82-027 -0732832, (Amendment 1)  Dates: 3/83 - 1/84  Grant No.: PDC-000-G-SS -2134-00	\$148,062
January 1984	Grant amended to provide for a two-month extension	PIO/T: 907-11-999-82-027 -0732832 (Amendment 2)  Dates: 1/84-3/84  Grant No.: PDC-0000-G-SS -2134-00	
February 1984	Grant amended to provide additional equipment and services for continued evaluation of seismic risk. The amended scope of work includes: <ul style="list-style-type: none"><li>o country reports, documenting seismic hazards</li><li>o scientific papers, developing a base of seismicity knowledge</li><li>o institutionalizing the production of seismicity in the participating governments.</li></ul>	P/IO/T: 907-11-999-82-027- -0732832 (Amendment 3)  Dates: 3/84 - 11/85  Grant No.: PDC-000-G-SS -2134-00	

191

DATE:

ACTION:

SOURCE:

COST:

February 1984

Annual technical report contained information of the seismicity of the region and identification of major seismotectonic features. Considerable work was accomplished:

- o extensive seismicity data was organized for the Southwest Pacific region
- o seismotectonic features were evaluated, using seismicity data from geologic, geophysical and marine sources
- o strong motion accelerographs were established in the region .

Technical Report  
July 1982 - December 1983

July 1984

Quarterly reports for the first half of 1984 included the results of the field program and the commencement of an instrument upgrading and repair program. Among the general advancements were:

- o Accumulation of adequate seismicity data; e.g., up-to-date data catalogs of teleseismic and local earthquake data for the region. These data were being compiled to provide a basis for prediction studies
- o identification of hazardous structures. Information from disparate sources, including aerial photography and marine surveys was collected and was undergoing analysis
- o identification of potential tsunami sources. A detailed history of tsunamis in Fiji was completed, as was a preliminary history for the Southwest Pacific region
- o the development of hazards maps, the basis for the earthquake evaluation country reports, continued.
- o Earthquake predictive efforts concentrated on Vanuatu, where seismicity mechanisms were well understood. A base of ground deformation data showing tilt signals had been collected.

Interim Progress Reports  
January 1 - June 30

October 1984

Quarterly reports for July - September, 1984 included the results of fieldwork by the instrumentation engineer

Progress Reports  
July 1 - September 30  
1984

April 1985

Quarterly progress reports for the January - March, 1985 period included a preliminary assessment of earthquake potential in Fiji.

Progress Reports  
January 1 - March 31  
1985

19/10

DATE:

ACTION:

SOURCE:

COST:

July 1985

Quarterly progress reports for April - June, 1985 covered seismic hazard studies, earthquake prediction studies, and institution building:

- o seismic hazard studies -- strong motion accelerograph data from Tonga and Vanuatu was analyzed and all earthquakes recorded by the Fiji seismic network from 1979 to 1981 were located and interpreted. A preliminary map of seismogenic regions near Tonga was prepared.
- o earthquake prediction studies -- the relationship between earthquakes in Vanuatu in 1981 and 1983 was analyzed.
- o institution building -- the Fiji network, which was damaged by hurricanes, was being repaired
- o regional governments were continuing to monitor strong-motion observations

Progress Reports  
April 1 - June 30  
1985

Country Reports  
1986

Grant No.: PDC-0000-G-SS  
-2134-00

1986

Final Country Reports for Fiji, Vanuatu and Tonga were submitted.

Accomplishments of the project included:

- o analyses of regional seismicity and seismotectonic data
- o maintenance and improvement of seismological facilities
- o establishment of a regional network of strong-motion accelerographs
- o increased cooperation between national and international agencies in the region
- o training of national technical and scientific personnel

"Country Reports"

TOTALS

04/78-1986

\$426,966

1985

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 3 0 0

1. ACTIVITY NUMBERS: 3 1 0 7, 3 1 2 5, 3 0 2 4

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Asia & Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): PASA with USGS to conduct an Earthquake Hazards Mitigation Program Southeast Asia FY 81-85.

5. DATA COLLECTOR: Faye Henderson

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1980	OFDA received request from SEASEE (Southeast Asia Association for Seismology and Earthquake Engineering) for assistance in carrying out an earthquake hazards mitigation program in the ASFAN (Association of Southeast Asian Nations) region.	Final report of Planning Study	
December 1980 (funds available)	OFDA negotiated a PASA with the U.S. Geological Survey to conduct a feasibility and planning study to identify and determine the scope, location, logistical considerations and professional/technical personnel required to implement a Southeast Asian regional program for earthquake hazards mitigation. Planning Study final report submitted to OFDA by USGS (October 1981).	PI0/T 938-11-999-81-3819032 Dates: 1/5/81 - 4/31/81 Extended to 9/30/81	\$37,849

194

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
September 1981	USGS PASA amended to upgrade telemetry for better positioning of remote seismic stations in the Southeast Asian countries (Indonesia, Philippines, Malaysia, Thailand, Singapore).	P10/T 907-11-999-001-81-3819032 PASA No. BPD-0001-P-IC-1024-00 (Amendment 1)  Dates: 1/5/81 to 10/31/82 (extended to 10/31/83)	\$157,531
September 1981	OFDA signed a PASA with the USGS to coordinate a program and provide technical assistance to acquaint government officials in each (ASEAN) country with the essential techniques for conducting risk and hazard analyses, the process of earthquake zoning, and their effect on building and land-use code formulation and building design. The orientation phase included an instructional program (3 weeks) at the Denver Federal Center in Colorado. Final Report on Orientation Program June 21- July 7, 1982.	P10/T 907-11-999-023-81-0719842  Dates: 9/15/81-10/31/82  PASA No. OFD-0999-P-IC-1107-00	\$140,400
February 1982	SEASEE proposal for third step in program received by OFDA.		
May 1982	USGS PASA amended to conduct next phase of Earthquake Hazards Mitigation Program in Southeast Asia. The objective was to assist the SEASEE countries to accomplish the collection, mapping, analysis, cataloging, and publication of earthquake epicenter data for Southeast Asia for as long a period as possible to develop a seismological data base.	P10/T 907-11-999-023-81-0729662  Dates: 9/15/81-6/30/83  PASA No. BOF-0999-P-IC-1107-00 (Amendment 1)	\$268,500
November 1982	SEASEE Final Report on <u>3rd SEASEE Annual Executive Committee Meeting and "Earthquake Hazard Mitigation Program for Southeast Asia" Project Coordination Meeting</u> (16-18 November 1982). Meeting attended by Fred Cole (OFDA).		

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
May 1983	USGS submitted report outlining proposed program for fourth step in Earthquake Hazards Mitigation Program for Southeast Asia and describing progress made during June 1982 - May 1983 period.		
June 1983	PASA with USGS amended to conduct next phase of Earthquake Hazards Mitigation Program in Southeast Asia. The objective was to permit SEASEE to continue to collect and compile data and put in suitable format for publishing (in English). This was to include earthquake intensity data, a catalog of instrumental earthquakes in Southeast Asia, a volume on known earthquake focal mechanism solutions for the region, a building period study, and the identification of seismic source zones (8 tasks).	PI0/T 907-11-999-81-023-0732414  Dates: 9/15/81-9/30/84  PASA No. BOF-0999-P-IC-1107-00 (Amendment 2)	\$264,692
November 1983	Project Committee meeting held in conjunction with 4th SEASEE Executive Committee meeting in Kuala Lumpur, Malaysia, 14-18 November 1983.		
June 1984	PASA with USGS amended to extend completion date from June 30, 1984, to September 30, 1984.	PI0/T 907-11-999-81-023-0732414  Dates: 9/15/81-9/30/84 (Amendment 3) PASA No. BOF-0999-P-IC-1107-03	No cost
August 1984	PASA with USGS amended to extend completion date from September 30, 1984, to December 31, 1984.	PI0/T 907-11-999-81-023-0732414  Dates: 9/15/81-12/31/84 (Amendment 4)  PASA No. BOF-0999-P-IC-1107-04	No cost

19/6

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
December 1984	PASA with USGS amended to extend completion date from December 31, 1984 to June 30, 1985.	PIO/T 907-11-999-81-023-0732414	No cost
		Dates: 9/15/81-6/30/85 (Amendment 5)	
January 1985	PASA with USGS amended to authorize a final AID/USGS/SEASEE Advisory Committee meeting, workshop, and program review to be conducted in Manila in March 1985 in cooperation with a separate OFDA-funded evaluation review of the project. (Task 9 - added to original 8 Tasks.)	PIO/T 907-11-999-81-023-073414 (Amendment 6)	No cost
February 1985	OFDA contracted with Alfredo H.-S. Ang, from the University of Illinois, to review all documents pertaining to the PASA and to attend the AID/USGS/SEASEE Advisory Committee meeting on March 4-10, 1985. Dr. Ang was to obtain additional information relating to technical progress; and evaluate the utility of the data compiled.	PO ABS-0000-0-00-5049-00	\$9,822
March 1985	Dr. Ang submitted final report.		
June 1985	OFDA contracted with Dr. Ang to review (1) final Technical Report of project; (2) catalogs of earthquake data; and (3) other materials submitted for publication approval.	PO OFDA Funding Projects	\$5,470
July 1985	Dr. Ang OFDA prepared a written report (July 16), containing suggestions for revisions and OFDA actions prior to final publication and distribution of project document.		

DATE:

ACTION:

DATA

SOURCE:

COST:

The project produced the following documents and other materials:

SEASEE Series on Seismology:

Volume I - Summary (April 1986) (83 pp. and two Appendices) - contains a description of program background and goals; a technical report on the accomplishments of the program and an evaluation of results; and conclusions and recommendations for future activities.

Volume II - Thailand (June 1985) (403 pp.) - contains seismicity data for Thailand and adjacent areas (catalog of historical earthquakes, instrumental data and focal mechanism solutions) and a description of seismic source zones and the earthquake recurrence relationship in the Burma/Thailand/Indochina area.

Volume III - Malaysia (June 1985) (99 pp.) - contains a macroseismic study of Malaysia (a listing of historical earthquakes), and earthquake intensity analysis, and a description of the seismotectonic setting of Malaysia.

Volume IV - Philippines (June 1985) (843 pp.) - contains a catalog of Philippine earthquakes (1589-1983), an assessment of seismic intensity of historical earthquakes, isoseismal maps, and a description of seismic source zones of the Philippines and the seismotectonic setting.

Volume V - Indonesia (June 1985) (199 pp.) - contains a catalog of destructive earthquakes, macroseismic data (attenuation function analysis), and a description of seismic source zones and the seismotectonics of the Indonesian region.

Full-color seismotectonic maps of all four countries which are accompanied by translucent overlays containing earthquake epicenters, contours of seismic flux (frequency), and contours of maximum observed intensity (Mercalli intensity).

TOTALS

02/80-07/85

\$884,264

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CFF)

CHRONOLOGY #: 305

1. ACTIVITY NUMBERS: 3105, 3220, 3004

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Asia & Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): East-West Center: South Pacific Disaster Planning and Training. Grants to East-West Center to (1) conduct a disaster survey in the independent islands of the Pacific region as a basis for a study of coping with crisis; (2) implement a 3-year disaster preparedness strategies and training program, and (3) conduct a Community Preparedness and Rural Development Project.

5. DATA COLLECTOR: Faye Henderson

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1981	The East-West Center (EWC) in Honolulu, Hawaii, submitted a proposal to OFDA for funding of a survey of disaster preparedness and rehabilitation in the independent states of the South Pacific. This was to be the first phase of a Pacific-wide study to involve sub-regional surveys and in-depth studies throughout the Pacific. The Pacific Islands Development Program (PIDP) of EWC would conduct the research.	EWC Proposal "Coping with Crisis: Regional Survey of Disaster Preparedness and Rehabilitation"	
May 1981	PIO/T requesting a grant be negotiated with EWC to support proposed project.	PIO/T No. 938-11-999-013-81-3819542	\$50,738
June 1981	Grant (No. 1) to EWC to compile information on the impact of disasters and disaster preparedness and rehabilitation on the islands to be studied; to present the information in a format suitable for the use of the island governments and donor organizations; and to provide a basis upon which a more in-depth study of coping with crisis in the Pacific could be built.	Grant letter dated 06/16/81  Dates: 6/1/81 - 3/31/82  Grant No. PDC-000-G-SS-00-1068-00	

200

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
November 1981	<p>The grantee was to prepare a report to include an executive summary, a regional overview and specific profiles of each of eleven countries. The grantee was also required to provide brief monthly progress reports.</p>	<p>Letter dated 11/01/81</p> <p>Dates: 6/1/81 - 5/31/82</p> <p>Grant No. PDC-0000-G-SS-00-1068-00 (Amendment 1)</p>	No cost
March 1982	<p>PIO/T requesting grant (No. 1) with EWC be amended to support the AID/Peace Corps Disaster Preparedness Conference scheduled for Honolulu on April 20-22, 1982. Services required were to begin 4/1/82 and end 6/30/82.</p> <p>The objective was to provide a forum in which the research fundings from the original grant could be transmitted to the disaster-oriented agencies of the South Pacific.</p>	<p>PIO/T No.:</p> <p>938-11-999-013-82-9729442</p> <p>Dates: 6/1/81 - 6/30/82</p>	\$17,556
June 1982	<p>EWC/PIDP proposal for funding of a six-month planning effort for a three-year regional disaster policy planning and training program in the Pacific Islands. This would begin Phase II of the PIDP disaster program.</p>	<p>EWC Program Proposal</p>	
August 1982	<p>PIO/T requesting that a six-month grant to EWC/PIDP be negotiated to support a program to develop a disaster policy and training plan for the Pacific Island region.</p> <p>The planning would entail discussions with the South Pacific Bureau for Economic Cooperation (SPEC), UNDRO, The League of Red Cross Societies and others. The PIO/T authorized subcontracts with INTERTECT and with Mr. William Carter (UNDRO consultant).</p>	<p>PIO/T No.:</p> <p>907-11-9999-82-055-0729013</p>	\$63,890

1981

DATE:

ACTION:

DATA

SOURCE:

COST:

September 1982

Grant (No. 2) with EWC/PIOP approved with the following tasks:

- o discuss institutional relationship between SPEC and PIOP for 3-year program;
- o complete 3-year program strategy;
- o discuss proposal and programs with UNDR0, the league, and other donors;
- o develop proto-type policy aids and training material;
- o develop proto-type plan for demonstration projection;
- o plan and conduct planning meeting; and
- o complete plans for starting full program.

The grantee was to submit an interim, a mid-project, and a final report.

PIO/T No.:  
907-11-9999-82-055-0729013

Dates:  
9/30/82 - 3/31/83

Grant No.:  
PDC-0000-G-SS-2215-00

November 1982

PIO/T requesting grant (No. 1) with EWC be amended to include the printing of 50 additional copies of the survey, for a new total of 150 copies, and to include improvement in the presentation of the material.

PIO/T No.  
938-11-999-013-81-0739152

\$6,243

Grant No.  
PDC-000-G-SS-00-168-00

December 1982

Grant (No. 1) amended to extend grant period to 11/30/82 and to substitute that date as date when final report is to be submitted.

Letter dated 12/13/82

No Cost

Dates:  
6/7/81 - 11/30/82

Grant No.:  
PDC-0000-G-SS-1068-03

December 1982

Grant (No. 2) amended to change effective date to 9/12/82, with estimated completion date of 3/31/83.

Grant No:  
PDC-0000-G-SS-2215-01  
Amend. 1

No Cost

Dates:  
9/12/82 - 3/31/83

202

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
December 1982	EWC/PIDP's quarterly report September 14, 1982 - December 13, 1982, summarizes significant progress in meeting grant (No. 2) objectives and outlines proposals for future directions. An attached proposal for an amendment to the grant would convert the six-month planning grant to a three-and a half-month planning project and a first-year program grant. PIDP and INTERTECT consultants would develop materials for and run a disaster preparedness strategies seminar and two problem-focused training workshops and a demonstration project.	Cover letter dated 12/27/82  <u>Quarterly Report and Proposal for grant amendment</u>	
January 1983	Grant (No. 1) amended to reflect new total obligated to date (\$74,537) and to require grantee to provide OFDA with 50 copies of the final report and to disseminate an additional 100 through the EWC distribution network.	Letter dated 01/07/83  Grant No.: PDC-0000-G-SS-1068-04 Amend. 4	
February 1983	PIO/T requesting amendment to grant (No. 2) to include the planning and execution of a disaster strategies seminar and two workshops/demonstrations projects, and to extend project completion date to 12/31/83.	PIO/T No.: 938-11-999-82-055-0732842	\$138,000 (\$137,000 Funding records and grant)
May 1983	Grant (No. 2) amended to increase funding by \$137,000 and extend completion date to 12/31/83.  The objective was to begin implementation of a three-year disaster preparedness strategies and training program in the Pacific region in order to establish disaster management capabilities in national governments and other organizations, develop a framework for regional cooperation, and ultimately complete at least one pilot preparedness and mitigation project in each of the participating countries.	PIO/T No.: 938-11-999-82-055-0732842  Dates: 9/12/82 - 12/31/83  Grant No.: PDC-0000-G-SS-2215-00	
	The grantee was to: <ul style="list-style-type: none"> <li>o plan and conduct a disaster strategies seminar for senior public servants;</li> <li>o plan and conduct two problem-oriented training workshops for government department heads and senior staff;</li> </ul>		

103

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o plan and conduct two demonstration projects in conjunction with the workshops; and
- o continue discussions with other donors to develop additional workshops/demonstration projects and secure financial support for the program.

Reports of proceedings of the seminar/workshops were required, as well as evaluation reports and a final report.

June 1983

EWC/PIDP proposals to amend grant (No. 2) for a no-cost extension through February 1984 and to allow minor modifications in the scope of work. (PIDP's assistance with a WHO workshop in January 1984 would be in lieu of second workshop originally planned.) The proposal also requested additional funds for sub-contracted technical support for a six-week housing vulnerability reduction workshop and for the preparation of training materials.

Cover letter dated 06/27/83.  
Proposal for grant amendment

July 1983

PIO/T requesting amendment to grant (No. 2) to change the scope of work according to the PIDP proposal, increase amount of funding, and extend project completion date. INTERTECT would be the subcontractor.

PIO/T No.  
938-11-999-82-055-0732504

\$40,481  
(\$40,450 Funding  
Records)

September 1983

Grant (No. 2) amended to increase funding total to \$241,370, extend completion date to 2/29/84, and change scope of work to require a workshop in housing vulnerability reduction with one demonstration project. Additionally, PIDP would be required to:

- o mount an information dissemination program;
- o develop a training manual for national disaster operations planning; and
- o seek funds for an Agricultural Development and Disaster Preparedness action research project as a base for a workshop.

PIO/T No.:  
938-11-999-82-055-0732504

Dates:  
9/12/82 - 2/29/84

Grant No.:  
PDC-0000-G-SS-2215-02  
Amend. 3

copy

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
December 1983	EWC/PIDP proposal to amend grant (No. 2) to increase funding for the construction of a model house during the workshop/demonstration project and additional cost of changing workshop venue from Tonga to the Solomon Islands. INTERTECT would design the model house and prepare booklets to illustrate building methods.	Proposal for grant amendment	
January 1984	PIO/T requesting amendment to grant (No. 2) to amend scope of work and increase funding.	PIO/T No.: 938-11-999-82-055-0743034	\$15,500 (\$15,459 Funding Records and grant)
January 1984	Grant (No. 2) amended to increase funding by \$15,459.  The grantee was to: <ul style="list-style-type: none"><li>o plan and conduct one demonstration project in conjunction with the housing vulnerability workshop;</li><li>o construct a model house during the workshop; and</li><li>o prepare materials and write and disseminate reports</li></ul>	PIO/T No. 938-11-999-81-044-0732023  Dates: 9/12/82 - 2/29/84  Grant No.: PDC-0000-G-SS-2215-00 Amendment 4 Modification of Grant (1/10/84)	
June 1984	EWC/PIDP proposal for a Community Preparedness and Rural Development Project to assist Pacific region national governments in building a capability in (1) post-disaster impact assessment; (2) vulnerability analysis and identifying mitigation options; and (3) assessing and building community preparedness capability.	Project Proposal	
June 1984	PIO/T requesting a grant (No. 3) be negotiated with EWC/PIDP to cover the budget costs for the first twelve months of the project, less a first-year contribution by PIDP. PIDP and other donors were to fund anticipated second twelve months of activity.  The objective was as stated in the proposal.	PIO/T No.: 907-11-999-84-41-0743184	\$188,835

205

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1984	<p>Grant (No. 3) executed with EWC to provide support for the "Community Preparedness and Rural Development Project."</p> <p>The grantee was expected to:</p> <ul style="list-style-type: none"><li>o prepare a "Regional Overview" which would outline the present state of knowledge and preparedness in the Southern Pacific region;</li><li>o conduct National Vulnerability Analysis of Tonga and the Cook Islands; and</li><li>o hold a workshop in mid-1985 that would produce a <u>Field Handbook for Post-Disaster Survey and Assessment.</u></li></ul> <p>Quarterly progress reports and a final report were required.</p>	<p>PI0/T No. 907-11-999-84-41-0743184</p> <p>Dates: 10/1/84 - 9/30/85</p> <p>Grant No. ASB-0000-G-SS-4171-00</p>	
January 1985	<p>Quarterly progress report 10/1/84 - 12/31/84 describes the first quarter as one of preparation for the two years of field research and training, workshops, and production of manuals which are to follow. A regional overview is expected to be completed in February 1985, and plans have been finalized for field mission March 1985 - August 1985 and for a workshop on September 9-13, 1985. The report requests permission to change the vulnerability analysis from Tonga to Western Samoa and to include a task to allow research on agricultural vulnerability and community preparedness in Fiji.</p>	<p>Quarterly Report</p>	
March 1985	<p>Grant (No. 3) amended to delete task 2, "Conduct National Vulnerability Analyses of Tonga and the Cook Islands" and substitute "Conduct National Vulnerability Analyses of Western Samoa and the Cook Islands."</p> <p>A task 4 was added: "Carry out research on agricultural vulnerability and community preparedness in eastern Fiji and incorporate the results in appropriate manuals on agricultural alternatives and community preparedness as discussed in the original grant proposal."</p>	<p>PI0/T No. 907-11-999-84-41-0743184</p> <p>Grant No. ASB-0000-G-SS-4171-00</p> <p>Modification of Grant 3/19/85</p>	<p>No Cost</p>

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1985	<p>Quarterly progress report describes progress made on data gathering for vulnerability studies in eastern Fiji, Cook Islands, and Western Samoa. The research to date suggests manual on building community preparedness should focus more on public awareness program options than assessing community preparedness capability.</p> <p>PIDP has decided to produce two manuals for post-disaster impact assessment rather than one: (1) Handbook for Post Disaster Impact Assessment Management, and (2) Field Manual for Post-Disaster Impact Assessment.</p>	Quarterly Report	
June 1986	<p>Progress report for period 10/1/84 to 9/30/85 summarizes project background and notes achievements and current activities.</p> <ol style="list-style-type: none"><li>1. <u>In post-disaster assessment</u>, project has gathered examples of assessment forms and procedures from Pacific and beyond and conducted field research. Workshop held September 1985 established foundation for two handbooks for use in conducting post-disaster surveys.</li><li>2. <u>In vulnerability analyses</u>, project is preparing a manual that will provide guidelines for conducting national vulnerability analyses for use in region.</li><li>3. <u>In community awareness and training</u>, project is preparing a manual outlining a range of public awareness and community training materials and programs that may be used in the region.</li><li>4. <u>In agricultural mitigation options</u>, project is preparing a catalog to outline options for mitigating disaster impacts on farming.</li></ol> <p>The Disaster Preparedness Rehabilitation Project expected to have completed its programmatic objectives by the end of 1986.</p>	Progress Report to OFDA Community Preparedness and Rural Development Project	

no 1

DATE:

ACTION:

DATA  
SOURCE:

COST:

ACHIEVEMENTS AND PUBLICATIONS

Grant 1.

Disaster Preparedness and Disaster Experience in the South Pacific contains a regional overview and country profiles on 11 countries: Cook Islands, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Western Samoa. The profiles summarize the disaster experience of each country, including case studies, and describe the national organizations and preparedness and mitigation efforts. The report was published in August 1982.

Grant 2.

PIDP co-sponsored a disaster preparedness strategies seminar in Fiji in March 1983 (support also by the Australian Development Assistance Bureau, UNDR0, UNDP, and SPEC). In collaboration with INTERTECT, PIDP produced a set of model programs to be used as guides for developing mitigation programs and counter-disaster plans. A series of papers on the model programs include the following:

- "Agriculture Development and Disaster Preparedness" (March 1983) (22 pp.)
- "Alternative Strategies for Meeting Disaster Preparedness Needs" (March 1983) (34 pp.)
- "Disaster Preparedness and the State of Preparedness in the Pacific Region" (March 1983) (12 pp.)
- "Future Needs for Disaster Preparedness in the Pacific Region" (March 1983) (18 pp.)
- "A Model Program for Economic Vulnerability Reduction and Recovery" (March 1983) (17 pp.)
- "A Model Program for Reducing Housing Vulnerability" (March 1983) (16 pp.)
- "Summary Report: Disaster Preparedness Strategies Seminar, 23-25 March 1983." (1983) (59 pp.)

A model project for housing vulnerability reduction was held in the Solomon Islands in October 1983. The program included the construction of a "demonstration house" and a series of provincial

209

DATE:

ACTION:

DATA  
SOURCE:

COST:

workshops to train officials in methods of reducing housing vulnerability. INTERTECT, subcontracted to EWC/PIDP, prepared most of the following papers:

"How to Build a Strong Wood Farm House" (February 1984) (15 pp.)

"How to Strengthen a Solomon Island House" (February 1984)  
(19 pp.)

"Improvement of Low-Cost Housing in the Solomon Islands to  
Withstand Natural Hazards" (41 pp.)

"Minimum Structural Standards for Low-Cost Cyclone Resistant  
Housing in the Solomon Island" (June 1984) (9 pp.)

"Reducing the Vulnerability of Housing to Natural Disasters:  
A Proto-type Program Developed in the Solomon Islands"  
(June 1984) (125 pp.)

Grant 3 (Information Forthcoming).

Procedures and Guidelines for Disaster Preparedness and Responses  
(December 1984) (195 pp.)

Post Disaster Assessment

TOTALS

05/81-06/85

\$521,243

109

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 1 0 1

1. ACTIVITY NUMBERS: 3 2 0 5, 3 0 5 0, 3 0 3 0, 3 0 4 8

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Asia & Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): NOAA/NASA: South Pacific Severe Storm Detection and Warning System in Fiji. PASA to NOAA/NASA to design, configure, procure and install a meteorological satellite, receiving station on Fiji to enable forecasters to predict the location and strength of tropical systems.

5. DATA COLLECTOR: Lew Toulmin and Lydia Kan

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

No date

Proposal received from NASA and NWS to establish a meteorological satellite receiving station in Fiji. Proposal notes that:

"A Severe Storm Warning System for the S. Pacific",  
R. Crouthamel and C. Vermilion,  
no date

- o Over 5 million people on 4,000 islands live in the cyclone-prone SW Pacific
- o Fiji has averaged 1 typhoon per year for the past 100 years
- o Over 100,000 Fijians have been made homeless by cyclones in the last 10 years.
- o Currently Fiji must rely on distant interpretation of satellite photos for cyclone information; this is unreliable.

10

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1981	<p>PASA amended to NOAA to design, configure, procure and install a meteorological satellite receiving station on Fiji to significantly upgrade the timeliness and accuracy of S. Pacific severe storm detection. This system would help Fijian forecasters predict the location, strength, and position of tropical cyclones, and warn of imminent danger. Particular tasks included:</p> <ul style="list-style-type: none"><li>o Conduct a site survey</li><li>o Identify training requirements</li><li>o Design, configure, ship and install equipment</li><li>o Provide spare parts, supplies, manuals, and maintenance for 1 year.</li></ul>	<p>PIOT: 907-11-999-023-82-0729082</p> <p>Contract No.: OFD-00003-P-CC-2028-00</p>	\$204,000
May 1983	<p>PASA modified to add funds to allow project completion.</p>	<p>PASA No.: BOF-0003-P-CC-2028 Mod. No. 2</p> <p>Dates: 1/15/82 - 7/31/84</p>	\$156,000
August 1984	<p>PASA modified to extend contract, due to delays in technical and fund transfer areas.</p>	<p>AID memo from OFDA to SER/CM/SOD 8/13/84</p> <p>Dates: 1/15/82 - 12/31/85</p>	
November 1985	<p>PASA modified to extend contract, due to changes in Japanese satellite to be used by Fijian ground station.</p>	<p>PASA No.: BOF-0003-P-CC-2028-Mod. No. 4</p> <p>Dates: 1/15/81 - 12/31/86</p>	

21

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
October 1986	NASA letter stated that the "South Pacific Severe Storm and Warning System Detection (SPSSD/WS) facility has been successfully installed and is operational in Fiji." To continue training in the systems' sophisticated capabilities, a 3-month no-cost extension was granted.	Letter to NOAA from C. Vermillion, NASA 10/29/86 PASA Amend. No. 5	
May 1987	Report on SPSSD/WS stated that: <ul style="list-style-type: none"><li>o the Fijian system utilizes "state-of-the-art satellite data reception and processing techniques"</li><li>o NASA contributed \$440,000 to "match" the OFDA contribution of \$360,000.</li><li>o An evaluation of the SPSSD/WS done in December 1986 was "very positive" and "characterized the SPSSD/WS as the prime tool of the Fijian Meteorological Service (FMS) in its role as the regional tropical cyclone warning center for the SW Pacific. The improved storm detection, tracking and prediction capabilities were significant and constitute a substantial life-enhancing system."</li><li>o The evaluation identified two problems: The need for an uninterruptable power supply and the scheduled movement of Japanese geo-stationary satellite, which will block out about half of Fiji's weather data.</li></ul>	Dates: 1/15/82 - 4/30/87  Memo to AID M/SER/OP/W from Julia Taft, OFDA Director 5/28/87	
April 1987	Cable from USAID/Suva states that, "The FMS was able to assist several countries this past cyclone season with advanced weather warnings more accurate and timely than those available before the (SPSSD/WS) system was installed. We are convinced that these early warnings helped to reduce loss of life and property."	Cable Suva 1666, 4/14/87	

NYU

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1987	PASA amended to NASA to remedy the technical problems, especially the non-interruptable power supply, identified in SPSSD/WS evaluation. Other tasks included training, maintenance, software development and installation, and hardware purchase and installation. This first year of funding was anticipated to be followed by a second year.	PI0/T: 907-11-999-87-18-0703114 Dates: 5/28/87 - 9/30/88	\$100,205
June 1988	PASA modified to add balance of funding and extend completion date to 6/30/89	PI0/T: 907-11-999-87-18-807305  PASA: PDC-0000-P-NA-7103 Mod. No. 1  Dates: 5/28/87 - 6/30/89	\$150,000
<u>TOTALS</u>			
08/81 -06/89			\$610,205

2/3

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 3 0 3

1. ACTIVITY NUMBERS: 3 2 0 8, 3 0 3 4, 3 0 3 3  
 1a. ACTIVITY TITLE: Strengthening the Philippines Typhoon Early Warning System
2. COUNTRY BENEFITED: Philippines  
 NOT COUNTRY SPECIFIC: X
3. REGION BENEFITED: Asia & Pacific (3000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):
5. DATA COLLECTOR: Faye Henderson
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
April 1983	The Philippine Atmospheric Geophysical, and Astronomical Services Administration (PAGASA) forwarded a proposal to USAID/ Manila for a USG-Government of Philippines (GOP) effort to enhance the GOP capability in mitigating typhoon and flood damage.	Copy of proposal	
July 1983	OFDA negotiated a contract with Science Applications, Inc. (SAI) to transfer state-of-the-art technology in typhoon forecasting to the GOP, including hardware and software, training and technical assistance, to ensure earliest and most accurate possible early warning of life-threatening storms.	P10/T 907-11-999-83-027-0732594  Contract No. OTR-0000-C-00-3438-00  Dates: 9/26/83 - 9/25/84	\$238,329
	The contractor agreed to provide a consultant to analyze specific needs, select and install suitable hardware and software and train users, procure and install a main-frame computer system for large-scale data collection, provide in-country satellite interpretation training and provide maintenance training and spare parts (9 tasks).		

214

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1984	SAI submitted the first quarterly project report.		
March 1984	Report submitted to OFDA: <u>Framework for a National Typhoon Mitigation Program in the Philippines</u> (John Sanders, SAI). This completed the requirement to provide an expert consultant.		
March 1984	SAI contract amended to provide additional funding for the purchase and installation of the main-frame computer (the original choice could not be obtained and a more costly system was substituted) and to add five new tasks: 10) coordinate exchange of scientists between U.S. and Philippines in support of project; 11) coordinate radar maintenance training activities; 12) review river flood forecasting software models and purchase appropriate model; 13) develop training program and materials on use of tropical cyclone probability models; and 14) conduct detailed analysis of current warning system and perform analysis of alternatives in a revised warning system.	PI0/T 907-11-999-84-26-0743092  Contract No. OTR-0000-C-00-3438-00  Completion date extended to 6/30/85	\$314,833 (Funding Records and Contract) (\$316,040 - PI0/T)
April 1984	SAI submitted a second quarterly project report.		
April 1984	OFDA purchased (2) each of 49 publications from Reiter Scientific and Professional Books on such technical subjects as atmospheric science, meteorology, and climatology for PAGASA's use in the typhoon threat assessment program.	APF PO	\$5,175
June 1984	SAI submitted a third quarterly project report.		
September 1984	SAI submitted a fourth quarterly project report and a proposal for the development of a <u>Master Plan for PAGASA and a Typhoon Mitigation Follow-Up.</u>		

5/

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1985	SAI submitted a fifth quarterly project report, summarizing progress during the first year of the project.		
February 1985	SAI project officer submitted a trip report after installing a VAX 11/730 computer at PAGASA.		
October 1985	Report prepared and submitted to OFDA: <u>Review of the PAGASA Tropical Cyclone Warning System</u> (Charles R. Holliday, SAI)		
June 1988	OFDA contracted with Charles R. Holliday to assess the current capabilities of the GOP to provide typhoon early warning to remote coastal populations and other population centers and mitigate loss of life. The contractor was to arrange in-country interviews with governmental and non-governmental officials and with USAID/Manila and U.S. Embassy personnel; evaluate the utility of the public storm warning system for providing information for disaster preparedness and evacuation planning and review PAGASA's efforts in storm surveillance; identify other donor efforts; and prepare recommendations for future OFDA actions.	APF Funding Book  Contract No. FDA-0000-0-00-8035-00	\$9,363
August 1988	Holliday trip report (draft) submitted to OFDA: <u>Philippines Typhoon Warning Service Assessment.</u>		
<u>TOTALS</u>			
04/83-08/88			\$567,700

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 3 0 4

1. ACTIVITY NUMBERS: 3 0 1 1, 3 0 2 1, 3 0 3 1

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Asia & Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Asian Institute of Technology. Grants to the Asian Institute of Technology (AIT) to develop and support a disaster management center to train trainers, explore/develop applications of modern technology appropriate to disaster management in the region, and serve as a focal point of a regional disaster information network.

5. DATA COLLECTOR: Faye Henderson

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1984	The Asian Institute of Technology (AIT) in Bangkok, Thailand, submitted a proposal to OFDA to assist in funding a regional disaster preparedness center.	Project Proposal	
June 1985	UNDRO/WMO sponsored a feasibility study and submitted a draft report in June 1985, entitled, "Asian Regional Disaster Preparedness Center: A Feasibility Study." The study was funded by UNDP.	Draft Report <u>ADPC Annual Report 1986</u>	
September 1985	OFDA grant to AIT as initial funding for the establishment of regional disaster training center to train trainers and explore and develop applications of modern technology appropriate to disaster management in the region. The purpose was to provide increased awareness, institution building, technology transfer, and information dissemination.	PIO/T No. 907-11-999-85-51-5073111  Dates: 09/05/85 to 07/31/86	\$250,000

217

DATE:

ACTION:

DATA

SOURCE:

COST:

AIT's outputs were expected to include the following:

- To provide a regional training facility for disaster management with emphasis on the training of trainers and the preparation of teaching material.
- To undertake research on disasters common to the region;
- To assist regional countries in formulating policies and developing capabilities in disaster management
- To act as a regional focus for the exchange and coordination of disaster-related activities;
- To provide customers the capability to perform detailed planning and test plans with the support of AIT expertise and simulation facilities, including the preparation of transportable, compatible computer programs; and
- To provide data communications links to customers.

Grant No.

ASB-0000-G-SS-5155-00

The grantee was to submit program performance reports and a final report.

January 1986

The Asian Disaster Preparedness Center (ADPC) was formally established by the Board of Trustees of AIT.

ADPC Annual Report 1986

April 1986

Quarterly Report No. 1 (Jan. 1-Mar. 31, 1986) reports on the transition from feasibility study to program implementation. Key staff have been recruited, an office base established, a brochure describing the Center's aims, philosophy and services is being distributed, and the first Disaster Management Course (DMC) has been scheduled.

First Quarterly Report

April 1986

Collaborative agreement between AIT/ADPC and UNDRO to undertake joint functions in 4 main areas:

- Reciprocal use of libraries and data banks;
- Liaison in matters of common interest;
- Development and maintenance of disaster statistics and profiles of Asian countries; and
- Ad hoc activities in training and research.

AIT Review

Vol. 25, No. 2, Apr. 1986

2/17

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1986	No-cost extension to OFDA's grant to AIT	PIO/T No. 907-11-999-85-51-5073111	No cost
		Dates: 09/05/85 to 07/31/86 (extended to 10/31/86)	
		Grant No. ASB-0000-G-SS-5155-00 (Amendment 1)	
July 1986	Quarterly Report No. 2 (April 1 - June 20, 1986) describes services and information systems initiatives during the period and announces that U.N. disaster-related data have been obtained and converted to the data base system used by AIT. Arrangements have been finalized for the first DMC course.	<u>Second Quarterly Report</u>	
September 1986	Memorandum of Understanding between AIT/ADPC and the Indonesian Disaster Management Center. The collaborative effort would include an integrated disaster management training program, measures to strengthen disaster communications and information management, and resource and procedures studies.	<u>ADPC Annual Report 1986</u>	
October 1986	OFDA's grant to AIT amended to extend the period for two years and to increase the funding amount. Additional expected outputs under Amendment 2: <ul style="list-style-type: none"> <li>◦ To increase the number and/or value of other donor contributions;</li> <li>◦ To train at least 40 participants;</li> <li>◦ To develop and make operational an information collection and dissemination center;</li> <li>◦ To develop a periodic newsletter for at least 20 countries;</li> <li>◦ To incorporate relevant materials from the University of Wisconsin Extension Program disaster courses in the ADPC curriculum; and</li> <li>◦ To initiate mutual program support activities with at least 3 other centers of AIT.</li> </ul>	PIO/T No. 907-11-999-85-51-7073013	\$250,000
		Dates: 09/05/85 to 10/31/88	
		Funding Records	
		Grant No. ASB-0000-6-55-5155-01 (Amendment 2)	

2/19

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
November 1986	Quarterly Report No. 3 (July 1-Oct. 15, 1986) reports on services to date, information material being collected in the growing ADPC library and data base, and projects and studies under consideration.	<u>Third Quarterly Report</u>	
December 1986	AIT/ADPC Annual report published. Report summarizes activities during the year in training and information services and outlines plans for 1987. The Director (Lt. Col. Brian Ward), Program Coordinator (Everett Ressler), Senior Research Scientist (Dr. Satyendra Gupta), and Information Officer (Sunil Govinnage) all took up their posts during the year.	<u>ADPC Annual Report</u>	
April 1987	Contract with Dr. Kupusamy Thirumali of Science and Technology, Inc. to assess the training network and methodology used by ADPC and make recommendations for changes and improvements as necessary.	PO Preparedness File Dates: 6/22/87 - 7/24/87  Contract No. FDA-0000-0-00-7032-00	\$8,997
June 1987	Mission allotment to USAID/Manila to execute a grant with the Government of the Philippines (GOP). This enabled the GOP to provide a sub-grant to AIT/ADPC to conduct a course in Manila entitled, "Aseismic Design and Construction of Structures."	Funding Records  Advice of Budget Allowance  MA JDFX-87-29492-HG45 (838-50-492-00-86-71)	\$37,078
August 1987	Final report of Dr. Thirumali's evaluation submitted. Report recommends long-term planning for ADPC and outlines strategies for enhancing the Center's role as a uniquely placed institution in Asia for helping disaster-prone countries develop a capability to predict, mitigate, and manage natural and technological disasters.	Project Report  Contract No. FDA-0000-0-00-7032-00	
1987	ADPC's Interim Report summarizes activities in 1987 and outlines plans and targets for 1988. The report states the following: <ul style="list-style-type: none"><li>◦ By the end of 1987, four DMC courses will have been completed for approximately 170 participants;</li><li>◦ The first technical course is being planned;</li><li>◦ Donor contributions have increased significantly;</li><li>◦ Mutual program support activities have been initiated with AIT;</li></ul>	<u>1987 Interim Report</u>	

022

DATE:

ACTION:

DATA

SOURCE:

COST:

- Expansion of the ADPC's library and data base is continuing; and
- A close dialogue has been established with the U. of Wisconsin

An expansion of the Center's outreach activities was planned for 1988.

May 1988

New three-year grant with AIT authorized, to strengthen and expand the program of the existing Disaster Preparedness Center.

PIO/T No.  
907-11-999-88-038-8073109

\$225,000

FY 1988 funding was a contribution toward operating costs; additional funding would be contingent upon review and progress of the program.

Dates:  
05/30/88 to 05/29/89

Grant No. PDC-0000-G-SS-8211-00

The grantee was to undertake the following activities:

- Strengthen regional countries in senior and mid-level policy planning and implementation of disaster preparedness and emergency response programs;
- Continue to provide a regional facility to assist in training in disaster management with emphasis on training of trainers and preparation of teaching material;
- Expand the dimension of the ADPC program through the adaptation and incorporation of materials from other disaster management training facilities;
- Introduce a wider range of specialist courses/workshops;
- Expand regional outreach activities to increase awareness among decision makers;
- Initiate a wider range of action-oriented research programs;
- Expand library collection and capacity of computer programs;
- Expand the focus of professional disciplines and technical programs, particularly in the technological areas;
- Provide consultancy services; and
- Develop a capacity to support the International Decade for Natural Hazard Reduction.

AIT was to submit quarterly program reports and a final report.

121

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1988	<p>PIO/T circulated to fund the services of Everett M. Ressler as Program Coordinator of ADPC.</p> <p>Mr. Ressler was to serve as faculty member in the role of Program Coordinator of the ADPC and perform occasional independent work in support of OFDA's relief and preparedness objectives in the region.</p> <p>The PIO/T was cancelled.</p>	<p>PIO/T No. 907-11-999-88-39-8073110</p> <p>Dates: 05/27/88 to 03/30/89</p>	<p>\$75,000 CANCELLED</p>
September 1988	<p>PIO/T amended to increase the support for the ADPC grant by \$35,000 for a new total of \$260,000.</p> <p>Grant effective as of Sept. 30, 1988, with funding commitments authorized as of May 30, 1988.</p> <p>The services of Everett Ressler will be paid for out of the single grant to AIT, making him an employee of AIT. Should Mr. Ressler's services be required by OFDA, those services can be obtained by means of a separate purchase order negotiated between AIT and A.I.D.</p>	<p>PIO/T No. 907-11-999-88-38-8073109</p> <p>Dates: 05/30/88 to 05/29/89</p> <p>Grant No. PDC-0000-G-SS-8211-00 (Amendment 1)</p>	<p>\$35,000</p>

Achievements of AIT (through 1988)

- Six 6-week Disaster Management Courses between July 1986 and Nov. 1988 trained 211 participants and established a network of ADPC alumni in over 25 countries.
- Disaster management workshops for UNHCR (April 1987) and UNICEF (June 1987), co-hosted with the U. of Wisconsin.
- Aseismic Design and Construction of Structures course in Manila in collaboration with U. of Philippines (Oct. 1987) (per June 1987 MA to USAID/Manila).
- Assistance provided to Sri Lanka (Feb. 1988) and Philippines (Mar. 1988) disaster preparedness workshops
- Cyclone Warning Workshop (Oct. 31-Nov. 11, 1988) at AIT.
- ADPC data-base well established and expanding.
- Emergency Health Programs in collaboration with WHO, SCF, and others.
- Post-disaster evaluations conducted in Bangladesh (Ressler), Philippines (Gupta), and Thailand (Ressler).

222

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Numerous studies or other activities planned or under consideration - e.g., a Disaster Risk Reduction Workshop for Senior National Planners, a study on the Economic Impact of Disasters, and a Vernacular Housing Study in Disaster-Prone Areas.
- Collaboration links established with other organizations operating in the disaster and development fields (in addition to OFDA): UNDRO, UNDP, WHO, WMO, UNHCR, UNICEF, Indonesian Disaster Management Center, U. of Delaware Disaster Research Center, the Australian National Disaster Organization, Oxford Disaster Management Center and others.

Other Donors

The following are among the many agencies that have provided training support, resource persons, publications, and other assistance:

UNDP (\$250,000 as of Feb. 1988), ODA (U.K.), AIDAB, UNHCR, UNESCO, WHO, UNEP, ESCAP, UNDRO/WMO, NORAD, BESO (British Executive Service Overseas).

TOTALS

1984-to date

\$806,075

2/23

OFDA  
NON RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 6 0 4

1. ACTIVITY NUMBERS: 3 0 0 7

2. COUNTRY BENEFITED: Indonesia  
NOT COUNTRY SPECIFIC:

3. REGION BENEFITED: Asia & Pacific (3000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): USGS - Volcano Monitoring and Research in Indonesia. PASA with USGS to review the Indonesia - US Cooperative Program of Volcanic Monitoring and Research, and supplementing work previously accomplished under 1979-83 PASA; specifically, the USGS provided consultancy services to the Government of Indonesia (GOI) Volcanological Survey of Indonesia (VSI) through an advisory volcanologist, Thomas Casadwall, and technical specialists.

5. DATA COLLECTOR: Kimberly Vasconez

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

April 1984

A PASA was negotiated with USGS to provide technical services on a short-term basis to the Volcanological Survey of Indonesia (VSI) to build upon work previously accomplished under a non-Of DA PASA No. IC/INDO-0266-1-79, 1979-83. Services to commence April 15, 1984 and end September 29, 1984 and include the following tasks:

PASA No.: \$78,300

BOF-0000-P-IC-4072-00

Dates:

April, 1984 - September, 1984  
with PASA amendment 01 in August  
1984 to make completion date  
December 31, 1986

- o Provision of consultant services of an advisory volcanologist and instrument specialist
- o Preparation of a national volcanic-hazards assessment of Indonesia
- o Development of a mobile, "rapid-response" team at VSI to respond to volcanic crises
- o Continuation of systematic monitoring and field studies at Merapi volcano
- o Upgrading volcano monitoring networks, including the use of satellite telemetry, if feasible.

PIO/T:

907-11-999-84-32-0743096

224

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
March 1985	Amendment to the April 1984 PASA to extend the completion date to July 1, 1987, provide for 23 additional technical specialists, and add a sixth task -- assessing the existing linkages between volcano monitoring in Indonesia and the corresponding disaster management system of GOI.	PASA No.: BOF-0000-P-IC-4072-02  Dates: 4/1/84-7/1/87  PIO/T: 907-11-99-84-32-507-3042, Amend 2	\$465,000
May 1985	Mission allotment to Dr. Thomas Casadwall for housing and utilities for two years	JFDX-85-29497-HG4J	\$38,400
January 1986	The second project progress report was submitted. Besides documenting geologic activity, Dr. Casadwall noted the drop in oil prices had and would continue to affect the GOI counterpart funding for the project, thus affecting the project end-date.	Progress Report of Project, <u>Volcanic Monitoring and Research in Indonesia</u> October 1, 1985-December 31, 1984	
July 1986	The third project progress report was submitted and stated that: <ul style="list-style-type: none"><li>o an advisory volcanologist was appointed to VSI</li><li>o a "rapid-response" team was assembled at VSI by Dr. Casadwall</li><li>o a UNESCO/VSI workshop on Methods of Volcano Monitoring was held</li><li>o a direct method of notifying aircraft of volcanic activity was instituted</li></ul>	"Progress Report January 1, 1986- June 30, 1986"	
April 1987	The sixth project progress report was submitted. Dr. Casadwall and others presented a series of lectures on volcanology at the Indonesian Disaster Management Center. Data collection began for a map showing volcanic hazards -- Indonesia, and the project continued to be adversely affected by the large reduction in VSI counterpart funds from the GOI.	Sixth Report of the Project <u>Volcano Monitoring and Research in Indonesia</u> January 1, 1987 - March 31, 1987	

2/2

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1987	Amendment to the April 1984 PASA BOF 0000-P-IC-4072-00 to extend the completion date until July 1, 1988, add four TDY's, and maintain funding for the resident volcanologist. A seventh task was added -- Prepare reports assessing hazards and recommending monitoring strategies for several high risk volcanoes.	PASA No. BOF-0000-P-IC-4072-03  Dates: 4/1/84-7/1/88  PIO/T: 907-11-999-84-32-7073078 Amend. 03	\$197,582
October 1987	The eight project progress report was submitted. Dr. Casadwall noted that the lack of VSI counterpart personnel in addition to inadequate counterpart funding, was hampering project completion because most had been sent abroad for training.	Eighth Report of the Project <u>Volcano Monitoring and Research in Indonesia</u> July 1, 1987 - September 30, 1987	
February 1988	The ninth project program report was submitted. The use of satellite telemetry for monitoring volcano networks, (task 5), was not considered to be appropriate technology in Indonesia due to a lack of suitable domestic receiving stations. A seventh task had been added earlier on assessing hazards and developing monitoring strategies for several high risk volcanoes, and work on this task was proceeding.	Ninth Report of the Project <u>Volcano Monitoring and Research in Indonesia</u> October 1, 1987 - January 31, 1988	
July 1988	No cost amendment to the PASA in order to extend the completion date to August 31, 1988	PASA No.: BOF-0000-P-IC-4072-04  Dates: 4/1/84-8/31/88  PIO/T: 907-11-999-84-32-7073078 Amend. 4	
July 1988	Amendment to de-obligate shipping charges from the PASA for the the return of Dr. Casadwall and his personal/professional effects. Dr. Casadwall's duty ends August 24, 1988.	PIO/T: 907-11-99-84-32-7073078 Amend. 4	(7,600)
	Mission allotment for the packing and shipping of Dr. Casadwall's effects.	MA-034	\$7,535

226

DATE:

September 1988

ACTION:

The eleventh and final report was submitted. This report documented all geologic and other activities for the quarter July 1 - August 31, 1988, in addition to summarizing the status of the tasks listed in the statements of work. The final status of these tasks were:

- o Provision of consultant services of an advisory volcanologist and up to 23 technical specialists was completed
- o Preparation of a national volcanic-hazards assessment was partly completed
- o Development of mobile, "rapid-response" team at VSI to respond to volcanic crisis was completed
- o Continuation of the systematic monitoring and field studies at Merapi was completed
- o Upgrading volcano monitoring networks, including use of satellite telemetry, if feasible, was partly completed
- o Assessing existing linkages between volcano monitoring and the corresponding disaster management system of Indonesia was completed
- o Preparing reports assessing hazards and recommending a monitoring strategy for several high risk volcanoes was partly completed

DATA

SOURCE:

Final Report of the Project  
Volcano Monitoring and Research  
in Indonesia, May 5, 1985 -  
August 31, 1988

COST:

TOTALS

04/84-09/88

\$779,217

227

OFDA  
NON RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 6 0 0

1. ACTIVITY NUMBERS: 3 0 0 3
2. COUNTRY BENEFITED: Indonesia  
NOT COUNTRY SPECIFIC:
3. REGION BENEFITED: Asia & Pacific (3000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Indonesia Disaster Management Center. Governmental Grant to UNDP to train experienced host country personnel in new disaster management technologies and methods.
5. DATA COLLECTOR: Keith Johnston
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1984	Grant for Government of Indonesia (GOI) Disaster Management Training Feasibility Task Force study of disaster training institutions in Australia, the Philippines and the U.S. to cover travel and per diem. Information gained from the trip was applied to building the Indonesian Disaster Management Center.	JFDX-84-29497-HG45	\$22,365
May 1984	Funding was provided to Mr. Nick Carter to perform a feasibility study of whether or not a disaster management center should be established in Indonesia.	JFDX-84-29497-HG45	\$9,639
June 1984	Mr. Carter completed his feasibility study and concluded that a disaster management center should be established provided it is cross-sectional throughout the government, is provided an adequate venue facilities, equipment, staff, and funding.	<u>Feasibility Study for a Disaster Management Institute in Indonesia</u> Nicholas Carter, June, 1984	
August 1984	A contract was amended to Mr. Carter for consulting services to the Project Review Board (NMIA).	JFDX-84-29497-HG45	\$16,178

228

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
December 1985	A three-year, third party, cost sharing grant was amended to UNDP/UNDRO and the GOI to establish an Indonesian disaster management institute. GOI personnel would be trained in disaster management techniques and technologies, produce organizational and procedure handbooks, assess intra-governmental communications and information management structures, conduct resource and procedures studies, and make recommendations of future disaster management options for GOI.	P10/T No.: 907-11-999-86-18-6073029  Dates: 12/11/85-5/6/86  Grant No.: OTR-0000-G-16-6041-00	\$350,000
March 1986	A protocol was signed between GOI, UNDP and U.S. representatives, formalizing the 3-year project and the U.S. third-party participation. GOI in-kind contributions RP.1,798,599,100; UNDP contribution USD 384,684.	UNDP Project Document INS/82/020/C/01/31 "Strengthening Disaster Preparedness and Disaster Management in Indonesia" March 4, 1986	
December 1986	The first technical report for the project was submitted, by Art Wong (Chief Technical Adviser) The report noted: <ul style="list-style-type: none"><li>o Problems with GOI funding</li><li>o The appointment of Arthur Wong as Chief Technical Adviser, along with other officials</li><li>o The initiation of document collection efforts for a future library.</li></ul>	First Technical Report for "Strengthening Disaster Preparedness and Disaster Management in Indonesia" 3/4/86-11/30/86 Arthur Wong	
February 1987	Art Wong traveled to Washington to consult with OFDA officials about the project.	TA 7073044	\$910
July 1987	Report of First Tripartite Review meeting, which established overall IDMC Policy and Program activities.	Report of the 1st Tripartite Review, Denpasar, July 21, 1987	
July 1987	Dennis King, a staff member of the in-house ETI contract, traveled to Indonesia to set up a library and computer cataloging system for the IDMC	ETI Annual Report	Funded under ETI contract

234

DATE:

ACTION:

DATA

SOURCE:

COST:

August 1987

The Second Technical Report, for the period 12/86-7/87 was submitted. The report noted:

- o The IDMC was firmly established
- o A reference library was established
- o The first training courses were held
- o An "Organizational and Procedures Handbook" draft was completed
- o The information management structure data collection-effort was completed
- o The risk monitoring system evaluation survey was completed
- o The "future options" study was being prepared

Second Technical Report for "Strengthening Disaster Preparedness and Disaster Management in Indonesia," 12/1/86-7/31/86, Arthur Wong

May 1988

The Third Technical Report for the period 8/1/87-4/16/88 was submitted. The report noted:

- o Over 100 disaster trainees and managers were trained since 1/87
- o Training centers were established abroad
- o The information management system was established
- o The spatial analysis maps of West Java were completed

Third Technical Report for "Strengthening Disaster Preparedness and Disaster Management in Indonesia." 8/1/87-4/16/88 Arthur Wong

August 1988

The Second Tripartite Review Meeting report was produced. It outlined the status of the outputs, noting that:

- o The training programs were proceeding
- o The training handbook was being prepared
- o The information management system effort was continuing
- o The resource and procedures study had produced hazard maps
- o The future options study had commenced

Report of the Second Tripartite Review Meeting - Yogyakarta August 25, 1988

Other project outputs included:

- o National Disaster Management Institute of Indonesia (NDMI) "Initial Development and Training" plans  
9/24/84 W. Nicholas Carter
- o NDMI Development Training Modules  
11/20/84 W. Nicholas Carter

del

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o Project Work Plans 1986-1989  
    (Project Document INS/82/020/C/01/31)
- o Indonesia Disaster Management Center  
    Activity Reports 4/15/86-6/10/87
- o Training Implementation Report  
    Inter-Departmental Disaster Management Core Staff Course in  
    Indonesia, Jakarta, 7/27/87-8/19/87
- o Work Plan Flow Charts  
    1/1/88-4/14/89

TOTALS

05/84-to date

\$399,092

231

## Non-Regional and Worldwide

OFDA's non-regional, or worldwide, non-relief activities are also an outgrowth of the early 1980s' functional program. Projects under this category are not region-specific and have generally supported OFDA's disaster response capability or enhanced our ability to work closely with disaster-prone countries to meet impending crises. The NOAA global agroclimate early warning program was developed to systematically monitor rainfall amount and distribution in over 450 zones worldwide and forecast drought impacts on food crops. This eight-year program was eventually transferred to USAID missions and host country institutions, with the Africa Bureau assuming responsibility for African impacts assessments under the FEWS program.

Several major projects utilizing the technical resources of the U.S. Geological Survey are classified under this category, including: 1) conditional probability analyses for earthquakes in the Circum-Pacific Region; 2) the USGS Volcano Disaster Assistance Program (VDAP); and 3) the USGS Geological and Hydrological Hazards Training Program. The VDAP project incorporates a Volcano Crisis Assistance Team (VCAT) component which directly supports OFDA's emergency response, volcano contingency planning and early warning activities.

OFDA also has a continuing requirement for disaster-related information and computer processing and management support. This need is being met under the OFDA contract with Labat-Anderson, Inc. (LAI), and its predecessor Evaluation Technologies, Inc. In addition, OFDA has an agreement with Volunteers in Technical Assistance (VITA) to enhance OFDA's disaster response management capabilities, including data base development and dissemination of information on volunteers and donated materials for disaster response. The University of Wisconsin Extension Service training program in disaster management was designed to transfer acceptable techniques and management strategies to host-country disaster managers. This is designed to ensure that recipients of our relief assistance in-country are familiar with OFDA and are competent partners when disaster strikes. Disaster mitigation activities of a general nature also have been included in this category. Housing vulnerability studies by INTERTECT; the disaster mitigation program of Virginia Polytechnic Institute (VPI); emergency management technical disaster mitigation and assistance and response capability through the Commonwealth of Virginia Department of Emergency Services; and the Natural Fire Protection Association (NFPA) Fire Prevention and Training program have also been developed over the years to complement OFDA disaster response and preparedness efforts. Finally, OFDA, through a RSSA with the USDA's Forest Service, is acquiring various services which enhance our capacity to better respond to disasters. This agreement has largely focused on training and operational issues, as well as identifying and obtaining the services of individuals to respond to disasters on behalf of OFDA.

#### IV. NON-REGION SPECIFIC

##### ACTIVITY PROFILES

F Y 1 9 7 9

- o PASA with NOAA's Center for Environmental Assessment Services (CEAS) to continue FY 77 (\$115,000) and FY 78 (\$83,085) funding for the development of weather/crop yield forecast models for the Caribbean and Sahel, respectively. FY 1979 funding supports the testing and evaluation of those ongoing projects. FY 79 - \$97,430.

##### Outputs:

- 1) Weekly assessment reports for countries in the Caribbean Basin, Senegal, and the Sahel prepared, using available data (C)
  - 2) Historic climatic data bases of the Caribbean Basin, Senegal, and the Senegal prepared (C)
  - 3) Relationship of Haitian drought to overall climatic changes in the Caribbean region (C)
  - 4) Climate (crop yield) models developed for the Caribbean Basin, Senegal, and the Sahel (C)
  - 5) Economic impact of various climatic change scenarios (simulations) studied and predictions for selected years made in all areas (C)
  - 6) Quarterly reports on the Caribbean Basin produced (C)
  - 7) Final report on test and evaluation of the Caribbean Basin produced (C)
  - 8) Final report on test and evaluation of the Senegal Weather/Crop Yield Model Development submitted within 4 months (C)
  - 9) Final report submitted within 15 months on the weather/crop yield models for each country or sub-region of the Sahel (C)
- 
- o Contract with Practical Concepts, Inc., (PCI) to prepare, conduct, evaluate, and follow-up on disaster preparedness seminars in various regions. The scope of work specified a minimum of 3 and a maximum of 9 seminars. FY 79-81 - \$397,513.

##### Outputs:

- 1) Preparation of seminar sessions (C)
  - o conduct site visits
  - o negotiation of host government contributions
  - o organization of pre-seminar planning sessions
  - o coordination of travel, site support, housing, and logistics

233

- 2) Management of seminar (general services management) (C)
    - arrangement of participant's logistics
    - arrangement of social events, conference equipment and services
    - arrangement for press, photography, and protocol
    - translation services
    - distribution of seminar reports
  - 3) Site facility and official contact report produced within 15 days of visit)
  - 4) Seminar completion report produced within 45 days of seminar end) (C)
  - 5) Proceedings report produced and distributed each morning of seminar
  - 6) Semi-annual activities report produced every 6 months after completion of seminar
  - 7) Logical framework for 1979 [S. Asia] seminar developed emphasizing end of project status (C)
  - 8) Assessment plan--to be used as a model for future OFDA seminar/workshops --developed by interviewing selected South Asian participants of South Asia seminar; reviewing literature; inventoring of disaster prediction technical capabilities in the region; interviewing UNDRO officials; and indentifying disaster organizations and individuals to be used as resources or for whom USG assistance would be appropriate (C)
  - 9) National disaster preparedness plans acquired and submitted to OFDA
  - 10) Report with specific recommendations for regional activities submitted in 6 months, 1 year, and 3-5 years
- o Contract with Research Alternatives to continue the development and implementation of an automated and manual Lessons Learned system for OFDA. Duties include the evaluation of pre-1976 to 1980 disasters. The 1980 contract expanded original requirements from 50 disasters & 300 activities/resources to a minimum of 150 disasters & 900 activities/resources. FY 79-80 - \$79,610.

Outputs:

- 1) Development of manual and computer-based system to aggregate and manipulate past and current performance evaluations (C)
- 2) Evaluation of past disaster management performances (C)
- 3) Development of procedure for updating system
- 4) Recommendations for solving reoccurring problems (C)
- 5) Evaluation of system after 3 months, 6 months, and first year of operation
- 6) Quarterly progress reports produced
- 7) Provision of a workable body of data; 150 disasters and 900 activities/resources in Lessons Learned system (C)
- 8) OFDA staff interviewed to identify lessons learned from pre-1976 disasters (C)

- o Contract with Evaluation Technologies, Inc., (ETI) to provide on-site information, analysis, data collection, data processing, data entry and library management services for OFDA. FY 79-88 - \$2,388,168.

Outputs:

- 1) Developed and published over 60 Country Profiles, describing each country's vulnerabilities, disaster organization and relief logistics arrangements (C)
  - 2) Wrote about 50 disaster case reports and 40 disaster situation reports per year (C)
  - 3) Created and updated a disaster supplier file with over 700 entries (C)
  - 4) Managed the OFDA library (C)
  - 5) Created and updated the OFDA disaster history file with over 2,600 entries (C)
  - 6) Created and maintained the OFDA commodities/services file with over 4,000 entries (C)
  - 7) Created and maintained the OFDA training file with over 1,600 entries (C)
  - 8) Produced monthly stockpile reports on OFDA's 4 stockpiles worldwide (C)
  - 9) Produced the OFDA annual reports (C)
  - 10) Created and maintained the OFDA Lessons Learned file (C)
  - 11) Prepared the OFDA Congressional presentations (C)
  - 12) Responded to inquiries, provided computer support, and did extensive specialized research on request (C)
  - 13) Provided assistance to various AID missions abroad in the areas of Mission Disaster Relief Plans and terrorism simulations (C)
- 
- o Contract with EROS Data Center for Landsat imagery and photographic services in support of U.S. disaster relief program. FY 79 - \$5,000.
  
  - o Contract with NOAA for assistance in the preparation of a map showing the destructive earthquakes of the century. OFDA received 500 copies. FY 79-80 - \$1,500.

F Y 1 9 8 0

- o Contract with PADCO to develop a manual on temporary emergency housing design for disaster victims. FY 80 - \$38,135

Outputs:

- 1) Manual produced on emergency housing--covering site selection and plans, regional differences, building materials, and construction methods--and titled "Disaster Assistance Manual for Transition Housing." (C)

*ms*

- o Contract with Science Applications, Inc., to do tsunami threat assessments throughout the Pacific Basin using coastal zone numerical modeling. FY 80-82 - \$411,164.

Outputs:

- 1) Computer model (SSURGE) created/tested to do tsunami threat analyses (C)
- 2) SSURGE model modified to delineate maximum wave heights and run-ups of potential tsunamis in the Pacific Basin (C)
- 3) Investigation and modeling done of the potential tsunami threat faced by specific coastal locations in Peru, Chile, Philippines and Papua New Guinea (C)
- 4) Related bottom maps, graphics, and supporting materials produced (C)

F Y 1 9 8 1

- o PASA with NOAA/CEAS for the development of weather/crop assessment techniques to provide early warning tools to detect potential food shortages in drought-stricken areas. FY 81-82 - \$457,629.

Outputs:

- 1) Log E imagery analysis system purchased and installed (C)
  - 2) Seasonal crop probability forecasts constructed (C)
  - 3) Statistical relationship between short- and long-term climactic trends analyzed (C)
  - 4) Array processor and tape drive unit compatible with the NOAA Views II system procured and installed (C)
  - 5) Remote computer terminals procured and installed (C)
  - 6) Software to support routine operational analysis developed (C)
  - 7) Progress reports produced (C)
- 
- o Travel authorization for Roger Hay from the Food Supply Analysis Group to meet with OFDA to discuss OFDA proposed program on drought and its effect on food supply. FY 81 - \$1,200.
  
  - o Travel authorization for Dr. Brian Brady of the U.S. Bureau of Mines to consult with Paul Krumpke on ocean bottom displacement. FY 81 - \$465.

- o Contract with BDM Corporation for the planning, execution and evaluation of a disaster simulation exercise to test and strengthen the disaster readiness capabilities of OFDA. FY 81 - \$73,479.

Outputs: (3 phases)

- Phase I 1) Detailed plan for conducting simulation exercise produced (C)
- Phase II 2) Scenario of first 10-15 days produced (C)
- 3) Simulation handbook developed (C)
- 4) Pre-exercise briefing held
- Phase III 5) 30-hour, continuous simulation held in the OFDA emergency operations center (C)
- 6) Oral resume and critique of simulation exercise held (C)
- 7) Weekly progress reports produced
- 8) Preliminary assessment report produced (C)
- 9) Final report produced

- o Access for the Handicapped was hired to conduct a survey of approximately 15 countries on the needs of the disabled during disasters. A needs assessment and recommendations on the contents of a prospective manual were to be included in the final report. FY 81-82 - \$6,620.

- o Contract with INTERTECT to support the transportation and per diem of 95 participants and to help organize a conference on earthen buildings in Albuquerque. FY 81 - \$25,400.

Outputs:

- 1) Three volume proceedings report (C)
- 2) Conference held with 95 attendees (C)
- 3) Organization of the "International Working Group on the Improvement of Earthen Buildings in Seismic Areas (C)
- 4) Clearinghouse on earthen buildings organized at University of New Mexico as a result of the conference (C)
- 5) Earthen building newsletter developed and circulated (C)

F Y 1 9 8 2

- o PASA with the Peace Corps to develop a joint A.I.D./Peace Corps disaster assistance project by teaching Peace Corps Volunteers (PCVs), PC staff, and host country officials in disaster preparedness and assistance skills. FY 82-83: \$376,480. Other donations: in-kind.

Outputs:

- 1) Five disaster preparedness conferences held (C)
- 2) Logistics for PCVs, PC staff, and host country officials arranged (C)
- 3) Technical materials procured or developed (C)
- 4) Conferences evaluated (C)
- 5) Final report--including proceedings, conference questionnaire results and recommendations for "next steps"--provided (PC)
- 6) Roster of trained PCVs and returned PCVs maintained (C)

- o Contract with Nancy Graham to develop, implement and evaluate 4 A.I.D./Peace Corps Disaster Preparedness conferences designed to train Peace Corps participants, experts, and conferees in the preparation of practical disaster preparedness programs. FY 82 - \$20,850.

Outputs:

- 1) 4 conferences held in Bangkok, Honolulu, Bridgetown, and Quito developed, scheduled, and implemented (C)
- 2) Agenda produced (C)
- 3) Participants list provided to OFDA (C)
- 4) Expense reports produced (C)
- 5) Conference summary analysis and evaluations produced (C)
- 6) Letters of appreciation written and sent to participants (C)

- o Travel authorizations and a purchase order for the travel costs of speakers, planners and participants at various A.I.D./Peace Corps conferences held worldwide to develop disaster preparedness and relief skills in Peace Corps staffs, volunteers and officials. FY 82-86 - \$32,295. (C)

- o Grant to the University of Wisconsin-Extension to convene an International Advisory Board in order to create a disaster management diploma program. FY 82 - \$29,425.

Outputs

- 1) Advisory board of experts created (C)
- 2) Preliminary correspondence and project review held (C)
- 3) 3-5 day board planning conference convened (C)

238

- 4) Lodging and conference facilities provided (C)
- 5) Conference reports and meetings minutes disseminated
- 6) Diploma requirements produced (C)
- 7) Suggested curriculum designed (C)
- 8) Correspondence course module priority list developed (C)
- 9) Preliminary agenda biennial conference held (C)
- 10) Suggested list of instructors and participants developed (C)
- 11) Technical conference priority list designed (C)
- 12) Items of interest indicated by board members listed (C)

- o Grant with the Commonwealth of Virginia's Department of Emergency Services (VADES) to provide technical assistance, training, disaster response team(s) worldwide in support of OFDA's preparedness activities; the grant was amended in FY 1987 to include the design and development of an integrated international search and rescue team utilizing Virginia state resources. FY 82-88 - \$74,000. Contributions: Fairfax County/\$100,000; VADES/\$3,675.

Outputs:

- 1) National and local government plans developed for disaster-prone countries
- 2) Emergency operations centers developed (C)
- 3) Communications systems developed
- 4) Emergency managers from disaster-prone countries trained (C)
- 5) Trip reports provided (PC)
- 6) Training reports produced
- 7) International search-and-rescue (SAR) team designed (PC)
- 8) Rescue equipment procured for Fairfax Fire and Rescue
- 9) Packaging, palletizing, and storage systems for rescue equipment designed
- 10) Initial SAR team training exercise completed before prior to 6/30/88 (C)

- o PASA with USGS Global Seismic Network to supply technical assistance, equipment installation, maintenance and supplies to support 4 major (worldwide) standardized seismograph network stations (WSSN). Subcontractor-Raytheon Corp. FY 82 - \$150,000.

Outputs:

- 1) Spare parts to global seismograph network provided (C)
- 2) Special equipment for selected network stations installed maintained (C)
- 3) Critical network stations in LDCs maintained (C)
- 4) Progress reports produced
- 5) Final Report provided

- o Purchase Order to W. Dalton of International Development Services, Inc., for an analysis and revision of the Lessons Learned System and for the proposition of a more comprehensive disaster operations support information system. FY 82 - \$9,996

Outputs:

- 1) Draft manuscript of consolidated Lessons Learned provided (C)
  - 2) Entries in the new manuscript categorized by region and disaster headings (C)
  - 3) Representative formats of a revised, comprehensive disaster operations referral system provided and illustrated (C)
  - 4) Representative examples of Country of Disaster Event abstracts to serve as preface to revised Lessons Learned System provided (C)
- 
- o Purchase Order with Jack Silverstein to develop a model Mission Disaster Relief Plan (MDRP) with worldwide applicability and to test this model on the USAID Mission in Ecuador. The model was to be incorporated in A.I.D. Handbook 8. FY 82 - \$9,368.

- o Grant and travel authorizations for the support of 17 hurricane specialists and various host country nationals to attend annual national hurricane conferences since 1982. FY 82-87: \$43,602.

Outputs:

- 1) 1982/8 participants from Latin American and the Caribbean attended (C)
  - 2) 1983/Planning session attended (C)
  - 3) 1984/13 participants from Barbados, Jamaica and Mexico attended (C)
- 
- o Travel authorization in support of three speakers at the Seventh-Day Adventist World Service's (SAWS) Conference on disaster preparedness. FY 82 - \$1,640.

- o Publications purchase of NPPA publications for the Government of Ecuador and the Peace Corps Conference in Ecuador (\$2,461) and of the Spanish versions of American Red Cross publications. FY 82 - \$2,529.

- o Contract with Community Housing Foundation and Florida A&M University to develop and test temporary multi-purpose and multi-family structures for community space during disaster relief and rehabilitation programs. FY 1982-83 - \$48,096.

Outputs: (2 phases)

- Phase I
  - 1) Design of 4-6 schemes for temporary multi-family and multi-purpose community structures (C)
  - 2) Evaluation of various plastic sheeting materials (C)
  - 3) Interim report produced (C)
- Phase II
  - 4) Various joining techniques (plastic to plastic and plastic to framing) tested (C)
  - 5) "How-to" manual on appropriate technology for 7-10 designs designed (C)
  - 6) Set-up instructions tested using semi-literate, semi-skilled labor and common tools (C)
  - 7) 2 full scale models tested for a period of 1 year (C)
  - 8) Minimum of 100 35-mm slides illustrating construction techniques and testing procedures produced (C)
  - 9) Final report submitted to OFDA (C)

- o Travel authorization for U.S. and foreign participants to attend various OFDA annual voluntary agencies (VOLAG or PVO) conferences. FY 82 - \$14,508.

- o Travel authorization for V. Dvorak to participate in the World Meteorological Organization's (WMO) Cyclone Conference in Bangkok and to speak and train on the subject of tropical cyclone analysis and forecasting using satellite data. FY 82 - \$3,885.

F Y 1 9 8 3

- o Purchase order to Intertext to dub a Spanish soundtrack for the videotape "Building For Safety in Hazardous Areas." Funding includes the production of one master and two duplicate tapes. FY 83 - \$7,149.
  
- o Travel authorization for L. Steyaert of NOAA to present an A.I.D./NOAA Climatic Impact Assessment paper on disaster early warning to the CERMA Conference on Resource Management Applications. FY 83 - \$1,245.
  
- o Purchase order with INTERTECT to produce an illustrative manual from material researched and developed by the contractor on "How to Protect Earthen Buildings in Arid Regions from the Damaging Effects of Usual and Heavy Rains." FY 83 - \$5,000.
  
- o Purchase order to ETI for information systems development/idea sharing with several international agencies in Geneva (e.g., UNDRO, LRCS, Henry-Dumant Institute). FY 83 - \$2,276.
  
- o PASA with USGS to research, create, staff and conduct a geologic and hydrologic hazards training program and to assist OFDA in developing hazard-abatement expertise worldwide through the creation of a generic, post-disaster response plan for counterpart experts in host countries. FY 83-84 \$606,901. Contributions: USGS/\$10,000.

Outputs:

- 1) Workshop held March 5-30, 1984 in the Federal Center, Denver (C)
- 2) 42 host country experts from the fields of volcanology, seismology, hydrology, geohydrology, ground failure and emergency management participated (C)
- 3) Generic, post-disaster response plan for counterpart experts in disaster prone countries developed, including guidelines for local disaster preparedness and technical data collection methods to support post-disaster activities (C)
- 4) Final report and proceedings of the workshop submitted (C)

242

- o PASA with the Commerce Department for NOAA/EDIS/AISC to implement a global climatic impact assessment and disaster early warning system for developing countries. As part of this project, existing global early warning capabilities were upgraded and technology transfer activities accelerated. FY 83-86 - \$2,024,863.

Outputs:

- 1) Famine assessment tools, including bi-weekly weather assessments, upgraded (PC)
  - 2) Innovative agroclimatic assessment tools and instruction manuals for LDC scientists researched and developed (PC)
  - 3) Regional technology transfer seminar for S.E. Asia disaster early warning planned and implemented (C)
  - 4) Comprehensive orientation program at NOAA facilities for LDC scientists planned and implemented (C)
  - 5) Drought atlas prepared (C)
  - 6) Climatic Impact Assessment Capabilities for several global regions developed (PC)
  - 7) Digital imagery processing of multispectral meteorological satellite data introduced (C)
  - 8) Prototypical models for assessing hurricane/typhoon impacts on LDC agriculture and economics developed
  - 9) Improved agroclimatic assessment tools based on soil moisture analysis and expanded climatic impact weather data bases developed (C)
  - 10) Innovative models for technical assistance--including those for satellite flood early warning, drought atlases, and risk assessment--developed (C)
- 
- o Grant to the University of Georgia, Department of Sociology, for the per diem and transportation costs of participating experts in support of the Guatemala Earthquake Study Conference. Discussions centered on the international disaster relief efforts of the Guatemala Earthquake. FY 83 - \$16,700.

Outputs:

- 1) Logistical support for expert participants provided (C)
  - 2) Translation services provided
  - 3) Conference report produced
  - 4) Copies of Guatemala Earthquake Study distributed
- 
- o Purchase of Intertect manual on heavy rain in arid regions. FY 83 - \$600.
  
  - o Personal services contract with Terry Nixon to participate in the Hurricane Education Project. FY 83 - \$3,033.

- o Grant to the City of Los Angeles for participant travel to support the International Earthquake Conference held in Los Angeles from Feb. 7-11, 1983. FY 83 - \$109,012.
  
- o Contract with Mila Brooks to assist U.S. Missions and private voluntary organizations (PVOs) review and revise disaster preparedness and relief plans and to develop and manage a workshop on damage assessment. FY 83 - \$55,237.

Outputs:

- 1) Mission disaster relief plan for USAID/Katmandu reviewed and revised (C)
  - 2) Columbia University assisted in designing project plan for country-wide earthquake monitoring network in the Dominican Republic (C)
  - 3) Disaster damage assessment workshop organized in Port-au-Prince (C)
  - 4) Reports on each activity produced
- 
- o Travel authorizations to support 10 attendees at the May 15-19, 1983, National Fire Protection Association meeting in Kansas City. FY 83 - \$16,845.
  
  - o Purchase orders, travel authorizations, and contracts with the Oxfordshire County Council, Short Course Unit Faculty, at Oxford Polytechnic Institute to provide participant tuition, travel and per diem for disaster preparedness and recovery management training held at Oxford Polytech. FY 83 - \$125,025.
  
  - o Printing request for the printing of folders for the FY 1983 private voluntary agency (VOLAG or PVO) conference. FY 83 - \$500.
  
  - o Purchase order for 600 American Red Cross disaster preparedness handouts in Spanish titled "Safety and Survival in an Earthquake " and "27 Things to do in an Earthquake" (300 copies of each). FY 83 - \$68.
  
  - o Travel authorization for Cecily Mango of ETI to attend the Society for Computer Simulations conference on simulation in emergency planning held in San Diego. FY 83 - \$1,430.

- o Travel authorization for Dr. M. Maxwell of the United States to attend the UNDRO meeting on Space Applications for the Acquisition and Dissemination of space-related data. FY 83 - \$2,145.
  
- o PASA with NOAA to develop the meteorological component of the World Meteorological Organization (WMO) Tropical Cyclone Project #14 for Public Information and Education. NOAA was funded to collect, survey and review all appropriate public documents and to develop broadly based models and material when necessary. FY 83 - \$5,700.
  
- o PASA modification with the Department of the Navy (subcontractor-Science Applications, Inc.) to continue the development and institutionalization of typhoon/cyclone warning system with worldwide production capabilities. FY 83 - \$22,530.

Outputs:

- 1) Strike and wind probability products monitored for Department of State and A.I.D. (C)
  - 2) Briefings provided on these products to relevant organizations (C)
  - 3) State Department Operations Center assisted in developing operating procedures for handling cyclone warning information (C)
- 
- o Grant to the University of Wisconsin to develop 6 self-study courses in disaster management to be offered by the University of Wisconsin-Extension program. Grant amended to include the development and printing of field oriented/damage assessment manual, the translation into Spanish of the 6 courses and the development of a disaster management training module. FY 83-88 - \$183,161.

Outputs:

- 1) Self-study courses planned and developed on the following 6 areas:
  - o principles of disaster management (C)
  - o aim and scope of disaster management (C)
  - o introduction to natural disasters (C)
  - o disaster preparedness (C)
  - o disaster response (C)
  - o damage and needs assessment (C)
- 2) 10 sets of printed study material delivered to OFDA
- 3) Damage assessment procedures manual developed, specifically targeted for use by OFDA to train host country/international managers (C)
- 4) Data collection computer program developed to manage the information gathered in using the manual (PC)

245

- 5) 6 self-study courses translated into Spanish (C)
  - 6) Self-study courses printed in Spanish and English (C)
  - 7) Lesson module materials prepared for elements of disaster management hazards (C)
  - 8) Coordination of workshop undertaken at Harper's Ferry (6/20-24/88) on elements of disaster management hazards (C)
  - 9) 50 copies of Disaster Assessment Procedures manual printed (C)
- o Contract with Jeffrey Clark to supplement USAID Mission disaster preparedness and relief planning and to share relevant experience among missions. FY 83 - \$43,548.

Outputs:

- 1) USAID Missions aided in preparing and revising disaster preparedness and relief plans/emergency action manual, including:
  - o review of disaster response structure with suggestions for improvement (C)
  - o identification of mission resources (C)
  - o list of international organizations, host governments, and donor countries, their level of disaster preparedness and their available resources (C)
- 2) Possible relief and preparedness activities for USAID mission personnel identified (C)
- 3) USAID Mission disaster officials trained
- 4) International disaster preparedness assessments undertaken (C)
- 5) Assessment performed in Sri Lanka following a disaster (C)
- 6) Final report submitted with accomplishments listed by task (C)

F Y 1 9 8 4

- o Grant to Virginia Polytechnic Institute to form an American Panel on Risk Reduction in Hazard Prone Areas, as a counterpart to the International Panel on Risk Reduction in Hazard Prone Areas. This panel will serve as a network of people and organizations active in disaster mitigation in the developing world. FY 1984 - \$30,420.

Outputs:

- 1) Panel's first meeting organized at Virginia Polytechnic Institute Center in Alexandria, Virginia, from June 18-20, 1984 (C)
- 2) American and international panel representatives selected (C)
- 3) Logistical arrangements provided (C)

- 4) Meeting held covering the following topics:
  - o refining and defining specific objectives and functions of the panel (C)
  - o presentation of state-of-the-art research and field experiences (C)
  - o preparation of position papers and preparation of panel in major upcoming conferences
  - o determination of mechanism for improving communication withing the United States and between the United States & developing countries (C)
  - o design of communications network
  - o design of data repository
  - o production of an action agenda for 1984-85 (C)
  
- o PASA with U.S. Geological Service (USGS) to develop and implement analytical techniques to determine comparative earthquake and tsunami potential for zones in the Circum-Pacific region and to conduct regional vulnerability and hazards analysis for disaster planning in developing countries. FY 84 - \$394,799.

Outputs:

- 1) Detailed maps and texts prepared of comparative earthquake and tsunami potential for the west coast of South America, Central America, Mexico, North America, the Aleutian Islands, Kamchatka, Kurile Islands, Japan, and Western and Southern Pacific regions of Circum-Pacific region (C)
- 2) Analytical survey done of video-image processing systems to determine optimal specifications and capabilities suitable for operational analysis (C)
- 3) Video-image processing system procured for operational analysis
- 4) Historic repeat-time data for great earthquakes in the northern Pacific Ocean margin determined, and a deterministic analysis of the data undertaken (C)
- 5) Tsunami data for South America and the seismic source zones of northern Pacific region compiled (C)
- 6) Detailed investigations of the tectonic mechanisms of central Peru and the Central Sumba arc undertaken in order to assess the likelihood of possible major subduction zone events (C)
- 7) Investigations done of the rupture process of two large earthquakes that produced tsunamis (Samoa Islands 9/1/81 and Honshu, Japan 5/26/83) (C)
- 8) Investigations done of seismic zones which have comparatively high probabilities of recurrence of a great earthquake (C)
- 9) Analysis done of seismic sources processes of the Peru earthquake of May 30, 1970 (C)
- 10) In-depth investigation completed on seismic zones judged to have high probabilities of a great earthquake or damaging tsunami recurrence (C)
- 11) Quarterly progress reports submitted (C)
- 12) Annual reports submitted (C)

- o IQC with Resources Development Associates to design and plan a U.S. conference exploring international cooperation in the development of a global early warning system for natural disasters. FY 84 - \$41,000.

Outputs:

- 1) Disaster warning programs underway in the United States and at other national, regional, and global levels and assessment made of the applicability of those programs to a potential global early warning system identified and examined (C)
  - 2) Telemetry and data-generating systems and computer and communications technology for use in a global early warning system identified and examined (C)
  - 3) Current and potential applications of programs and technologies (in 1&2 above) to disaster early warning and disaster management outlined (C)
  - 4) Communications requirements and problems in disaster early warning, damage assessment, management, and rehabilitation identified and examined (C)
  - 5) Policy issues and implications (including financial) associated with U.S. initiatives in the development of global early warning system for natural resources identified and outlined (C)
  - 6) Recommendation made on membership composition of a USG interagency group to review policy issues and implications (C)
  - 7) Secretarial services provided (C)
  - 8) Preliminary agenda and illustrative budget for international policy level conference on global early warning systems submitted (C)
  - 9) Monthly progress letters submitted (C)
  - 10) Final report submitted (C)
- 
- o Grant with Virginia Polytechnical Institute to organize an international conference on disaster mitigation in Kingston, Jamaica, and to edit and publish conference proceedings and a handbook of model mitigation programs. FY 84 - \$138,812.

Outputs:

- 1) 5-day conference on disaster implementation planning programs, including field trips, planned and executed (C)
  - 2) 6 major papers, case studies, and model mitigation programs prepared and distributed to participants prior to conference (C)
  - 3) Conference proceedings edited/published (C)
  - 4) Handbook of model mitigation program plans edited/published (C)
  - 5) Attendance list created for OPDA approval (C)
- 
- o Grant to the Earthquake Engineering Research Institute (EERI) to develop a curriculum, course content, and instructional material for training seminars in earthquake engineering and to recommend target audiences for such seminars among the engineering sectors in disaster-prone developing countries. FY 84 - \$36,000; Contributions: NSF: \$34,595

24/8

Outputs:

- 1) Formation of steering committee of 7 earthquake experts (C)
  - 2) Organization and implementation of 3 steering committee meetings (C)
  - 3) Final report recommending the structure of international training programs on earthquake engineering addressing:
    - o training purpose and objectives (C)
    - o participating nations (C)
    - o training locations (C)
    - o curriculum, including duration and course handouts (C)
    - o student selection criteria (C)
    - o budget (C)
    - o computer uses in training
- o Purchase orders with the Earthquake Engineering Research Institute (EERI) to provide registration fees for 24 participants and lodging/breakfast funds for 23 participants to the Eighth World Conference on Earthquake Engineering held in San Francisco from July 21-28, 1984. (FY 84 - \$11,084) and to provide 50 copies of the "Proceedings of the Eighth World Conference on Earthquake Engineering" (\$5,900), including packing, handling and transporting the books from Berkeley, California, to Washington, D.C. (\$940). FY 84-85 - \$6,840.
- o Purchase order with the National Fire Protection Association (NFPA) Publications and Sales Department to provide the following catalogues: (1) "Fire Protection All Over the Home" (300 copies English, 300 copies Spanish); (2) "Clothes Can Burn" (300 copies English, 300 copies Spanish); (3) "Exit, Escape from Fire Wherever You Are" (300 copies English, 300 copies Spanish); and (4) "Fire Safety for the Handicapped" (100 copies) including shipping costs. FY 84 - \$187.
- o Grant to the Circum-Pacific Council for Energy and Mineral Resources (CPCEMR) to fund travel costs for developing country geoscientists to attend the CPCEMR Workshop on Forecasting Volcanic Eruptions and Mitigating Their Effects held in Hilo, Hawaii, June 9-11, 1984. FY - \$15,000.

Outputs:

- 1) Workshop proceedings developed (C)
  - 2) Accounting of funds received
- o Travel authorization for participants to various international air safety conferences and for Dale Puffenburger to plan the 1988 conference. FY 84-88 - \$7,112.

249

- o Grant to the American Institute of Architects Foundation (AIAF) to develop a technical manual/workbook on natural hazards protection planning for use at the Second International Workshop for Natural Hazards Conference and at the 1984 Federation of Pan American Architects (FPAA) Congress. FY 1984 - \$25,726. Contributions: AIAF/\$15,000.

Outputs:

- 1) Experts from Latin America and the United States selected to write technical chapters (C)
  - 2) Authors assisted in preparing workshop course outline materials (based on chapters) and technical presentations for conference and congress (C)
  - 3) Manual and workshop package prepared, produced, translated and distributed to participants (C)
  - 4) Conference materials evaluated and revised (C)
  - 5) Revised materials disseminated to FPAA associates (C)
  - 6) Final field technical manual in English and Spanish produced (C)
- 
- o Grant to the National Research Council's National Academy of Sciences, Commission on Physical Sciences, Mathematics, and Resources for partial support of the Committee on Seismology. FY 84 - \$10,000. Contributions: All others/\$297,000 (FY 84-85).

Outputs:

- 1) Establishment of Working Group on Seismic Networks to:
    - o discuss policy matters arising in network seismology
    - o advise government agencies concerning the operation of the Global Seismic Network (C)
  - 2) Development of planning strategy for establishing a National Center for Seismic Studies (C)
  - 3) Publication of NAS report on Seismological Studies of the Continental Lithosphere, and a plan of follow-up recommendations (C)
  - 4) Review of federal activities in seismology with emphasis on implications for academic research and applications (C)
  - 5) Two regular Committee on Seismology business meetings and four subgroup meetings of the committee held (C)
  - 6) Final Reports submitted
- 
- o Grant to the National Fire Protection Association (NFPA) to provide fire protection information, technical assistance, and fire-related emergency response expertise. An additional amount was provided to support an NFPA Fire Protective Seminar in FY 85. FY 84-88 - \$528,120. Contributions: NFPA/\$207,978.

Outputs

- 1) Seminar organized on fire service and fire prevention in Latin America, the Caribbean, and the Western Pacific (C)
  - 2) The OPCI (Organization Ibero-Americano de Proteccion Contra Incendios), NFPA's affiliate in Latin America, organized, monitored, and assisted. (Through 1987 OPCI had trained over 1800 Latin American officials.) (C)
  - 3) Fire-training needs of over 20 countries assessed (C)
- o Grant to the NFPA to develop a training course on contemporary fire protection practices. Training was held twice during FY 84--the first from Nov. 14-Dec. 10, 1983, in Orlando and Washington and the second from May 20-June 15, 1984 in New Orleans and Washington. The U.S. Department of Labor used a portion of the grant to fund the participation of 18 individuals representing 11 countries. FY 84 - \$97,700.

Outputs:

- 1) Travel and per diem for 18 participants from 11 countries provided to attend the NFPA Contemporary Fire Protection Practices course (C)
- o Grant to League of Red Cross Societies (LRCS) to act as primary host in sponsoring a disaster preparedness seminar in Male, Maldives, focusing on problems of South Asian countries. FY 84 - \$44,737.

Outputs:

- 1) Travel arrangements made for Red Cross/Red Crescent participants (LRCS-subgrant to UNDRO for government participants travel) (C)
  - 2) Disaster preparedness seminar held (C)
  - 3) Final copy of proceedings in English submitted (C)
- o Travel authorization for 5 individuals to travel to Annapolis Junction, Maryland, to participate in a training session on the use of OFDA's water purification unit during times of disaster held from Sept. 25-26, 1984. FY 84 - \$2,090.
- o Travel authorization for John Dulieu to attend an Air Crash Course at the University of Southern California from Feb. 26 to March 10, 1984. FY 84 - \$92.

- o Travel authorization for Aurora Mojica to travel to Washington, D.C., to participate on an OFDA panel on International Disaster Planning at the FEMA Conference on Women in Emergency Management. FY 84 - \$240.

F Y 1 9 8 5

- o RSSA with the U.S. Dept. of Agriculture (USDA) to provide A.I.D. with a pool of experts in agriculturally related operations to augment U.S. Mission and country-sponsored disaster plans and training in forestry, natural resources and related areas and to coordinate workshops and conferences on wildfire suppression, landslide hazards, and locust control. The USDA U.S. Forest Service and International Training Division implemented USDA activities. FY 85-88 - \$2,258,112. Contributions: A.I.D. Africa Bureau/\$50,000.

Outputs:

- 1) Response to wildfire disasters in Argentina, China, and Guatemala (C)
  - 2) Response to locust disasters in Senegal, Niger, and Mali (C)
  - 3) Rapid response to water purification systems developed (C)
  - 4) Meteorological data to assist wildfire fighting developed in cooperation with NOAA (C)
  - 5) Landslide hazard assessments completed in Dominica, Honduras and elsewhere (C)
  - 6) Roster of 2300 disaster specialists compiled (C)
  - 7) Disaster operations management course designed (C)
  - 8) Wildfire suppression courses conducted in Argentina, Venezuela, Ghana, Chile, and Arizona (C)
  - 9) Crisis and earthquake simulations in Peru and the United States conducted (C)
- 
- o Grant with the USDA to support the American Bar Association Symposium on Housing and Urban Development. FY 85 - \$36,460.

Outputs:

- 1) Travel and per diem for 80 experts from 20 countries to attend symposium on post-disaster response efforts to floods and earthquakes provided (C)
  - 2) Final report produced
- 
- o Travel authorizations for 4 individuals from the Philippines and from the Dominican Republic to attend a California Disaster Preparedness Training and study tour. FY 85 - \$5,314.

253

- o IQC contract to the Environmental Research Institute of Michigan (ERIM) to organize and conduct a 2-day conference titled "Conference on USG Civil Satellite Systems for Foreign Disaster Early Warning Systems" for USG agencies that operate disaster early warning programs. FY 85 - \$42,650.

Outputs:

- 1) U.S. governmental agencies personnel identified to present summary of agency's disaster early warning programs (C)
  - 2) U.S. government-sponsored conference convened in Washington, D.C., on state-of-the-art disaster early warning systems (C)
  - 3) Mechanism recommended to maintain interagency coordination (C)
  - 4) Monthly letter reports and final conference report submitted (C)
- 
- o Travel authorization for E. Robinson to attend a workshop on developing post-disaster manuals for managers and field workers. FY 85 - \$1,380.
  
  - o Grant to the World Environment Center for scholarship support of 10 African experts at the Fourth International Conference on Environment and Development: Opportunities in Africa and the Middle East held in The Hague, Sept. 25-27, 1985. FY 85 - \$25,000.

Outputs:

- (1) Logistical arrangements for participants made (C)
  - (2) Scholarship recipients' evaluations reported
  - (3) Copies of press reports on conference collected
  - (4) 5 copies of conference proceedings (C)
  - (5) Interim and final agendas developed
  - (6) Expense progress report produced
  - (7) 10 Africans attended conference (C)
- 
- o Grant to the University of New Mexico College of Engineering to plan, organize, convene and execute--in cooperation with the Middle East Technical University (METU) and the Turkish government--a regional workshop and technical meetings on the improvement of earthen buildings in seismic areas of the Middle East and the Mediterranean. Workshop and meetings are to be held in Ankara, Turkey, in September 1986. FY 85 - \$161,436.

Outputs:

- 1) Research, planning, and facilitation of 3-day workshop, technical meetings, and field trip during conference with the assist. of METU (C)
- 2) Arrangement of logistical support of U.S. participants (C)
- 3) Assistance to METU in editing workshop proceedings (C)
- 4) Emergency advisory board to field experts to post-earthquake construction sites established (PC)
- 5) Summary report of site visit and preliminary discussions produced (C)
- 6) Post-conference report written (C)

224

- o Purchase order with PADCO to identify training resources available to OFDA in relation to host-country needs and to develop training options as part of a worldwide, two-year plan. FY 85 - \$9,801.
  
  - o Contract with Booz-Allen & Hamilton Inc. to evaluate (1) the utility and efficiency of the joint U.S. Navy/A.I.D. Global Tropical Cyclone Wind Threat Probability Warning System and (2) the effectiveness of the warning systems in such countries as the Philippines, Bangladesh, and Fiji. FY 85 - \$75,000.
- Outputs:
- 1) Officials of the Naval Environmental Research Prediction Facility (NERPF) and the National Hurricane Center interviewed to obtain their views on the severe storm warning threat probability systems and their suggestions to increase its utilization (C)
  - 2) Role and effectiveness of the development of severe storm threat and storm surge models by Science Applications International Corp. (SAIC) evaluated (C)
  - 3) Effectiveness of SAIC technical assistance to the Philippines evaluated via a visit to the Philippine Meteorological Service in Manila (C)
  - 4) Level of usage determined of the system in Bangladesh by visits to various agencies in Dhaka (C)
  - 5) Recommendations made for greater utilization of the system (C)
  - 6) Monthly progress letters and final report submitted (C)
- 
- o Travel authorization for D. Schram of the University of Wisconsin to aid OFDA in planning training activities. FY 85 - \$865.
  
  - o Purchase order with the International Disaster Institute to research, edit, and publish a special issue of the international journal Disasters focusing on the effects of natural and man-made hazards on agricultural food production with particular reference to problems encountered in developing countries and to deliver 300 copies to OFDA for distribution. FY 85 - \$8,910.
  
  - o Purchase order with contractor Joseph E. Hoffman to identify disaster management training opportunities available in selected U.S. agencies and organizations to increase the training of international emergency management officials. FY 85 - \$1,600.

- o Contract with Science Applications International Corporation (SAIC) for the attendance of J. Jarrell at the World Meteorological Organization (WMO) Tropical Cyclone Forecasting Workshop, held in Bangkok from Nov. 25 - Dec. 6, 1985, as the OFDA representative. Also a PASA with the USDA/OICD/ITD to facilitate the participation of 15 tropical cyclone specialists at the workshop. FY 85-86 - about \$48,276.

Outputs:

(SAIC)

- 1) Serve as chairman of a working group on probability forecasting and assessing and improving forecast warnings (C)
  - 2) Workshop presentation published in WMO proceedings (C)
  - 3) Workshop rapporteur's report published in WMO proceedings
  - 4) Preparation of topic overview report in collaboration with other working group members to be forwarded to WMO Geneva
  - 5) Final Report submitted to OFDA (C)  
(USDA/OICD/ST)
  - 6) Transportation and per diem arranged for 15 conference participants from developing countries (C)
- 
- o Printing request for 100 printing/silk screen notebooks for the FY 1985 private voluntary agency (VOLAG or PVO) conference. FY 85 - \$42,650.

F Y 1 9 8 6

- o Purchase order to procure and transport the following from the American National Red Cross: "27 Things to Help You Survive an Earthquake" (300 English/Spanish, 300 English/French, 20 English/Chinese); "Family Disaster Plan and Personal Survival Guide" (300 English, 300 Spanish); "Coping with Children's Reaction to Disasters" (100 English, 100 Spanish); and "Business and Industry Earthquake Preparedness Checklist" (200). FY 86 - \$161,40.
  
- o Purchase order with the Emergency Response Institute for 3 copies of Rick LaValle's book titled "Blueprint for Community Emergency Management Textbook," including freight costs. FY 86 - \$85.

- o Grant to provide support for a one-week study tour in Washington, D.C., and Baltimore, Maryland, for 12 emergency medical specialists from developing countries as administered by USDA/USFS/OICD/ITD. FY 86 - \$22,980.

Outputs:

- 1) One-week study tour (in coordination with OFDA medical preparedness and training officers) including the following prepared: (C)
    - o Briefing by USDA/U.S. Forest Service on Incident Command System
    - o Briefing by OFDA
    - o Visits to disaster preparedness agencies and organizations
    - o Participation in Focus on Disasters Workshop (4/2-4/86) in Baltimore
  - 2) Administrative and logistical support for foreign medical specialists provided (C)
- 
- o Travel authorization for Dr. Frederick M. Nunes of the Caribbean Center for Development Administration, Barbados, to travel to Washington, D.C., to Antigua, and return from July 7-18, 1986, to assist OFDA in reviewing the planned simulation exercises in Antigua and Barbados. Also includes travel authorizations for Capt. Ken Day and Lt. Joe Suber of Fort Bragg to attend an OFDA disaster simulation exercise held from July 7-10, 1986. FY 86 - \$2,510.
- 
- o Purchase order for the services of Helen O'Brien to identify pesticide poisoning risks, organizations involved in pesticide management, and activities for potential OFDA action and to prepare instructional materials on pesticide poisoning. FY 86 - \$10,000.

Outputs:

- (1) Vulnerability analyses by region on the potential threat to humans from chemical accidents and abuse performed (C)
- (2) Regional resource list of organizations responsible for reducing the risk and mitigating the damage caused by chemical contamination created (C)
- (3) Group of pesticide management specialists identified for OFDA's use during disasters (C)
- (4) Means to integrate chemical disaster response planning into USG and international disaster planning identified (C)
- (5) Training opportunities in highest priority chemical disaster threats identified (C)
- (6) Slide program on pesticides, previously prepared for the World Bank, revised and distributed (C)

- o Printing request for a Spanish version of "Indigenous Building Techniques for Peru." FY 86 - \$4,115.
  
- o Purchase order to procure 50 copies of the "Proceedings of the Symposium on Post-Disaster Response and Mitigation of Future Losses" from the American Bar Association. OFDA distributed copies to Latin American participants of the symposium, Mission Disaster Relief Officers, and other. FY 86 - \$1,000.
  
- o Travel authorization for Dr. Edward J. Koenigsberg to attend the Second International Assembly on Emergency Medical Services held in Baltimore from April 1-4, 1986. FY 86 - \$350.
  
- o Grant to the Council for International Building (CIB) to fund international air fare, per diem, registration fee insurance and administrative fee of 3 foreign participants of the 10th Triennial Congress of the International Council for Building Research, Studies, and Documentation from 9/21-26/86 Washington, D.C. FY 86 - \$75,000. (C)

Outputs:

- 1) Round-trip airfare, per diem and insurance for 32 foreign participants from 19 countries attending the 10th Triennial congress of the CIB provided (C)
  - 2) CIB registration fees provided (C)
- 
- o Travel authorization for Tony Gibbs to attend the Uniform Building Code Conference in Lubbock, Texas, for 5 days. FY 86 - \$1,290.

F Y 1 9 8 7

- o Grant to CARE to design, develop and implement a disaster management workshop held February 20-26, 1988, in Addis Ababa for CARE staff and 10 representatives from other major PVOs. FY 87 - \$54,700. Contribution: CARE/\$15,000.

Outputs:

- 1) 6-day workshop held (C)

258

- 2) A clear policy on organizational response to disaster situations developed and the CARE Emergency Response Guidebook revised for field use (C)
  - (3) Final report, consisting of a concise assessment of the workshop experience, including findings/recommendations, submitted (C)
- o Purchase order with International Communications Systems Inc. to provide a closed-circuit telephone system (CTS) for use during A.I.D./W simulations. FY 87 - \$3,943
- o Purchase order with Arleen Cannata to design an electronic mail communications network to enhance information transfer between emergency offices of U.N. agencies, government agencies, and private donor organization. FY 87 - \$10,129.
- Outputs:
- 1) Determination of most efficient means of creating a data communications network linking emergency management offices in the United Nations (UNDRO, UNICEF, UNHCR, WHO, etc.) with donor governments, field offices, NGOs and recipient governments (C)
  - 2) Coordination of the development of policies, procedures, and protocols to govern the utilization of the network by participating agencies (C)
  - 3) Recommendations of hardware and software system (C)
  - 4) Final report submitted to OFDA, UNDRO and other designated agencies outlining recommendations on the system, potential users, implementation and future enhancements (C)
- o Purchase order for the attendance of Haraldur Sigardsson to represent OFDA at the International Conference on the Cameroon Lake Phenomenon in Yaounde from March 12-24, 1987, and to prepare a report summarizing the conference proceedings and outlining recommendations for remedial action. FY 87 - \$7,392.
- o Travel authorization for Janice Jansen to travel from Bangkok to Kuala Lumpur to attend the International Conference on Pesticides in Tropical Agriculture and to present a paper on "Pesticide Donations: the Need for International Collaboration" representing the Consortium for International Crop Protection from Sept. 23-25, 1987. FY 87 - \$1,490.

- o Grant to USDA/OICD/ITD to arrange for logistics for 18 earthquake specialists attending the Second Annual International Earthquake Conference held April 6-10, 1987, in Los Angeles. FY 87 - \$41,360.
  
- o Grant to Harvard University Graduate School of Education-International Relief/Development Project (IRDP) to evaluate successful disaster responses by private voluntary organizations (PVOs) and to generate practical guidelines for emergency relief programs. FY 87-88 \$100,000. Contributions: Ford Foundation/\$190,000; Exxon/\$25,000; PACT/CARE/\$6,000; Foster Parents Plan/\$5,000; CRS/\$5,000; Other/\$106,000.

Outputs:

- 1) Report of findings outlining approximately 35 cases studies produced (PC)
  - 2) Practical field manual for the design of emergency relief projects assembled (PC)
  - 3) Regional workshops and seminars for voluntary agency staff and Third World participants planned and executed
  - 4) Workshops for headquarters staff and North American and European decisionmakers designed and implemented
  - 5) Consultations with PVOs in the application of the field manual held
  - 6) Quarterly program performance reports and fiscal reports produced (C)
  - 7) Final report compiled  
(This activity is still in process)
- 
- o Grant for facilitating the participation of 10 search-and-rescue specialists from various countries at the National Association for Search and Rescue (NASAR) Response '87 Conference and First International Rescue Dog Seminar held from May 10-17, 1987, in Orlando. USDA/OICD/ITD made arrangements for 8 participantssons. FY 87 - \$18,975.

Output:

- 1) Arrangement of administration and logistics for 10 Third World search and rescue specialists to attend the NASAR Response '87 Conference (C)
- 
- o Grant to the USDA/OICD/ITD to facilitate the participation of 17 hurricane specialists in the National Hurricane Conference, April 1-3, 1987, in Orlando. FY 87 - \$25,665.

Output:

- 1) Logistics arranged for 17 Third World hurricane specialists to attend the National Hurricane Conference (C)

260

- o RSSA with the Federal Communications Commission (FCC) to provide the full-time services of an FCC employee to assist OFDA in developing a reliable communications system for the U.S. Government's international disaster relief program. Included are the following travel authorizations: FY 87 travel to the Commonwealth of Virginia's emergency operations center to review search and rescue equipment; FY 88 travel to the Boise Interagency Fire Center for training and equipment review, to Harper's Ferry for participation in the locust workshop, and to El Salvador, Costa Rica and Dade County, Florida, to test and review communications equipment and emergency communications plans. FY 87-88 - \$112,844.

Outputs:

- 1) OFDA's operational communications needs identified and recommendations on equipment made (C)
  - 2) Frequencies available for disaster and emergency communication identified through the coordination with national and international organizations (C)
  - 3) Survey of federal, state and local government communications equipment completed (C)
  - 4) Operational procedures developed for deployment of communications equipment (C)
  - 5) Training curricula developed to implement/utilize equipment (C)
  - 6) Equipment specifications developed (C)
  - 7) Strategy developed for screening, educating and involving amateur radio systems and operators in international disaster relief and preparedness programs (PC)
  - 8) Government, international and private organizations with communication resources which might assist OFDA in international disaster relief or preparedness activities identified (C)
  - 9) Communications systems and capabilities surveyed in selected priority countries (PC)
  - 10) Study on how computers and computer systems could enhance OFDA operational coordination performed (C)
- 
- o Printing request to duplicate "Safe Use of Pesticide" slides and off-set printing and duplication of training materials for a workshop held in Chile from Nov. 24-28, 1987. FY 87 - \$7,200.
  
  - o Travel authorization for A. Barcelona of the Philippines and D. Chirwa of Zambia to attend radio courses around the U.S. from May through June 1987. FY 87 - \$7,200.
  
  - o Request for translations from State Department's Office of Language Services. FY 87 - \$11,911.

- o Grant to Volunteers in Technical Assistance (VITA) as start-up costs to develop a volunteer services database and a surplus commodities and materials database for use during disaster operations and after emergencies. The databases will be utilized by the community of U.S. agencies engaged in emergency relief and disaster assistance (i.e., OFDA and U.S. PVOs). A second grant was provided in late 1988, making revisions, finalizing the program, and operationalizing the network by developing computerized linkages among the participants and marketing the databases. FY 87 - \$11,005 (Phase I). FY 88 - \$55,525 (Phase II).

Outputs:

- 1) Information system for VITA, OFDA, PVOs and the U.S. private sector established through computer networks, electronic mail, telephone and facsimile access (C)
  - 2) VITA staff trained to help OFDA during an emergency (C)
  - 3) Databases updated and maintained (PC)
  - 4) Periodic mailings made to PVO community updating needs and availability of goods and services (C)
  - 5) Quarterly progress reports submitted (C)  
(This activity is still in progress.)
- 
- o Purchase order with Cummins-Wagner Co. Inc. to provide a technician to assist OFDA in training military personnel at Ft. Bragg, North Carolina, in the use of OFDA's portable water purification unit and to produce a report evaluating the training. FY 87 - \$1,596.
  
  - o Travel authorization for Dr. Phillip Nieburg of the CDC to attend the WHO/UNHCR Nutrition in Times of Disaster Conference in Geneva from Sept. 25 - Oct. 1, 1988. FY 88 - \$2,395.
  
  - o Travel authorization to Henry Kaalakahahi to travel to Washington, D.C., from May 17-20, 1987, to meet with OFDA and discuss/evaluate light and medium rescue equipment for possible international use in a USG-sponsored search and rescue emergency response. FY 87 - \$2,004.
  
  - o Grant to the American Association for the Advancement of Science (AAAS) to provide an AAAS Fellow (Dr. Allan Schowler) to serve in OFDA for one-year in order to provide technical assistance, principally in locust control activities, pest management, and environmental issues in Africa and the Near East, as assigned. FY 88 - \$55,000.

262

Outputs:

- 1) Strategic plan for effective pest management in Africa and Near East developed (acting as OFDA's in-house expert) (PC)
  - 2) Project documentation, RFPs (Request For Proposals) and review of in-country proposals for the implementation of OFDA's pest management and eradication program prepared (PC)
  - 3) Technical evaluations of pest management options and briefing materials for the OFDA Director and OFDA AFR Division prepared as required to meet Congressional inquiries
  - 4) USAID Missions assisted in implementing pest control programs and technical assistance provided to host country departments and agencies (C)
  - 5) Technical literature relating to insect infestation and management collected (PC)
  - 6) Development assistance for an environmental hazards reduction program for OFDA, especially focused on overaged pesticides, provided (C)
- o PASA with the USGS to convene and conduct an interagency conference on geological hazards and investment strategies. Participants included industry, multi-lateral development banks, and selected international participants. The primary focus was on the issue of worldwide earthquake hazards and risk mitigation strategies for better protection of social and economic development in the Third World. All facilities, logistics, agenda, and background materials were prepared as part of the grant. FY 87 - \$50,000.

Outputs:

- 1) "First Conference on Geological Hazards and Their Potential Impact on Global Financial Investment Strategies" convened and conducted (C)
- 2) Final conference report prepared, collated, edited, and distributed (C)
- 3) Progress reports submitted

F Y 1 9 8 8

- o Contract with Labat-Anderson Inc. (LAI) to provide information, library, data processing and analytical services on-site at OFDA. FY 88 - \$746,255.

Outputs:

- 1) OFDA library managed (C)
- 2) Over 60 country profiles written and updated (C)

263

- 3) Information support provided to all major disaster relief efforts, including Armenia and Bangladesh (C)
  - 4) Situation reports on all major disasters prepared (C)
  - 5) OFDA Lessons Learned Disaster History, Commodities/Services, Training and Stockpile reports and files updated (C)
  - 6) Disaster response support materials provided, such as maps, charts or special reports (C)
  - 7) Data entry, database maintenance, computer programming and related support activities provided (C)
  - 8) Annual reports (C)
  - 9) Conference support provided (C)
- o Travel authorization for dog handler Caroline Hebard to meet with Fairfax County and Dade County fire and rescue personnel in Miami from July 8-11, 1988, on the East Coast International Search and Rescue Team in order to coordinate an action plan on operational procedures. FY 88 - \$560.
- o Purchase order with the University of Wisconsin Disaster Management Center for the following emergency management program videos: (1) "Issues in Emergency Management;" (2) "Needs Assessment;" (3) "Emergency Planning;" (4) "Logistics;" (5) "Logistics of People Movement;" (6) "Assistance to Nearby Villages;" (7) "Media Management" ; and (8) "Managing Emergency Refugee Operations." Tapes 1 through 6 were produced by Frederick Cuny of INTERTECT. FY 88 - \$400.
- o Travel authorization for M. Hutcharoen of Thailand and J. Gyamfi-Aidoo of Ghana to travel to California to attend the Geographic Information Systems Conference from Oct. 26-30, 1987. FY 88 - \$6,256.
- o Grant to USDA/OICD/ITD to facilitate the participation of 12 disaster specialists in the International Association of Fire Chiefs Conference held from Aug. 27-31, 1988, in Washington, D.C. The group toured the Fairfax Fire and Rescue training facility and Dulles International Airport on Sept. 1, 1988, and visited OFDA on Sept. 2, 1988. FY 88 - \$32,088.
- o Travel authorization for Dr. Ellery Gray, OFDA Health Officer detailed from the Public Health Service, to travel to Washington, D.C., from Jan. 18-29, 1988, to assist OFDA in its international disaster health response. FY 88 - \$1,725.

- o Travel authorization for Warren Bontoyan of the EPA to travel to Geneva from June 11-16, 1988, to attend the CIPAC/FAO meeting regarding assistance and advice on locust control chemical purchase specifications. FY 88 - \$960.
  
- o Purchase order with Overseas Development Natural Resources Institute for 25 copies of "The Locust Handbook" by the Anti-Locust Research Centre, Ministry of Overseas Development, and air freight. FY 88 - \$1,364.
  
- o Travel authorization for Bob Baldwin, Health Officer of the CDC, to travel to Washington, D.C., to attend a Medical Disaster Planning Conference on May 13, 1988. FY 88 - \$324.
  
- o Printing request to reproduce 10,000 copies of the OFDA promotional brochure. FY 88 - \$3,955.
  
- o Travel authorization for Bill Dotson and Caroline Hebard, dog handlers with Dogs East, to travel to Frankfurt, W. Germany, Paris, and Zurich, Switzerland, to observe the Search Dog Trials in West Germany and Switzerland and to teach Water Search Techniques in France as well as discuss, learn and develop international standards of search and rescue for dogs in structural collapse situations. FY 88 - \$6,745.
  
- o Translation request for the State Office of Language Services for various translations. FY 88 - \$5,405.
  
- o Travel authorization for Bob Baldwin of the CDC to temporarily replace OFDA Medical Officer Ellery Gray at OFDA in order to provide OFDA with health/medical support during Sept. 26-30, 1988, while Dr. Gray attended the WHO/UNHCR Nutrition During Times of Disaster Conference in Geneva. FY 88 - \$845.
  
- o Travel authorization for Dr. Phillip Nieburg of the CDC to attend the WHO/UNHCR Nutrition in Times of Disaster Conference in Geneva from Sept. 25-Oct. 1, 1988. FY 88 - \$2,395.

265

F Y 1 9 8 9

- o IQC work order with Booz\*Allen & Hamilton to inventory OFDA non-relief activities over the last 10 years and to prepare for a FY 89 strategic planning evaluation of OFDA's non-relief portfolio. FY 89 - \$51,817.

Outputs:

- 1) Work plan and schedule for a strategic evaluation developed and presented (C)
  - 2) Approximately 300 profiles of OFDA-supported activities compiled (C)
  - 3) Approximately 230 extended profiles of larger OFDA-supported non-relief activities compiled (PC)
  - 4) Chronologies compiled of 42 of OFDA's larger activities (C)
  - 5) Research design for proposed evaluation developed (C)
  - 6) Oral brief of work performed under contract presented (C)
- 
- o Grant to the National Research Council (NRC) to co-fund with other U.S. agencies the USG planning for the U.S. Decade and the International Decade for Natural Disaster Reduction which will occur over the 22 month period prior to the Decade's beginning in January 1990. The funding also supported the international planning and implementation portion of the NRC U.S. National Committee activities, as approved by OFDA. FY 1989 - \$50,000. Contributions: Various Donors/\$1,071,000.

Outputs:

- 1) Prospective projects identified that would tangibly advance hazard reduction efforts
- 2) Means developed to participate in an information exchange with scientists and engineers throughout the world
- 3) Means identified to help developing nations reduce the toll of natural disasters through human resource development and application of mitigation technologies
- 4) Networks defined among organizations with interests in hazard mitigation (i.e., international PVOs, professional, scientific and engineering organizations) to institutionalize worldwide contacts
- 5) Quarterly reports submitted  
(New activity still in process)

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 200

1. ACTIVITY NUMBERS: 1101, 1108, 4107, 2201, 2203, 3010, 4215, 2006
2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC:
3. REGION BENEFITED: Not Region Specific (4000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): PASAs between A.I.D. and the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) Center for Environmental Assessment Services (CEAS) to develop, test, apply, and transfer agroclimatic monitoring systems in order to detect potential drought and the deterioration of weather/crop conditions.
5. DATA COLLECTOR: Valerie S. Wayman
6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
November 1977	PASA negotiated between A.I.D. and the Dept. of Commerce (DOC) NOAA/CCEA to study the drought/food problem in the CARIBBEAN Basin esp. Haiti, Jamaica, and the Dom. Repub. The major tasks were: <ul style="list-style-type: none"> <li>o the production of weekly assessments of climatic conditions and their quantitative impact on crops, permitting early detection of deteriorating weather conditions,</li> <li>o the development of a quality controlled historic data base from existing publications to analyze climatic conditions, and,</li> <li>o the development of climate crop/yield models from the data base and from current crop/yield estimates to assess historic potential impact of drought on future production.</li> </ul>	PASA No. CC/CARB-999-1-77	\$115,000
April 1978	PASA between A.I.D. and DOC/NOAA to develop weather/crop yield models for 24 drought-prone countries of the African tropics (SAHEL) to provide early warning of potential famine. A qualitative assessment index based on precipitation reports and other weather data was also developed	PASA No CC/SAH-000-1-78	\$92,000

267

<u>DATE:</u>	<u>ACTION:</u>	<u>SOURCE:</u>	<u>COST:</u>
FY 1979	Continuation of agreement between NOAA/AID. The assessment procedures were refined, verified and validated and computer software was completed to produce a fully operational system. Documentation of the CARIBBEAN and SAHEL output was also produced.	PIO/T # 938-11-999-024-79- 4099053  To be completed 12/31/80  PASA No. CC/OFDA-999-1-79	
May 1979	PASA with NOAA/Center for Environmental Assessment Services (CEAS) to develop weather/crop yield forecast models in drought-prone LDC's of the INDIA SUBCONTINENT, SOUTH EAST ASIA and INDONESIA. Major outputs: <ul style="list-style-type: none"><li>o development of a qualitative assessment index based on precipitation reports and weather data to determine the condition of pasture and rangeland.</li><li>o investigation of large-scale atmospheric circulation features to determine their (possible) correction to climate and crop yields.</li><li>o continued production of weekly weather/crop assessment reports.</li></ul>	PIO/T # 938-11-999-019-0499043  Dates: 5/15/79-5/14/81  PASA No. CC/IWD-999-1-79	\$269,000
FY 80	PASA with DOC/NOAA/Environmental CEDIS/CEAS to develop crop-weather assessment tools for the SUB-TROPICS. (Kenya, Tanzania, Malawi, Zambia, Botswana, Zimbabwe, South Africa, Namibia, Lesotho, Uganda, Mozambique, Burundi, and Rwanda.) In more tropical areas - Zaire, Angola, Congo, and Gabon - the assessment will be one of agricultural information.  Tasks included the: <ul style="list-style-type: none"><li>o Development of weekly weather/crop assessment reports.</li><li>o Development of quantitative agroclimatic indices and the initiation of crop/weather modeling.</li><li>o Integration of country indices to interpret weather data emanating from the subject countries and from weather satellites in order to forecast weather data during crop seasons.</li></ul>	CC-A/DR-0135-8-80 to be completed 8/82	\$169,000

2798

DATE:

FY 80

ACTION:

PASA with DOC, NOAA/EDIS/CEAS to develop crop/weather assessment tools to detect potential areas of food shortages/resulting from climatic anomalies in SOUTH AND CENTRAL AMERICA: e.g., Bolivia, Colombia, Ecuador, Peru, Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Venezuela, Guyana, Suriname, and French Guiana. Major tasks by Phase are:

- Phase I - Preparation of climatic normals and agricultural resource analyses (crop calendars, historical data bases, etc.).
- Phase II - Development of quantitative agroclimatic indices and initiation of crop/weather modeling. Countries in the western coastal areas of South America were studied initially (Columbia, Ecuador, Peru, and Bolivia).
- Phase III - Integration of the indices of all the subject countries. Large-scale atmospheric circulation was reviewed in this phase.

Weekly Weather/Crop Assessment Reports will continue to issue timely meteorological satellite data in rainfall estimation procedures.

FY 81

PASA between AID and NOAA/EDIS to upgrade the quality and timeliness of NOAA weather/crop assessments in the SUB-TROPICS through the inclusion of multispectral meteorological satellite data in rainfall estimation procedures. Tasks included:

- o Procurement and installation of a Log E imagery analysis system.
- o Construction of probability forecasts of seasonal crop conditions.
- o Comparison of statistical relationships between short-term trends in seasonal rainfall and analogous trends in large scale climatic circulation.
- o Quarterly Reports
- o Final report

DATA

SOURCE:

COST:

PI0-938-11-999-023-80-3809532 \$285,760  
to be completed 2 years = 8/11/82

PASA No. CC-OFDA-011-6-80  
Scheduled completion 2/28/83

PI0/T: 938-11-999-016-81-3819712 \$274,582

Dates: 9/1/81-2/28/83

PASA No.: OFDA-0999-P-CC  
-1083-00

7/19

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
January 1981	Continuation of agroclimatical analyses of SOUTH ASIA AND THE <u>Indian Subcontinent</u> . Tasks included: <ul style="list-style-type: none"> <li>o Testing and evaluation of weather/crop yield models for major crops grown in drought-prone countries.</li> <li>o Continuation of the development of early-warning indicators of famine due to weather.</li> <li>o Continue to provide environmental/resource Weekly Weather/ Crop Assessment Reports.</li> </ul> <p>Project continued in 3 phases:</p> <p>Phase I - Testing and evaluation of models with respect to climatic normals and agricultural resource analyses (crop calendars, historical data bases, etc.).</p> <p>Phase II - Testing and evaluation of quantitative agroclimatic indices and the development of crop/weather models with a view to operational dissemination in the future.</p> <p>Phase III - Integration of the indices of all the subject countries and the study of large-scale atmospheric circulation.</p>	P10/T: 938-11-99-019-79-3819042 Dates: 5/15/80 - 10/31/81 PASA No.: IND-0000-P-CC -1025-00 (Formerly CC/IND-999-1-79)	\$90,366
February 1981	PASA for a agroclimatic tools for SOUTH AND CENTRAL AMERICA amended to provide for the training of qualified agrometeorologists from three Latin American countries: Venezuela, Ecuador, and Peru. The objective of this training was to effectively transfer against technologies developed and tested by NOAA/CEAS to host country users and to develop a transfer process model for application elsewhere.	P10/T No. 938-11-999-023-80 -3819202 To be completed 10/31/82 PASA: No. CC/OFDA-011-6-80 (Amendment 1)	\$63,511
February 1982	Continuation of the PASA for agroclimatic tools for SOUTH AND CENTRAL AMERICA. Preparation of the early warning program for operational status through the implementation of "routine dissemination and verification of test results" and the "evaluation, calibration and interpretation" of agroclimatic/crop condition models. Training of agrometeorologists was also continued.	P10/T: 938-11-999-023-80 -0729292 Dates: 3/1/82-2/28/83 PASA No.: CC/OFDA-011-6-80 (Amendment 3)	\$78,616

0170

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1982	<p>Sixteen (16) month amendment to the PASA for the SUB-TROPICS to continue to upgrade the quality, timeliness and accuracy of the NOAA weather/crop early warning assessments through accelerated development of meteorological satellite imagery interpretative and data analysis tools.</p> <ul style="list-style-type: none"> <li>◦ Procurement installation and operation of an Array Processor and Tape Drive Unit compatible with the NOAA Views II System.</li> <li>◦ Procurement, installation, and operation of a remote computer terminal capability.</li> <li>◦ Development of appropriate computer software to support routine operational analyses.</li> </ul>	<p>PI0/T: 938-11-999-016-81 -0729302</p> <p>To be completed 6/30/83</p> <p>PASA No: OFD-0999-P-CC-1083-00 (Amendment I)</p>	\$183,047
March 1982	<p>Fifteen (15) month amendment to the PASA providing climatic analysis and weather/crop yield assessments for SOUTH AND SOUTHEAST ASIA. Grant amended to fund:</p> <ul style="list-style-type: none"> <li>◦ A 5-day orientation workshop for scientists from 3 of the cooperating countries.</li> <li>◦ A 5-day workshop for scientists from 3 of the cooperating countries.</li> <li>◦ A 5-day workshop on Agroclimate Information System Technology to continue the technology transfer process. (Cooperating countries and U.S. scientists will participate in and conduct the workshop.)</li> <li>◦ Upgrade the models and associated data bases.</li> </ul> <p><u>Reports</u></p> <ul style="list-style-type: none"> <li>◦ Quarterly Reports - NOAA.</li> <li>◦ Final Project Report - NOAA.</li> <li>◦ Individual reports by each country team.</li> </ul>	<p>PI0/T: 938-11-999-019-79 -0729332</p> <p>To be completed 5/31/83</p> <p>PASA No.: IND-0000-P-CC-1025-00 (formerly CC/IND-999-1-79)</p>	\$109,373
July 1982	<p>PASA between A.I.D. and NOAA/CEAS to test and evaluate weather/crop assessment models for SUB-EQUATORIAL AFRICA (identified earlier as the SUB-TROPICS) and to continue the second Phase of program development. Phase II includes:</p> <ul style="list-style-type: none"> <li>◦ Statistical testing and evaluation of recently developed crop models and weather/drought analysis techniques.</li> <li>◦ Incorporation of model results and weather/crop assessments into AID and FAO global assessment programs through "professional contacts".</li> </ul>	<p>PI0/T: 907-11-999-030-82 -0729812</p> <p>Dates: 6/1/82-5/31/83</p> <p>PASA No: BOF-0000-P-CC-2132-00</p>	\$79,960

2/7/

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<p>Reports:</p> <ul style="list-style-type: none"> <li>o Biweekly Climate Impact Assessment Reports</li> <li>o Quarterly reports</li> <li>o Final Report with recommendations</li> </ul>		
August 1982	<p>PASA between AID and NOAA/EDIS/CEAS to initiate weather/crop assessment activities in the SOUTH PACIFIC. This first Phase of program development included:</p> <ul style="list-style-type: none"> <li>o Review of documentation of timely international tsunami meetings.</li> <li>o Preparation of a draft report to address tsunami monitoring.</li> <li>o Analysis of the "Pacific Tsunami System" and its operational possibilities.</li> <li>o Recommendations on avenues of OFDA participation in the implementation of a tsunami hazard monitoring system.</li> </ul>	<p>P10/T # 907-11-999-82-056-0729053 6/30/83</p> <p>Dates: 7/1/82-6/30/83</p> <p>PASA No. BOF-0000-P-CC-2197-00</p>	\$88,385
February 1983	<p>PASA amended to increase funding for the SUB-EQUATORIAL region.</p>	<p>PASA No.: OFD-P-CC-1083</p>	\$13,000
March 1983	<p>PASA with DOC, NOAA to provide AID with biweekly impact assessments of weather conditions in the HORN OF AFRICA for drought/famine early warning.</p> <p>Tasks included:</p> <ul style="list-style-type: none"> <li>o Development of statistical climate/crop yield models and regional agroclimatic indices for crops in each country.</li> <li>o Testing and evaluation of the climate/crop yield models for major grain producing regions.</li> <li>o Proposition of operational procedures for the implementation of an early warning system.</li> <li>o Development of strategies for agrometeorological technologies when appropriate.</li> </ul>	<p>Dates: 3/1/82-2/28/83</p> <p>PASA Nos.: OFDA-0999-P-CC-2042-00 and BOF-0999-P-CC-2042-00</p>	\$55,190
March 1983	<p>No cost amendment to the HORN OF AFRICA agreement to extend the original completion date, due to procurement delays.</p>	<p>PASA No.: BOF-0999-P-CC-2042-00 (Amendment 1)</p> <p>Dates: 3/1/82 - 9/30/83</p>	No cost
March 1983	<p>Continuation of PASA agreement for climatic/crop assessments in SOUTH AND CENTRAL AMERICA. The projected completion date was extended 8 months through November 30, 1983.</p>	<p>PASA No.: BOF-0000-P-CC-3081-00 (Amendment 4, formerly PASA No. CC/OIDA-011-6-80)</p>	

272

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1983	PASA amended to provide for an extension of weather/crop assessments in SUB-EQUATORIAL AFRICA due to procurement delays	To be completed 11/30/83	No cost LA
June 1983	PASA with DOC, NOAA/NESDIS/AISC to upgrade existing GLOBAL early warning capabilities and expanding technology transfer activities. Tasks included: <ul style="list-style-type: none"> <li>o Upgrading drought/food shortage assessment tools for increased timeliness reliability and quantification. (Includes bi-weekly assessments for drought-prone countries Latin America, the Caribbean Basin, Africa, and Asia.)</li> <li>o Provision of continued technical assistance to developing countries to help implement their operational climatic impact assessment programs.</li> <li>o Provision of follow-on technical assistance to AID/W and USAIDs on regional program implementation.</li> <li>o Development of innovative agroclimatic assessment tools and instruction manuals for orientation of LDC scientists, etc.</li> <li>o Production of a regional technology transfer seminar for disaster early warning in Southeast Asia.</li> <li>o Integration of a drought/food shortage technology transfer activities into AID/host country agricultural development planning as requested by overseas missions.</li> <li>o Presentation of a comprehensive orientation program at NOAA/AISC Columbia, Missouri for LDC scientists (3 individuals).</li> </ul>	PASA No.: BOF-0000-P-CC-2132-00 PIO/T: 907-11-999-83-007 -0732013 To be completed 5/31/84	\$349,706
	<u>Reports</u> <ul style="list-style-type: none"> <li>o Quarterly Progress Reports.</li> <li>o A Final Report with all deliverables attached.</li> </ul>	PASA No. BOF-0000-P-CC-3062-00	
June 1983	PASA amended to continue the development, testing, and implementation of the AID/NOAA GLOBAL CLIMATIC IMPACT ASSESSMENT technology. Tasks added to the original PASA were: <ul style="list-style-type: none"> <li>o Expansion of technical assistance to include the investigation of climate/marine fisheries relationships.</li> <li>o Preparation of a drought Atlas for Africa.</li> </ul>	PIO/T: 907-11-999-83-007 -0732013 Dates: 3/1/83-5/31/84	\$349,584
July 1983	PASA initiating weather/crop assessment in the SOUTH PACIFIC amended to provide a no cost one-year extension or due to procurement delays.  Final Report.	PASA No.: BOF-0000-P-CC-3062-01 (Amendment 1)  Dates: 7/1/82-6/30/84  PASA No. BOF-0000-P-CC-2197-01 (Amendment 1)	

273

DATE:

ACTION:

DATA

SOURCE:

COST:

April 1984

Agroclimatic Workshop on Drought Assessment held

MA # JFDX-84-294930HG45

\$56,680

June 1984

PASA amended to continue the development of GLOBAL CLIMATIC IMPACT Assessment Programs. Additional tasks, commencing December 31, 1983:

P10/T: 907-11-999-84-18-0745001

\$1,375,573

Dates: 3/1/83 - 5/31/85

- o Development of (AISC) Climatic Impact Assessment Capabilities for the Middle East, South Pacific (east of dateline), Equatorial West Africa, Mexico, and South America (Paraguay, Uruguay, and N.E. Brazil).
- o Continuation of the introduction of digital imagery processing of multispectral meteorological satellite data into operational rainfall estimates.
- o Association of independent drought/potential food shortage indices for regions in Latin America and the Sahel countries with research on tropical circulation patterns and their relationships to drought and marine fisheries.
- o Development prototype models for assessing hurricane/typhoon impacts on agriculture and the economy of developing countries.
- o Development of improved agroclimatic assessment tools based on soil moisture analysis and an expanded AISC historical and operational weather data bases.
- o Determination of the potential value of Geographic Information Systems (GIS) to impact assessors and disaster managers.
- o Information-sharing with AID/OFDA to increase USAID Mission awareness.
- o Management of workshops or the use of impact assessments in drought-prone area.
- o Provision of technical assistance or test assessment to qualified scientists from Jamaica, Panama, Ecuador, Sierra Leone, and Kenya.
- o Development of innovative models for technical assistance, including geo-stationary satellite flood early warning for Peru/Ecuador, drought atlas for Africa (published in French and English); drought/flooding risk assessment models, training lesson plans and educational aids.

PASA No.: BOF-0000-P-CC-3062-02 (Amendment 2)

274

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1984	Mission Allotment (MA) granting the UN's Economic and Social Committee for Asia and the South Pacific (ESCAP) funding for the procurement of fourteen (14) Apple II E Micro-Computer Systems as part of the NOAA/AID-OFDA Agroclimatic Technology Transfer Plan for South and Southeast Asia. Apple II E software and data bases are used to calculate agroclimatic/crop conditions and drought/food shortage indices based on rainfall data from each country.	MA JFDX-84-29493-HG45	\$79,100
August 1984	The GLOBAL Early Warning/Technology Transfer PASA was amended to reduce the amount of funding in order to reallocate the July 1984 mission allotment listed above. The PASA was modified to reduce the funding amount designated "Retained for AID Direct Disbursement" and to eliminate the provision of 4 Apple II C Systems originally designed for Ecuador and Sierra Leone.	PIO/T: 907-11-999-84-18-0745001 (Amendment 2) Completion date 5/31/85  PASA No.: BOF-0000-P-CC-3062-03 (Amendment 3)	
December 1984	The AISC (Assessment and Information Services Center) conducted a six-week training course for Peru, Haiti, Jamaica, the Dominican Republic, and Ecuador. Trainees were able to: 1) develop agroclimatic and crop condition assessment models, 2) design prototype bulletins and 3) in some cases, even prepare country plans. Trainee reports are on file in OFDA library.	<u>Accomplishments, 1984-1985, of the Assessment and Information Services Center (AISC)</u> October 1985	
January 1985	Image training sets were completed for the South/Southeast Asia region and distributed at the Bangkok Seminar in Thailand in February, 1985. These sets aid in training courses on satellite assessment of agriculture.		
February 1985	The second annual "Senior Policymaker's Seminar on Drought/Food Shortage Assessment in South/Southeast Asia" was held in Bangkok at ESCAP headquarters. Officials from 9 countries of the region attended.	<u>Accomplishments, 1984-85, of the Assessment and Information Services Center (AISC)</u> , October 1985	
February 1985	Three scientists from Thailand and two from Malaysia were trained in the Satellite Analysis system and its possible applications for their countries. Two training reports, listed in the addendum, were the result of this training.	<u>Accomplishments of the AISC</u> , October 1985	
March 1985	Six-week agroclimatic training courses were conducted by AISC for trainees from Bangladesh, India, Nepal, and Sri Lanka. Trainees completed assessment bulletins and updated country profiles.	<u>Accomplishments of the AISC</u> , October 1985	

1/25

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1985	AISC published a "Users Guide on Preparation and Use of Agroclimatic Assessments," describing the components which make up assessments and containing sample assessment reports.	<u>Accomplishments of the AISC,</u> October 1985	
May 1985	A two week training course for agrometeorologists and agricultural economists from the Sahel countries was conducted by NOAA/NESDIS and AGRHYMET in Niamey.	<u>Accomplishments of the AISC,</u> October 1985	
June 1985	PASA amended to extend the services of NOAA/NESDIS/ASIC to implement GLOBAL CLIMATIC IMPACT ASSESSMENTS for 7 months. Amendment also redesignated budget plan funds from specific line items (e.g., Develop Hurricane/Typhoon Impact Assessment Models" and "Conduct Institutional Analysis for Sahel Country Technology Transfer") to more general line items (e.g., "NOAA Model Development and Technical Assistance", thereby increasing the involvement of University of Missouri.	PIO/T: 907-11-999-84-18-0745001 (Amendment 4) To be completed 12/31/85  PASA No.: BOF-0000-P-CC-3062-04 (Amendment 4)	No cost
July 1985	At this point, twenty-four (24) developing nations and associated USAID Missions are participating in NOAA agroclimatic monitoring system programs. These nations include the nine (9) <u>South, Southeast</u> Asian countries, six (6) countries in Latin America and the Caribbean Basin (Peru, Ecuador, Costa Rica, Jamaica, Haiti, and the Dominican Republic) and the eight Sahelian countries.		
August 1985	PASA with NOAA Assessment Information Services Center (NOAA/AISC) for Climatic Impact Assessment Technology for the SAHEL AND HORN regions of Africa. Scope of work centers around operational crop monitoring and rangeland management in response to the African drought/famine of 1985. Outputs include: <ul style="list-style-type: none"><li>o Monthly crop yields assessments and rangeland biomass condition reports.</li><li>o yearly quantitative forecasts of weather impacts on crop yield for major crops (millet and sorghum).</li><li>o Collection of daily meteorological satellite data. Augmentation of climate assessment capabilities, incorporating higher resolution satellite data.</li><li>o Visits to each of the eleven project countries to increase Mission and host country use of agroclimate and Melsat data.</li></ul>	PIO/T # 907-11-999-85-59-50718666 To be completed 9/30/86  PASA No.; BOR-0000-P-CC-5099-00	\$2,000,000

2/7/85

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1986	GLOBAL CLIMATIC IMPACT ASSESSMENT. PASA amended at no cost to extend the term from December 31, 1985 to June 30, 1986. Significant tasks include: <ul style="list-style-type: none"> <li>o Identification and documentation of host country internal policies which may have climate/weather impacts.</li> <li>o Presentation of a one-week workshop for host country officials to introduce and train in the use of climate impact assessment technologies.</li> </ul>	Dates: 3/1/83-6/30/86 BOF -0000-P-CC-3062-05	No cost
September 1986	PASA amendment extending Climatic Impact Assessment activities in the SAHEL AND HORN REGIONS OF AFRICA.	PIO/T # 907-11-999-85-59-5071866 Dates: 9/30/86 - 3/31/87 PASAs No.: BOF-0000-P-CC-5099-00	No cost

Addendum  
Chronology #700

The documents produced by NOAA's Agroclimatics Tools for Weather/Crop Assessments activity are far too numerous to include in this chronology. Below is a list of Final Reports and specialized reports. The regional special reports are the products of several intensive training sessions in which scientists from targeted countries participated.

In addition to these final reports, there are monthly Assessment Reports for each region and an extensive list of scientific papers produced throughout the activity.

Country and Regional Analyses were also by products of this activity and are located in the respective regional USAID Mission.

CARIBBEAN BASIN: HAITI, JAMAICA AND DOMINICAN REPUBLIC

May 1979	<u>A Study of the Caribbean Basin Drought/Food Production Problem: Final Report</u>
November 1980	<u>Ravelo, A., L. Steyaert and C. Sakamoto, Drought/Food Production Problems in Haiti: Case Studies Analysis for 1957-59, 1965-68, and 1975-77 Progress Report</u>

277

SAHEL: AFRICAN TROPICS

- July 1979 Weather Crop Yield Relationships in Drought-Prone Countries of Sub-Saharan Africa: Final Report and Appendix
- December 1982 Proposed Agroclimatic Assessments for Policy Decision Making, Economic Planning and Rural Development in Senegal: Final Report From Training Program 9/7 - 10/5/82

COMBINED CARIBBEAN AND SAHEL

- December 1980 Steyaert, L.A. Ravelo and C. Sakamoto. An Early Warning Assessment Program for Drought/Subsistence Food Shortages in the Caribbean Basin and Sub-Saharan Africa: Final Report on Test and Evaluation

INDIA SUBCONTINENT, SOUTHERN AND SOUTHEASTERN ASIA

- June 1981 L. Steyaert, V. Achutuni, and A. Todorov, Proposed Agroclimatic Assessment Methods for Early Warning of Drought/Food Shortages in South and Southeast Asia: Final Report
- June 1981 Supplement Part I: Meteorological Data  
Supplement Part II: Crop Data  
Supplement Part III: Episodic Data

Training Reports

Burma

- December 1984 Lwin, Win (Burmese Meteorological Dept.). Proposed Agroclimatic Models for Policy Decision Making, Economic Planning and Rural Development in Burma

Indonesia

- November 1982 Sutrisno, Proposed Agroclimatic Assessment Models for Secondary Food Crops In Indonesia: Final Report

Malaysia

- June 1982 Tung Nam Ping, Malaysian Meteorological Service and Muhammad Pilus Bin Zambri, Department of Agriculture, Application of NOAA Satellite Data for Crop Assessment in Malaysia: A Training Report on Satellite Assessment Methods

218

Philippines

December 1982 Jose, Aida, M., Proposed Agroclimatic Assessment Models for Policy Decision Making, Economic Planning and Rural Development in the Philippines: Final Report

Thailand

June 1985 S. Wangpan, S. Martchaipoon, and S. Karnchanasutham, Application of NOAA Satellite Data for Crop Assessment in Thailand: A Training Report on Satellite Assessment Methods, June 21, 1985

November 1982 Paisarnuchapong, O., Proposed Agroclimatic Assessment Models for Policy Decision Making, Economic Planning and Rural Development in Thailand: Final Report  
(AISC Training)

SOUTH PACIFIC

May 1983 Achutuni, V., Trujillo, J., and Steyaert, L., Agroclimatic Methods to Assess Climate/Food Security Conditions in the South Pacific: Final Report

SUB-TROPICS (KENYA DAM) (SUB-EQUATORIAL AFRICA)

December 1983 Agroclimatic Conditions and Assessment Methods for Drought/Food Shortages in Subequatorial Africa: Final Report. (Gabon, Congo, Zaire, Angola, Namibia, Lesotho, Swaziland, Botswana, Zimbabwe, Mozambique, Malawi, Zambia, Tanzania, Kenya, Uganda, Rwanda, Burundi, and Madagascar)

SOUTH AND CENTRAL AMERICA

Final Reports

August 1980 Smith, Douglas, Principles of Climate/Crop Yield Modeling and Other Agroclimatic Assessment Tools with Operational Procedures for Agricultural Belize: Final Report

December 1983 Ravelo, A., and Steyaert, L., Climate Impact Assessment Methods for Drought/Food Shortage Early Warning in Central and South America: Final Report

279

Training Reports

- Benacchio, S.C., Avilan, W., Agroclimatic Assessment Approaches for Major Cropping Areas of Venezuela: Final Report (in Spanish and English)
- March 1982 Sandez, Walter, A., Agrometeorological Assessment Models for Economic Planning and Rural Development in the Mantaro Valley of Peru: Final Report (in Spanish and English)
- August 1984 Herrera, H., Agrometeorological Methods for Crop Condition Assessments; A Proposed Program for Costa Rica
- October 1984 Caceres, T., et. al., Desarrollo y Evaluacion de Modelos Agrometeorologicos para el Pronostico del Estado de los Cultivos en el Peru
- May 1985 Estevez, F., Evaluacion del Estado de los Cultivos Usando Tecnicas Agrometeorologicas Metodologia para la Republica Dominicana
- May 1985 Rovere, O., Rodriguez, M., Metodos Agrometeorologicos para Evaluar el Estado de los Cultivos Ecuador
- Fuentes, J., Agroclimatic Crop Condition Methods for Assessing Drought/Food Shortages in El Salvador

HORN OF AFRICA

- December 1983 Agroclimatic Conditions and Assessment Methods for Drought/Food Shortages in the Horn of Africa: Final Report
- September 1983 Terry, Rita, B., Assessing Climate Impact on Refugees (Displaced Persons and Agriculture in the Horn of Africa Region (AISC)

GLOBAL CLIMATIC IMPACT ASSESSMENT

- May 1985 Planhuelo-Ravelo, A., Ravelo, A., Drought/Crop Condition Assessment Methods for Northeast Brazil, Mexico, Paraguay, and Uruguay: Final Report

SAHEL AND HORN COMBINED

- Mar-April 1986 Sahel Cause Lesson Plans Special Climatic Impact Assessment for Crops and Rangelands
- April-May 1986 Resource Manuals were developed giving physical site information and crop distribution data on the following sub-Saharan countries: Burkina Faso, Cape Verde Islands, Chad, Ethiopia, the Gambia, Niger, Senegal, Somalia, and the Sudan
- October 1988 Terry, R. (Ed), 1987 Drought and Climate Assessment for the Sahel/Horn of Africa: Final Report

OSU

TOTALS

11/77-04/87

\$6,127,433

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 705

1. ACTIVITY NUMBERS: 4211, 4241, 4221, 4101

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): ETI/LAI: Information Management and Support. Contract with Evaluation Technologies, Inc. (ETI) and later with Labat-Anderson, Inc. (LAI) to provide information, library, data processing and analytical services on-site at OFDA

5. DATA COLLECTOR: Lew Toulmin  
(# 7 ON PROFILE FORM)

6. CHRONOLOGY:

DATE:

August 1979

ACTION:

Contract awarded to Evaluation Technologies, Inc. (ETI) to provide disaster preparedness and relief services (on-site at OFDA) to OFDA, with a focus on the following areas:

- data collection
- data processing
- data and information dissemination
- data analysis
- data entry
- library management.

The subject area foci were:

- country and regional profiles
- current and historical disaster statistics and situation reports
- damage assessments, lists of donations, and communications
- disaster preparedness data.

(ETI had begun providing these services in 1976.)

DATA

SOURCE:

PIO/T: 938-11-999-040-79-4099073 \$216,500

Contract #:

AID/SOD/PDC-C-0283

Dates:

8/19/79-8/31/80

COST:

282

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1979	<p>ETI major accomplishments during this period included:</p> <ul style="list-style-type: none"> <li>◦ Revised and standardized the format of "country profiles," which describe in detail each country's disaster hazards, preparedness, logistical arrangements for relief, etc.</li> <li>◦ Prepared or updated numerous country profiles (CPs) including: Bangladesh, Pakistan, Afghanistan, India, Peru, Chile, Mauritania, Somalia, Mali, Chad, Indonesia, Malaysia, Philippines, Caribbean, El Salvador, Indian Ocean, &amp; East Africa</li> <li>◦ Collected data on Cambodian and East Timor refugees</li> <li>◦ Researched the earthquake vulnerability of Peru</li> <li>◦ Researched electric power relief responses, following Hurricanes David and Frederick</li> <li>◦ Updated the Disaster History file</li> <li>◦ Analyzed past Congressional inquiries, to prepare ready-response capability</li> <li>◦ Edited and published Caribbean Disaster Conference proceedings</li> <li>◦ Cataloged OFDA library</li> <li>◦ Supported Hurricane Allen disaster relief/response effort</li> <li>◦ Prepared monthly disaster stockpile reports</li> <li>◦ Formatted and updated an emergency contacts list</li> <li>◦ Analyzed disaster strike dates by month and quarter</li> <li>◦ Responded to requests for information, input disaster data, and maintained the OFDA computer/word processing system.</li> </ul>	<p>ETI 1979 Quarterly Reports to Fred Cole</p>	
September 1980	ETI Contract extended, with same purposes.	<p>Contract: AID/S00/PDC-C-0283 Mod #1</p>	\$247,468
June 1981	<p>AID/PPC program evaluator reviewed ETI performance and products and concluded that ETI work was "of high quality and responsive to OFDA's information needs." Quoted one staffer as saying, "without ETI, OFDA would fall flat on its face!" Report noted range of major ETI products included: 44 country profiles, regional profiles, 115 case reports, monthly stockpile reports, 1,600 summary/vulnerability reports, etc. Report suggested wider distribution of country profiles, estimated that ETI's number of positions could be cut somewhat, and made various other management suggestions</p>	<p>6/24/81 Memo from J. Gilmore, PPC</p>	

207

DATE:

ACTION:

DATA

SOURCE:

COST:

August 1981

ETI contract extended, with same purposes.

PIO/T: 938-11-999-022-80-3809502 \$250,000

Contract:

AID/SOD/PDC-C-0283

Dates:

9/31/81-9/3/82

1980-81

ETI major accomplishments during this period included:

- Developing regional housing profiles for the Indian Ocean and Latin America
- Updated or wrote CPs for Dominican Republic, Bolivia, Honduras, Nicaragua, Haiti, Peru, Sudan, Ethiopia, Chile, Dominica, Upper Volta, Zaire, & Indonesia
- Did case reports (descriptions of actual disasters and "lessons learned") for 11 disasters
- Prepared a list of international disaster organization personnel
- Updated disaster history data files, OFDA Disaster Summary tables, Operational Record Reports and Procurement/Supplier files
- Prepared a list of Mission Disaster Relief Officers (MDROs)
- Prepared an analysis of costs and benefits of disaster relief and mitigation
- Undertook a nutrition survey on food acceptability, availability, storage and transport, for use in relief operations
- Completed 119 disaster case reports
- Responded to requests, and input disaster data.

ETI 1980-81

Quarterly Reports to Fred Cole

September 1982

ETI contract reissued, with same purposes.

PIO/T: 907-11-999-03382-0729902 \$193,177

Contract No.:

PDC-0000-C-00-2112-00

Dates:

9/4/82-9/30/83

2/8/83

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1982	<p>ETI accomplishments in this period included:</p> <ul style="list-style-type: none"> <li>◦ Developed a Disaster Budget Report to monitor disaster obligations and expenditures</li> <li>◦ Devised a computer program to record and monitor the weights and sizes of all items in all 4 OFDA stockpiles worldwide</li> <li>◦ Supported OFDA's Lebanon relief efforts with information, maps, charts, and a Requirements Response Log</li> <li>◦ Updated the Operations Notebook Contact List</li> <li>◦ Provided data and word processing support to OFDA</li> <li>◦ Prepared a monograph on natural disasters and the development process</li> <li>◦ Developed an operational reports record system with a Lessons Learned component, for use in relief operations</li> <li>◦ Completed 8 FY 1982 disaster case reports</li> <li>◦ Updated or prepared CPs for Costa Rica, Gambia, Senegal, Ecuador, Chad, Haiti, El Salvador, Nicaragua, Guatemala, Philippines, Upper Volta, &amp; Zaire</li> <li>◦ Interviewed all OFDA professionals to incorporate information into Lessons Learned system</li> <li>◦ Prepared financial profiles of OFDA relief work from 1964-81</li> <li>◦ Compiled a list of all relief commodities donated by OFDA</li> <li>◦ Distributed publications, responded to information requests and managed the OFDA library.</li> </ul>	ETI FY 1982 "Annual Report," 10/1/82	
September 1983	ETI contract extended, with same purposes.	P10/T: 907-11-999-82-032-0732982 \$239,476  Contract: OTR-0000-C-00-3345-00  Dates: 7/11/83-7/10/86	
1983	Travel authorization for ETI staffer (Cecily Mango) to attend Computer Emergency Simulation Conference in San Diego.	T.A. 0732552	\$1,430
1983	Travel authorization for ETI staffer (Susan Carroll Rome) to attend meeting of disaster information organizations in Geneva.	P.O. AID/OFDA 147-83-030	\$2,276
1983	Travel authorization for 2 ETI staff (Cecily Mango and Mary McGuire) to visit Jamaica to research a country profile.	P.O. AID/OFDA/147-83-019	\$6,756

201

DATE:

1983

ACTION:

- ETI accomplishments during this period included:
- Maintained the OFDA Supplier File
  - Developed a streamlined Lessons Learned keyword access system
  - Sent an ETI team to Ecuador to collect lessons learned from the 1983 flood relief operation
  - Converted various systems to a new OFDA computer
  - Created new data retrieval programs for the Disaster History file
  - Designed and researched options for the first OFDA Annual Report
  - Wrote 74 FY 1982 disaster case reports
  - Sent ETI teams to Jamaica and Ecuador to collect data for CPs
  - Produced or updated CPs for Bangladesh, India, Nepal, Pakistan, Sri Lanka, Caribbean, East Africa, Indonesia, and Turkey
  - Managed the 5,000-item OFDA library
  - Developed an Emergency Operations Directory
  - Revised the AID Mission Handbook on Foreign Disaster Assistance
  - Provided information and financial reporting support to OFDA.

DATA

SOURCE:

FY 1983

ETI "Annual Report" 10/1/83

COST:

April 1984

ETI contract extended, with same purposes.

PI0/T: 907-11-999-82-32-0743084 \$345,600

Contract:

OTR-0000-C-00-3345-00; Mod. No. 1

Dates:

3/4/84-3/31/85

1984

During FY 1984, ETI accomplishments included the following:

- Added and updated the Commodity/Service File -- a list of all USG-provided disaster commodities and services
- Installed Budget and International Assistance report programs
- Revamped the Lessons Learned system and added 80 new items to it
- Added data to the 1900-1964 Disaster History Report
- Installed a new computer operating system and software for OFDA/ETI use.

FY 1984 ETI

"Annual Project Status Report,"  
10/1/84

286

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Wrote and produced OFDA's first annual report, and distributed it to 700 interested parties
- Completed the backlog of 1979-82 disaster case reports
- Provided information support on the Turkey earthquake and Madagascar cyclone
- Wrote a script for an OFDA training tape, and wrote articles on OFDA's 20 year history for Frontlines and Horizons
- Supported various conferences, maintained the OFDA library, and cataloged over 900 new publications
- Updated or added the following CPs: Dominican Republic, Haiti, Mauritania, Bolivia, Cape Verde, El Salvador, and the Indian Ocean
- Responded to specialized information requests.

April 1985

ETI contract extended with the same purposes.

PI0/T: 907-11-999-82-32-5073095 \$300,000

Contract:  
PDC-0000-C-00-2112  
Mod. No. 2  
Dates:  
4/1/85-4/30/86

1985

ETI accomplishments in this period included:

- Established the Preparedness Tracking File, a record of OFDA preparedness activities
- Updated the Disaster History, Financial Tables, Commodity/Service, Lessons Learned, Suppliers, Resource Contacts, & Stockpile reports and files
- Assisted with a Niger Mission Disaster Relief Plan and with terrorism simulations in Haiti and at the Foreign Service Institute (field research)
- Wrote CPs on Ghana (field research), Niger, and Papua New Guinea
- Provided conference, computer, library, telecommunications, and specialized research support to OFDA.

FY 1985 ETI "Annual Project Status Report"

May 1986

ETI contract extended with same purposes.

Contract:  
OTR-0000-C-00-3345-00  
Mod. #3

\$350,000

Dates:  
5/20/86-9/31/86

287

DATE:

ACTION:

DATA

SOURCE:

COST:

1986

- ETI accomplishments during this period included:
- Updating the OFDA Action Officer's Handbook on disasters
  - Updating the Commodity/Service, Disaster History, Lessons Learned, Preparedness, Training, Resource contacts and Stockpile Reports and files
  - Wrote 39 FY 1985 and 84 disaster case reports
  - Wrote or updated CPs on Jamaica, Mozambique, Fiji & Tonga
  - Provided computer and telecommunications support to OFDA
  - Updated the Ethnic Groups List, which helps respond to numerous Congressional enquiries about particular ethnic groups in stricken countries abroad
  - Managed the OFDA library, provided translation services, tracked health and water conditions in 8 African countries during a major famine, and responded to inquiries.

FY 1986  
 ETI "Annual Project Status Report" 10/15/86

June 1987

ETI contract extended with same purposes.

PI0/T: 907-11-999-82-32-7073096 \$445,961

Contract:  
 ETI Contract Mod. #4

Dates:  
 5/2/87-7/10/88

1987

- ETI accomplishments during this period included:
- Updated the Commodity/Service file; as of this date it had 4,016 entries
  - Updated the Disaster History file; as of this date it had 2,687 entries
  - Created and updated Preparedness File -- a record of OFDA-sponsored disaster preparedness, early warning and mitigation activities
  - Created and maintained an OFDA Training File, with 1,600 entries
  - Updated the Resource Contact list, with 1,054 entries
  - Produced monthly Stockpile Reports
  - Updated the disaster Supplier File with 670 entries
  - Updated the Lessons Learned file
  - Wrote 50 FY 1985 and 86 disaster case reports and 15 of the 54 FY 1987 reports
  - Wrote 44 situation reports on various major disasters
  - Wrote country profiles for W. Samoa, Mozambique, Chile, and Costa Rica, bringing to 62 the total number of CPs.

ETI FY 1987 Annual "Project Status Report"  
 10/20/87

DR

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"> <li>◦ Assisted Indonesian and Thai disaster organizations with library organization assistance</li> <li>◦ Developed a Zambian Mission Disaster Relief Plan (field work)</li> <li>◦ Provided translation services for OFDA</li> <li>◦ Managed the library, issued publications, responded to inquiries, developed the OFDA Congressional Presentation and attended various workshops.</li> </ul>		
July 1988	ETI contract extended with same purposes.	PI0/T: 907-11-999-82-32-8073138	\$14,000
		ETI Contract Mod. #5	
		7/15/88-7/31/88	
August 1988	ETI contract extended, with same purposes.	PI0/T: 907-11-999-82-32-8073138	\$15,000
		Contract: ETI Contract Mod. #8	
		Dates: 8/1/88-8/15/88	
August 1988	The ETI contract ended, and Labat-Anderson, Inc. (LAI) took over the same duties and scope of work, and hired the old ETI staffers. LAI was awarded a 5-year 8(a) contract for \$3,579,675, of which \$746,255 was obligated for the period 8/25/88 to 9/30/89. In order to facilitate better management and communication with the LAI contract, monthly meetings between OFDA and LAI management were instituted; the LAI site supervisor was assigned to prepare agendas and minutes of the meetings.	Aug. 15, 1988 Monthly "Project Status Report" and PI0/T #907-11-999-88-43-8073116	\$746,255
		Contract: PDC-0000-C-00-8153-00	
		Dates: 8/25/88-9/30/93	
1988-89	In FY 1988 and 1989 ETI and LAI accomplished the following: <ul style="list-style-type: none"> <li>◦ Produced and wrote the FY 1987 OFDA Annual Report</li> <li>◦ Provided situation reports for various disasters, including African locusts, Sudan floods, Sudan civil strife, Ethiopian drought, Angola emergency, Mozambique civil strife, Malawi food shortage, Armenia earthquake, etc.</li> <li>◦ Provided computer, library, information and inquiry support.</li> </ul>	Monthly 1988 ETI reports in ETI "Project Notebook"	

VJL

DATE:

ACTION:

DATA  
SOURCE:

COST:

- Participated (representing OFDA) in Diplomatic Security Simulations in Zaire, the Central African Republic, Chad, Mozambique, and Lesotho
- Researched and wrote the Mali, Philippines, Costa Rica, and Chile CPs (Chile and Philippines involved in-country research)
- Supported OFDA with information and staff services during the Bangladesh floods and Armenian earthquake disasters
- Reviewed and analyzed 17 Mission Disaster Relief Plans written since 1986
- Presented and wrote papers, and undertook extensive research in urban search and rescue
- Provided translation services to OFDA
- Supported the Ethiopian Operations Support Group with meeting agendas, sitreps and action logs
- Performed in-country research to develop the Ecuador Mission disaster relief plan and profile

TOTALS

08/79-to date

\$3,373,899

2/20

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 711

1. ACTIVITY NUMBERS: 1211 1280 1524, 4009, 4220, 4220, 4210, 4017

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC:

REGION BENEFITED: Not region specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Earthen Buildings Vulnerability--grants and contracts with INTERTECT, NSF, and the University of New Mexico to undertake three major conferences on earthen buildings construction and vulnerability, and related activities.

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1981	<p>Contract awarded to INTERTECT and the University of New Mexico at Albuquerque to organize an international workshop on improving the disaster resistance of earthen buildings. The four day session included presentations, working sessions and two field trips. The session had several spinoff effects, including:</p> <ul style="list-style-type: none"> <li>o organization of the "International Working Group on the Improvement of Earthen Buildings in Seismic Areas"</li> <li>o setting up a clearinghouse on the topic at the U. of N.M.</li> <li>o establishing an earthen buildings newsletter.</li> </ul> <p>About 95 participants attended the session, and a 3 volume proceedings report was published.</p>	<p>"Proposal for Support of a Regional Conference on Earthen Buildings," (no date); PIOT 938-11-999-010-81-3819442; Grant PDC-0010-G-SS-1053 Dates: 5/20/81-6/15/81</p>	\$25,000
1983	<p>INTERTECT was awarded a purchase order to create a Spanish version of a videotape on "Building for Safety in Hazardous Areas." An English version had been produced earlier by INTERTECT under an A.I.D. Housing Office contract.</p>	PO AID/OFDA 147-83-03	\$7,148

2/1

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1983	INTERTECT was awarded a purchase order to create an illustrated manual from material already researched on "How to Protect Earthen Buildings in Arid Areas"	PO AID/OFDA 147-83-021	\$5000
1983	INTERTECT was awarded a contract to undertake a housing education program in Colombia. Outputs included training aids on simple and effective damage repair methods, training a team of instructors, and working with local credit institutions to provide financial incentives to proper reconstruction techniques. The budget included a travel authorization (# 0731173) of \$1,705 for a visit to Colombia.	PIOT 909-11-999-83-029-0736004	\$48,190
May, 1983	PASA awarded to the National Science Foundation (NSF) to organize and hold a workshop in Lima on "Earthen Buildings in Seismic Areas." This workshop identified mitigation activities and informational techniques that could be undertaken immediately to reduce vulnerability in seismic areas. Contributions of \$21,896 were leveraged from the NSF. 78 participants attended and a substantial proceedings report was produced.	PIOT 907-11-999-36-82-0729972	\$61,259
1984	USAID/Lima was given a mission allotment to disburse to the Catholic University of Peru to identify adobe housing in flood-affected regions and to undertake research on improved housing techniques. The University also produced a Spanish version of a report on "Indigenous Building Techniques."	MA JFOX-84-29527-11645	\$144,750
August 1986	OFDA awarded a grant to the University of New Mexico, College of Engineering, to organize a workshop to followup earlier seminars on earthen buildings. This workshop was undertaken in cooperation with the government of Turkey and the Middle East Technical University, and was held in Ankara. Attendees at the 5-day event included building officials, contractors and NGOs. The grant proposal noted that, "collapse of unreinforced masonry and adobe low-cost housing has caused more than 80% of the earthquake fatalities in this century, (yet) much less than 5% of the research" has addressed this topic. About 85 participants from 19 countries attended, and a substantial proceedings report was issued.	PIOT 11-999-85-54-5073113	\$161,436

TOTALS

05/81-08/86

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 706

1. ACTIVITY NUMBERS: 3201, 3209, 3203

2. COUNTRY BENEFITED: Fiji, Tonga, Cook Islands, Jamaica, Colombia  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Contracts awarded to INTERTECT to perform housing vulnerability assessments and related training in the South Pacific, Asia, S. America, and Caribbean

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1981	Contract awarded to INTERTECT to perform a South Pacific housing and public building vulnerability assessment. Project tasks included: <ul style="list-style-type: none"><li>◦ Identify remedial actions to reduce vulnerability in Fiji, Tonga, and the Cook Islands</li><li>◦ Assess the Fiji housing reconstruction program.</li></ul>	PIO/T: 907-11-999-024-81-0719852	\$43,348
January 1982	INTERTECT report "Improvement of Housing in Tuvalu to Withstand Hurricanes" submitted. The report identifies: <ul style="list-style-type: none"><li>◦ Risks and threats</li><li>◦ Housing types</li><li>◦ Vulnerabilities</li><li>◦ Vulnerability reduction strategies.</li></ul>	Contract: PDC-0024-C-00-1113-00	Dates: 10/4/81-1/31/82
January 1982	INTERTECT report on "Improvement of Low-Cost Housing in the Cook Islands to Withstand Tropical Storms" submitted, with similar contents.		

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
August 1981	Purchase order awarded to INTERTECT to undertake Jamaican housing vulnerability assessment, to study indigenous housing techniques and materials and produce a manual describing ways to reduce vulnerability to disasters. This manual was produced, and has been sent out to other countries to use as a model.	Contract: OTR-0000-0-00-1184-00  Dates: 8/18/81-1/25/82  Interview with Gudrun Huden, OFDA	\$9,897
April 1982	Contract awarded to INTERTECT to send two experts who had worked on the earlier housing vulnerability assessment to make presentations on housing vulnerability at international disaster workshops in Bangkok and Hawaii. Both experts attended.	PIO/T: 907-11-999-022-82-0720532 Contract: PDC-0000-C-00-2063-00  Dates: 4/10/82-5/15/82	\$12,387
October 1982	Contract awarded to INTERTECT to conduct a training program for local contractors in the earthquake-stricken region of Popayan, Colombia, to educate them in ways to build less vulnerable structures in the future. This training took place, and successfully trained contractors, building trades workers, and local citizens. A noticeable change in building practices and attitudes was observed as a result of the project, and many of the contractors trained other builders in other parts of the country.	PIO/T: 907-11-999-83-029-0736004 Contract: OTR-0000-C-00-3335-00  Dates: 10/1/83-3/16/84 Interview with Gudren Huden, OFDA	\$46,485
<u>TOTALS</u>			
08/81 -10/82			\$65,632
		* * *	
	(Note that INTERTECT was involved in several other OFDA projects that are not described here because they are related to post-disaster relief. See the referenced contracts.)	Contract ASB-0000-C-00-4174-00	\$148,924, Madagascar Cyclone, 1984
	(INTERTECT also served as housing vulnerability subcontractor to the East-West Center in 1982-84; this project is described in the E W Center Chronology.)	Order No: OTR-000-0-00-6110-00	\$22,000, Solomon Islands Cyclone, 1986
		Contract #: 596-0000-S-00-5009-00	\$7,848, food assistance relief for Guatemalan and Salvadoran refugees, 1985

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 7 0 9

1. ACTIVITY NUMBERS: 4 2 0 5

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): SAI: Tsunami Threat Assessment contract with SAI to assess the threat of tsunamis in the Pacific Basin via modeling historical and potential tsunami run-ups and wave heights

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1982	Contract awarded to Science Applications, Inc. (SAI) to conduct a Pacific Basin Tsunami Hazard Assessment Program by conducting coastal zone numerical modeling of possible earthquakes occurring in the Peru-Chile Trench. Specific tasks were: <ul style="list-style-type: none"> <li>◦ provide modeling by modifying the SAI SSURGE run-up model to delineate maximum wave heights and run-ups of potential tsunamis in the Pacific Basin</li> <li>◦ test and evaluate the SSURGE model on at least two known historical tsunamis, and apply the model to five threatened Pacific areas</li> <li>◦ compile and digitize detailed bottom topography for the threatened regions</li> <li>◦ produce appropriate maps and briefing materials.</li> </ul>	PIO/T 938-11-999-009-82-0729 Dates: 3/26/82-8/31/83	\$196,084
January-March 1983	In this period, work centered on the Ecuador tsunami simulation, completing the Philippines and Papua New Guinea simulations, and report preparation.	SAI Quarterly Report 4/4/83	

2/85

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March May 1983	In this period, hazard simulations for Latin America, the Philippines and Papua New Guinea were completed; the technical and non-technical reports partly completed; and work on historical simulations continued.	SAI Quarterly Report, 7/1/83	
July 1983	A no-cost extension to the contract was granted to allow the Principal Investigator to present a related paper at an earthquake conference in San Francisco.	Letter from Carole Siegel, OFDA, 10/24/83 Dates: 3/26/82-12/31/83	No cost
September 1983	By this date, SAI had completed all items in the statement of work except certain tsunami flood maps.	Letter to OFDA from SAI, 9/8/83	
December 1983	SAI final report investigated the potential tsunami threat faced by specific coastal locations in Peru, Chile, Philippines, and Papua Guinea. The propagation of tsunami waves into coastal waters and onto dry land was simulated, and conclusions drawn about what mitigation effects were appropriate to each threatened coastal city and area, including Lima, Atica (Chile) and several cities in the Philippines and Papua New Guinea.	"Tsunami Hazard Modeling and Mitigation: Run-up and Inundation Studies" 12/83	
December 1983	The second SAI final report (a layman's version of the first report) summarized the first report and provided specific graphic and narrative information on the threat to parts of the Philippines and Papua New Guinea.	"Tsunami Hazard Study Philippines and Papua New Guinea" 12/83	
No date	Paper presented on "U.S. Foreign Assistance Program on Tsunami The paper analyzed the history of tsunamis, the SAI/OFDA tsunami modeling effort, and identified especially threatened areas.	Paper by G. Hebenstreit (SAI) and Paul Krumpke (OFDA) (no date, no location)	
February 1984	BY this date SAI and delivered and OFDA accepted all products specified in the statement of work.	Letter signed by Paul Krumpke, OFDA, 2/9/84	

TOTALS

03/82-02/84

\$196,084

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 5 0 0

1. ACTIVITY NUMBERS: 4 2 1 1, 4 2 4 7

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): University of Wisconsin - Extension (UWEX) -- Extension Correspondence Course Development. Grants to UWEX to create and develop disaster management self-study courses, print and translate course materials into Spanish, and prepare a disaster preparedness training module

5. DATA COLLECTOR: Mark Howard

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1982	Proposal received from Don Schramm, University of Wisconsin-Extension (UWEX) for funds to convene an International Advisory Board to formulate a disaster management diploma program at UWEX	Letter from Don Schramm, UWEX	-0-
July 1982	Four-month grant allotted to UWEX to convene an International Advisory Board to formulate educational policies for the Disaster Management Diploma Program at the University of Wisconsin-Extension.  Grant products to include: <ul style="list-style-type: none"> <li>o diploma program prerequisites and completion procedures</li> <li>o suggested disaster management curriculum</li> <li>o priority list of correspondence course modules</li> <li>o suggested instructors and participant lists.</li> </ul>	PIO/T No.: 907-11-999-043-82-0729952  Dates: 7/1/82-10/31/82  Grant No.: PDC-0000-G-SS-2164	\$29,425

131

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
November 1982	Initial meeting of International Advisory Board took place to develop priorities of UWEX diploma program.	PIO/T No: 907-11-999-83-017-0732474	
June 1983	Proposal for AID/OFDA funding to develop self-study courses in disaster services.	Letter from Raymon Matulonis, Program Director	-0-
July 1983	Twenty-one month grant awarded to UWEX for the development of six self-study courses: <ul style="list-style-type: none"><li>o principles of disaster management</li><li>o aim and scope of disaster management</li><li>o introduction to natural disasters</li><li>o disaster preparedness</li><li>o disaster response.</li><li>o damage needs and assessment</li></ul>	PIO/T No.: 907-11-999-83-17-0732474  Dates: 7/1/85-3/31/85  Grant No.: OTR-0000-G-SS-3287	\$76,328
Fall 1984	Department of State, Bureau of Refugees contributed support to develop several refugee-related courses	Quarterly Report UWEX Disaster Management Center	
Fall 1984	PAHO allotted funds to UWEX to develop five study guides (in Spanish and English) for PAHO Scientific Publications.	UWEX Quarterly Report	
April 1985	No cost extension granted to UWEX to complete the development of six self-study courses.	Dates: 4/1/85-9/30/85  Grant No.: OTR-0000-G-SS-3287-01	No Cost
January 1986	No cost extension granted to UWEX to complete the development of six self-study courses.	Dates: 10/1/85-3/31/86  Grant No.: OTR-0000-G-SS-3287-02	No Cost

298

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August 1986	Grant for the development of six self-study courses amended to expand the damage assessment course by developing a more field-oriented and targeted manual for use by OFDA and others in the training of host country and international organization disaster managers, and to develop a companion data collection computer program. This work to be performed by InterTech of Dallas, Texas through a subcontract from UWFX.	PIO/T No. 907-11-83-17-6073080 (Amend. No. 3)  Grant No.: OTR-0000-G-SS-3287-04	\$48,233
June 1987	Grant amended to fund the translation of the six OFDA-sponsored disaster correspondence courses into Spanish. Also funded were the printing of course modules in both English and Spanish. Completion date was extended to June 30, 1988.	PIO/T No.: 907-11-99-83-017-7073120 (Amend. No. 4)  Dates: 9/16/87-6/30/88  Grant No.: OTR-0000-G-SS-3287-05	\$40,000
August 1988	Grant amended to include the preparation of Disaster Management Training Module (at Harper's Ferry, WV). Funds were also allotted for the printing of 50 copies of the damage assessment manual.	PIO/T No.: 907-11-999-83-017-8073095 (Amend. No. 5)  Dates: 7/1/88-12/31/88  Grant No.: OTR-0000-G-SS-3287-06	\$18,322
	As of March, 1989 the following outputs had been completed:		
	<ul style="list-style-type: none"> <li>o six OFDA-funded courses have been completed, tested, and are in full use along with the Bureau of Refugee and PAHO funded courses.</li> <li>o the field manual is complete (the companion computer program is not yet complete)</li> <li>o three of the six disaster correspondence courses have been been translated into Spanish. (The other three are under way.)</li> <li>o the printing of 50 copies of the damage assessment field manual is underway</li> <li>o a disaster management training module was presented at Harper's Ferry.</li> <li>o UWEX also helped to run a disaster simulation at Tampa, Fla.</li> </ul>	Interviews with Denise Decker and Gudrun Huden Extension course books	

WJL

TOTALS

06/82-to date

\$212,308

*Jan*

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPI)

CHRONOLOGY #: 005

1. ACTIVITY NUMBERS: 4220

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Commonwealth of Virginia: Disaster Response Planning and Operations for Disaster Prone Countries. Grant with the Commonwealth of Virginia's Department of Emergency Services (VADES) to provide technical assistance, training, and disaster response team(s) worldwide in support of OFDA's preparedness activities; the grant was amended in FY 1987 to include the design and development of an integrated international FY 1987 to include the design and development of an international search and rescue team utilizing state resources.

5. DATA COLLECTOR: Kimberly Caulfield Vasquez

6. CHRONOLOGY:

DATE:

ACTION:

SOURCE:

COST:

September 1982

A one-year grant for the Commonwealth of Virginia's Department of Emergency Services (VADES) to provide the following items world-wide:

PIO/T: 907-11-999-82-062-0729173 \$74,000

Dates: 9/30/82 to 9/30/83

Grant # PDC-0000-G-SS-2214-00

- o technical assistance in the areas of national plan development, local plan development, emergency operations centers, communications, hazards mitigation, and hazardous materials.
- o training, including Disaster Management Orientation (one per quarter), on the job training, disaster response planning and communication (two per year), disaster simulation exercises (two per year), and hazardous materials emergency response workshops (two per year)
- o provision of emergency response specialists in various disaster areas for disaster response and recovery operations at an international job site.
- o trip reports following technical assistance and disaster response team excursions.
- o training reports submitted after each session.

301

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA</u> <u>SOURCE:</u>	<u>COST:</u>
May 1983	Keith Keister of the VADES traveled to the Dominican Republic to the first meeting of Seismologists of the Caribbean, to evaluate the progress achieved in developing the Dominican Republic Natural Disaster Plan, to discuss the importance of an emergency operations center with officials of the Dominican Republic government, and to discuss the installation of the OFDA-funded seismic stations network with representatives of Lamont-Doherty.	VADES trip report (in OFDA library)	
September 1983	OFDA granted the VADES a one-year no-cost extension of the grant.	PIO/T 907-11-999-82-062-0729173 Dates 9/30/82 - 9/30/84 Grant # PDC-0000-G-SS2214-01	No cost (Amend # 1)
September 1983	Keith Keister of the VADES traveled to St. Lucia to participate in the PCDPPP-sponsored communications and control in disaster Disaster Management Workshop and to make a liaison visit with USAID/Bridgetown officials in Barbados.	VADES trip report (in OFDA library)	
September 1984	OFDA granted the VADES a one-year no-cost extension of the grant.	PIO/T 907-11-999-82-62-0729173 Dates 9/30/82 - 9/30/85 Grant # PDC-0000-G-SS-2214-02	No cost (Amend # 2)
October 1985	OFDA granted the VADES a one-year no-cost extension of the grant in order to that W.G. Shelton continue the development of an air crash contingency plan and to follow-up on USG international air safety activities.	PIO/T 907-11-999-82-62-0729173 Dates: 9/30/82 - 9/30/86 Grant # PDC-0000-G-SS-2214-03	No cost (Amend # 3)

302

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
September 1986	OFDA granted the VADES a one-year no-cost extension of the grant to continue activities.	PIO/T 907-11-999-82-62-0729173  Dates: 9/30/82 - 9/30/87  Grant # PDC-0000-G-SS-2214-04	No cost
September 1987	OFDA granted the VADES a three-month no-cost extension of the grant to continue activities and to pursue the development of a Mid-Atlantic Regional International Disaster Search and Rescue Team.	PIO/T 907-11-999-82-62-0729173  Dates: 9/30/82 - 12/31/87  Grant # PDC-0000-G-SS-2214-04	No cost
June 1987	OFDA and VADES agreed to develop an integrated Search and Rescue (SAR) Team to respond to international disasters and that VADES would take a principal role in coordinating state resources needed for the team within the limits of the grant.	(Correspondence in budget office files)	-
July 1987	VADES attended a meeting hosted by OFDA and held at the Fairfax at the Fairfax Fire and Rescue Department facilities for prospective or potential participants of the International SAR Team, presented a concept paper (in KCV files) on the team's composition and development, and agreed to accept an administrative role in developing the team.	(Correspondence in the budget office files)	-
December 1987	OFDA amended the grant to include \$125,000 and an extension of the completion date to June 30, 1988. Additional funding is earmarked for equipment transportation for a USG disaster response team as follows:  <ul style="list-style-type: none"> <li>o International SAR team equipment -\$100,000 Travel/Per Diem/Training -\$25,000</li> <li>o The Commonwealth and Fairfax County are to match equipment inputs.</li> </ul>	PIO/T 907-11-999-82-62-8073041 (Amend # 6)  Dates: 9/30/82 - 6/30/88  Grant # PDC-G-SS-2214-06	\$125,000

10/27

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
February 1988	OFDA canceled the amendment 06 it had approved in December, 1987.	PIO/T 907-11-999-82-62-8073041 (Amend # 6)	-\$125,000
		Dates: 9/30/82 - 12/31/87	
		Grant # PDC-0000-G-SS-2214-06	
February 1988	A no-cost extension of the grant was given through June 30, 1988 to: <ul style="list-style-type: none"><li>o design/develop an integrated International SAR team with equipment cache</li><li>o reprogram remaining funds purchase equipment for the SAR team (\$30,000) and for related salary, travel, and miscellaneous costs (\$9,000)</li><li>o require approval of expenditure of remaining funds by AID/OFDA/OS</li><li>o provide regular status reports.</li></ul>	PIO/T 907-11-82-628073041 (Amend # 6)	
		Dates: 9/30/82 - 6/30/88	
		Grant # PDC-0000-G-SS-2214-06	
February 1988	VADES submitted its first report from June 1987 - January, 1988.	Letter (2/17/88) in fiscal officer's files	
February 1988	VADES attended a Search-and-Rescue developmental meeting hosted by OFDA and held at the Fairfax Fire and Rescue Department.	Meeting records-LAI SAR files	
March 1988	VADES sent two representatives to the Second International Disaster Disaster Dog Symposium in Mexico City (trip report in KCV files).	VADES Trip Report in LAI SAR	
April 1988	VADES hosted a disaster search and rescue team training session for 28 participants featuring two parts: (1) an overview of SAR objectives, progress, direction, and intent, and (2) a practical exercise using the Virginia State Police Canine Agility Course and their partially built building, simulated a collapsed building where search dogs sought simulated victims. VADES also hosted an international group of emergency managers.	(correspondence in Fiscal officer's files)	
June 1988	VADES submitted its May 1988 status report.		

hob

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
June 1988	OFDA approved the purchase of a list of suggested search and rescue equipment to be financed through the Commonwealth of Virginia government.	(correspondence in fiscal officer's files)	
July 1988	OFDA sent a formal letter to Richard King, Deputy County Executive for Public Safety for Fairfax County, requesting Fairfax Fire and Rescue participation in the USG International Search and Rescue Team (terms of agreement are attached to the letter, including the equipment purchase through the Commonwealth of Virginia grant).	(letter dated July 11, 1988 in fiscal officer's files)	
August 1988	VADES agreement extended through December 31, 1988 in order to complete the purchase of SAR equipment	P10/T 907-11-999-82-62-8073041 (Amend # 7)  Dates: 9/30/82 to 12/31/88  Grant # PDC-0000-G-SS-2214-00	No cost
	The major accomplishment of this grant was to establish a close relationship with the VADES. VADES will be used in times of disaster to contact, mobilize and coordinate Virginia state SAR resources and to purchase specialized SAR equipment.	Interview with K. Vasconez 3/20/89	
<u>TOTALS</u>			
09/82-17/88			\$74,000

506

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 2 0 2

1. ACTIVITY NUMBERS: 4 2 1 3

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): USGS Geologic and Hydrologic Hazards Training Program. PASA agreement with the USGS to fund a needs assessment and a geologic and hydrologic hazards workshop. FY 83-86

5. DATA COLLECTOR: Valerie S. Wayman

6. CHRONOLOGY:

DATE:

April 1983

ACTION:

PASA agreement with the U.S. Geological Survey (USGS) to conduct a geologic and hydrologic hazards training program and to provide technical assistance in developing hazard abatement expertise worldwide.

- o three hazards analysis teams (USGS and others) to be selected to assess the training of participating countries.
- o identification of training candidates
- o definition and development of training course in hazards technologies; 4 weeks in length, combining lectures, exercises and field trips.
- o development of a generic post disaster response plan for counterpart experts in host countries. Plan will include:
  - guidelines for local disaster preparedness
  - assistance in technical data collection methods to support pre-and post- disaster activities
- o final proceedings.

DATA

SOURCE:

PIO/T No.:  
907-11-999-010-0732822

Dates:  
3/1/83 - 8/31/84

Contract No.  
BOF-0000-P-1C-3064-00

COST:

\$157,600

2/2

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
August - October 1983	Field trips by 9 USGS geoscientists were conducted in order to select participants and inform U.S. Embassies and AID Missions about the impending program. Organized in three teams, the scientists visited over 19 countries in Europe, Asia, North Africa and the Central/South Americas.	<u>Proceeding of the Geologic and Hydrologic Hazards Training Program</u> . Final Report USGS Reston, VA, 1984	
August 1983	1st Team visited Philippines, Thailand, Burma, Nepal and Bangladesh.		
September - October 1983	2nd Team visited Portugal, Spain, Italy, Greece, Yugoslavia, Turkey and Algeria.		
October 1983	3rd Team visited Latin America, Cost Rica, Ecuador, Chile, Peru, Argentina, Paraguay, Uruguay and Bolivia.		
March 1984	The U.S. Geological Survey conducted the "Geologic and Hydrologic Hazards Training Program" from March 5 through March 30, 1984 at the Federal Center in Denver and Golden, Colorado: <ul style="list-style-type: none"><li>o forty-two (42) host-country nationals from the fields of seismology, hydrology, geohydrology, ground failure and emergency management participated. Asia, Europe, Latin America and the Caribbean were represented.</li><li>o billed as a "once in a lifetime experience", it is believed to be best left at that; the continuation of the informal network developed during the training is desirable, need for another workshop is not.</li><li>o group participation and interaction was high.</li></ul>	Trip Report, Fred Cole, OFDA, April 4, 1984	
	One-fourth of project coordination and project chief salary costs were provided by the USGS. The September 1984 team visits were dropped from the budget proposal.		

297

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
May 1984	<p>PASA with the USGS amended to fund the development of a geologic and hydrologic hazards training program December 31, 1984. Its chief outputs were to be:</p> <ul style="list-style-type: none"><li>o training of at least 30 host country nationals at seminars to be held in Denver, Colorado from March 5-30, 1984.</li><li>o quarterly reports</li><li>o final report consisting of training program presentations, instructional materials and technical results in a USGS "Professional Paper" for worldwide dissemination.</li><li>o development of a generic, post-disaster response plan for counterpart experts in host countries.</li></ul>	<p>PIO/T No: 907-11-999-83-010-0743039</p> <p>Dates: 3/1/83 - 12/31/84</p> <p>Contract No. BOF-0000-P-IC-3064-01 (Amend. 1)</p>	\$448,301
June 1984	<p>Executive summary and final report for the Geologic and Hydrologic Hazards Training Program. Includes:</p> <ul style="list-style-type: none"><li>o program Coordinator's Report</li><li>o evaluations by the Chief of Participant Training, Office of International Geology and the OAS representative.</li><li>o Budget, lecture schedule and roster.</li></ul>	<p>USGS Executive Summary and Final Report June 18, 1984</p>	
Summer 1984	<p>The USGS's final report submitted: Proceedings of the Geologic and Hydrologic Hazards Training Program, March 5-30, 1984 (Open-file report 84-760.) The report is on file in the OFDA library. It is a compendium of lecture notes and materials under general titles of: 1) Seismic Hazards Volume I; 1) Seismic Hazards 2) Landslide Hazards; Volcanic Hazards, Volume II - 1) Mapping 2) Hydrologic Hazards, 3) Response and Mitigation and Evaluation by S.K. Tubbesing.</p> <p>An independent evaluation of the workshop by Susan Tubbesing of the Natural Hazards Research and Application Information Center was based on attendance, interviews and questionnaire responses. It can be found in Volume II of the final proceedings. Highlights are:</p> <ul style="list-style-type: none"><li>o sixty-five (65) percent of the respondents listed the program as a success</li><li>o 100% of the participants expressed an interest in attending similar training programs</li><li>o all felt that additional courses would be valuable, if given in their countries</li></ul>	<p>USGS <u>Proceedings</u> 1984</p>	

SP

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
Summer 1984 (cont'd)	<ul style="list-style-type: none"><li>o suggestions for improvement:<ul style="list-style-type: none"><li>- more practical applicable information</li><li>- better examples not based exclusively on U.S. experience.</li><li>- availability of speakers outside the classroom.</li><li>- highlighting of management techniques.</li><li>- an opportunity to share information on their urgent problems.</li></ul></li></ul>		
July 1985	PASA with USGS amended to extend the expiration date for two years to December 31, 1986 at no cost to cover the possibility of future training. The proposal was deferred.	PIO/T No.:  Dates: 3/1/83 - 12/31/86  PASA No.: BOF-0000-P-IC-3062-02 (Amend 2)	No cost
<u>TOTALS</u>			
04/83 - 12/86			\$605,901

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 7 0 8

1. ACTIVITY NUMBERS: 1 2 1 9

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): U.S. Coast Guard: Development of Environmental Management Systems. PASA with the (USCG) which cooperated extensively with the International Maritime Organization (IMO) and the United Nations Environmental Programs Office in developing oil spill contingency plans and other emergency preparedness activities.

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

DATE:

July 1983

ACTION:

PASA awarded to the US Coast Guard to provide technical assistance and expertise of a marine pollution advisor.

PASA objectives were to:

- o promote the development of national and subregional oil spill contingency plans in the Caribbean, with special emphasis on smaller E. Caribbean islands.
- o promote early ratification and implementation of the Cartagena protocol [on] Caribbean oil spills
- o place a USCG officer in the region for two years, to act as Pollution Advisor to the International Maritime Organization (IMO).

DATA

SOURCE:

PASA: BLA-0605-P-UC-3158-00  
PIO/T 907-11-999-83-019-0732494  
plus PIO/T 598-0605-2-6531340

COST:

\$180,000

2310

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	Contributions leveraged included \$125,000 from AID/LAC and \$69,900 from the USCG.		
October 1983	Coast Guard/IMO officer brought on post in Puerto Rico.	IMO letter T5/3.13, 7/29/84	
October 1983	USCG, with OFDA support, held a Regional Workshop on Contingency Planning in Panama, an effort called "very important" by USCG Commodore in charge of Marine Environment Office.	Letter from J. Kimb, Commodore, USCG 10/3/84	
June 1984	USIA radio story states that USCG/IMO/OFDA oil spill contingency planning sessions in St. Lucia and Puerto Rico, held in May 1984 attracted 17 Caribbean country representatives and were a "real success."	Story by D. DiPasquale, USIA 6/7/84	
July 1984	By this date, OFDA-funded USCG officer conducted assessment and training missions to 12 E. Caribbean islands and helped organize 2 contingency planning training sessions. He also promoted the IMO pollution treaties on various islands, provided information on them, and advised Barbadian officials on legislation implementing the treaties.	IMO "Technical Assistance Programme" 7/3/84	
August 1984	PASA extended by one year at no additional cost.	PASA BLA-0605-P-UC-3158, Mod. No. 1  Dates: 8/8/84-8/8/85	
October 1984	In an extension of the Caribbean IMO/USCG oil pollution contingency planning concept, OFDA awarded a grant to the IMO to help fund a South Pacific Regional Environment and Pollution Control Workshop in Fiji.	PIO/T 907-11-999-84-51-072233  Dates: 9/24/84 - 12/31/84	
November 1984	The Fiji workshop was held, with OFDA and UN Environment Program (UNEP) financial support. Topics covered included pollution incidents, marine oil seepages and slicks, effects of oil on the environment, spill control techniques, new technologies in the area, national contingency planning, and legislation in the field. An oil spill cleanup exercise was also undertaken.	"Pacific Regional Workshop on Marine Pollution," Jan. 1985	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
July 1985	USCG PASA amended to add another year of funding, to continue work on oil spills, and to add a focus on Search and Rescue, Port Safety, and Disaster Preparedness.	PI0/T 907-11-999-83-019 5073109 PASA: BLA-0605-UC-3158 Mod. 3	\$145,000
September 1986	The USCG conducted a joint two day oil pollution response exercise with the Mexican Navy under the PASA, after asking for OFDA permission.	Letter to OFDA from R. Storch, USCG, 8/27/86	
October 1986	The USCG held an On-Scene Pollution Commander's Workshop in Australia, with support from the UNEP and the GOA for 22 S. Pacific countries, as a follow-up to the earlier Fiji workshop. The GOA donated A \$20,000 to the effort (about US \$18,000).	Letter from Fred Cole, OFDA, 7/7/86	
September 1987	USCG PASA extended at no cost, with the same scope of work. Planned activities included: <ul style="list-style-type: none"><li>° Partial support of a S. Pacific regional oil pollution workshop to follow-up the 1986 Australian seminar</li><li>° Partial support of a June 1988 Caribbean pollution response workshop</li><li>° Translation into Spanish of a Search and Rescue (SAR) manual</li><li>° Training LAC countries in SAR.</li></ul>	PI0/T: 907-11-999-83-019-5073109 PASA: BLA-0605-UC-3158 Amend. #4  Dates: 9/30/87-12/21/88	
October 1987	USCG presented papers on oil spills and regional sources for assistance at an OAS meeting in Santo Domingo.	IMO trip report 10/28/87	
February 1988	PASA extended with same scope of work, at no cost.	PI0/T: 907-11-999-83-019-5073109  Dates: 2/10/88-12/21/88  PASA: 0605-P-UC-3158 Amend. #5	
July 1988	USCG, in cooperation with UNEP and IMO, conducted an On-Scene Commanders Workshop on Oil and Hazardous Materials in San Juan for 16 LAC countries.	"IMO/UNEP On-Scene Commanders Workshop," 7/23/88	
August 1988	USCG conducted a comprehensive review of marine pollution in Kingston harbor, Jamaica.	IMO trip report 8/11/88	

11/7

TOTALS

07/83-to date

\$325,000

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 7 0 2

1. ACTIVITY NUMBERS: 4 0 0 6 1 5 5 6, 1 5 5 0, 1 5 1 8

2. COUNTRY BENEFITED: Chile, Ecuador, Venezuela, Argentina, Mexico, & Ghana  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): USDA: Agricultural Disaster Assistance, Forest Service RSSA. Contract with USDA-Forest Service to provide quick response disaster teams, wildfire fighting, training, landslide hazard analysis, and locust control efforts.

5. DATA COLLECTOR: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
October 1983	RSSA awarded to USDA-Forest Service to organize and develop special training course in wildfire suppression, as requested by the government of the Dominican Republic and other LAC countries. Purpose was to train over 50 Latin American firefighters and supervisory personnel in USFS facility in Arizona, especially in the areas of initial attack, fire organization, fire behavior, equipment use, air operations and post-fire operations.	P10/T 907-11-999-83-01-073-2614 Dates: 7/8/83-10/17/83	\$187,000
March 1984	Cable from U.S. Ambassador to Mexico to OFDA indicated that first wildfire course resulted in the following benefits in Mexico: <ul style="list-style-type: none"> <li>◦ Three conferences for Mexican technicians and heads of forestry programs, given by Mexicans trained by USFS</li> <li>◦ Practical course for 25 engineers and 35 forest rangers near Mexico City</li> <li>◦ First national wildfire suppression course offered, with 60 attendees from 30 states</li> </ul>	Cable Mex. 04962 (3/23/84)	

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"> <li>◦ Reorganization of 17 firefighting crews in 23,000 hectare forest near Mexico City</li> <li>◦ Reorganization of Federal District fire suppression communications system.</li> </ul>		
October 1984	1983 course called "very successful" in DOS cable.	State cable of 10/15/84	
October 1984	Contract issued to USDA-FS to undertake 2nd Annual fire suppression course for 50 Latin American participants in Arizona. A number of participants were partially funded by their countries, with leveraged funds estimated at \$45,000 (Latin countries) and \$100,000 (USFS).	P10/T 907-11-999-84-04-0743275 Dates: 10/15/84-12/31/84	\$221,550
August 1985	RSSA issued by OFDA to USDA-USFS to arrange for various services in the area of wildfire suppression, flooding and landslides, especially: <ul style="list-style-type: none"> <li>◦ Short term expert services</li> <li>◦ Training, workshops and conferences</li> <li>◦ Developing a roster of international experts</li> <li>◦ Studies of innovative disaster assistance.</li> </ul>	P10/T 907-11-999-85-56-5073114 RSSA: BOF-0000-R-AG-5091-0 Dates: 8/15/85-8/14/86	\$200,000
November 1985	Third Annual Wild Fire Suppression course held in Los Andes, Chile, organized by USDA-FS.	P10/T 907-11-999-85-05-5073145 Dates: 10/1/85-12/31/85	\$161,000
1985	USDA-FS responded to a wildfire in the Galapagos Islands.	July 1988 RSSA "Periodic Report"	
June 1986	USDA-FS RSSA modified to provide balance of funding and extend agreement. Activities and purposes remained unchanged.	P10/T: 907-11-999-85-56-6073112 Contract #: BOF-0000-R-AG-5091-00 Mod. #1  6/30/86-12/31/86	\$254,355
September 1986	USDA-FS RSSA modified to provide balance of funding and extend agreement; purposes remained the same.	P10/T: 907-11-999-85-56-607-3112 Contract # BOF-0000-R-AG-5091-00 Mod. #2  Dates: 8/14/86-8/15/88	\$254,355

2/16

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
1986-87	The USDA Forest Service responded to the following disasters in this period: <ul style="list-style-type: none"><li>◦ Senegal locusts - air operations</li><li>◦ Argentina wildfire - fire management</li><li>◦ China wildfire - equipment dispatched</li><li>◦ Guatemala wildfire - fire management</li><li>◦ Niger and Mali locusts - air operations and communications.</li></ul>	May 1988 USDA report on "International Disaster Assistance"	
1986-87	Other USDA-FS accomplishments included the following: <ul style="list-style-type: none"><li>◦ Developed and implemented a system for rapidly transporting water purification systems to disaster sites</li><li>◦ Developed a cooperative effort with NOAA to obtain meteorological data in real time to brief firefighters in Argentina, China, Guatemala, and elsewhere</li><li>◦ Organized a "San Salvador Earthquake Lessons Learned" workshop</li><li>◦ Conducted landslide assessments in Dominica &amp; Honduras</li><li>◦ Developed a roster of over 2,300 disaster specialists</li><li>◦ Helped develop a Disaster Operations Management course</li><li>◦ Conducted wildfire suppression courses in Argentina, Venezuela &amp; Ghana</li><li>◦ Participated in crisis and earthquake simulations in Peru and the U.S.</li></ul>	May 1988 USDA report on "International Disaster Assistance"	
April 1987	USDA-FS RSSA modified to add funds; purposes remained the same.	PIO/T: 907-11-999-85-56-70748 RSSA Mod. #3	\$372,288
		Dates: 4/1/87-12/21/87	
June 1987	USDA-FS RSSA modified to add funds to: <ul style="list-style-type: none"><li>◦ Design a team development workshop for 20 LAC participants</li><li>◦ Present an instructor training workshop for 20 foreign participants</li><li>◦ Provide logistical support for 12 N. African fire specialists to attend a fire safety seminar in Cairo.</li></ul>	PIO/T: 907-11-999-85-56-7073137	\$38,315
		Dates: 6/22/87-12/31/87	

DATE:

1987-1988

ACTION:

USDA-FS RSSA achieved the following during this time period:

- Prepared annual report
- Developed a program budgeting system
- Participated in Steering Committee for Wildfire Protection Conference
- Conducted or assisted in landslide hazard assessments in 7 Caribbean countries
- Conducted a wildfire "train the trainer" course in Indonesia
- Conducted exchange programs with Argentina
- Conducted wildfire courses in Ghana, Thailand, Mexico & Costa Rica
- Conducted earthquake simulations in U.S. and Caracas
- Participated in nine conferences
- Assessed Texas A&M emergency management training programs
- Organized Fourth International Fire Suppression Course in Mexico City; trained 50 participants from Latin America
- Organized a flood mitigation workshop in Argentina
- Organized a locust pesticide spraying program in Morocco, lasting about 5 months with 2 planes, and helped train in-country staff in pesticide techniques
- Assessed Indonesian fires, that have destroyed over 2.5 million acres of forests and plantations
- Designed and tested an electronic bulletin board on search and rescue and international emergency management
- Provided technical assistance to China in wildfire suppression; over 3.79 million acres in NE China had been burned and two cities destroyed
- Provided technical assistance in wildfire suppression to Israel, the Bahamas, Argentina
- Developed a training manual in landslide mitigation
- Sent locust emergency teams to Tunisia and the Sudan
- Developed a "roster of emergency rosters" available in the DC area
- Sent a fire response team to Sonora, Mexico

DATA

SOURCE:

1987-88 "Periodic Reports"  
by USFS

COST:

317

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	<ul style="list-style-type: none"><li>◦ Sponsored two Chilean fire specialists in on-the-job training at a Forest Service location in Arizona</li><li>◦ Helped organize a Medical Responders Workshop in DC for 38 U.S. disaster responders.</li></ul>		
May 1988	USDA-FS RSSA amended to fund Africa Bureau's share of workshop and manual costs associated with locust reduction program.	PIO/T: 698-0517-2-861-2056	\$50,000
		Dates: 5/27/88-9/30/90	
May 1988	USDA-FS RSSA amended to fund 1988 workplan.	RSSA Amendment No. 5	\$750,793
		Dates: 1/1/88-12/31/88	
July 1988	USDA-FS RSSA amended to purchase tools, fund the Emergency and Technical Assistance Funds, develop an operations manual and disaster course.	RSSA # BOF-0000-R-AG-5091-00 Amend. #5	\$800,793
		Dates: 7/1/88-9/30/90	
September 1988	USDA-FS RSSA amended to add funds to fight the African locust infestation.	RSSA Amendment No. 6	\$600,000
		Dates: 9/29/88-9/30/90	
September-November 1988	In this period, the USDA-FS RSSA team accomplished the following major items: <ul style="list-style-type: none"><li>◦ Sent a communications specialist to Jamaica in response to Hurricane Gilbert</li><li>◦ Sent several water purification specialists to Bangladesh in response to the major flood</li><li>◦ Sent locust disaster teams to the Sudan and Mauritania, Senegal, Tunisia, and Algeria</li><li>◦ Developed an African locust control operational support system for OFDA.</li></ul>	RSSA Periodic Report	

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 0 0 8

1. ACTIVITY NUMBERS: 4 0 0 3, 4 0 5 4

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): NFPA Fire Prevention Training. Grant to the National Fire Protection Association (NFPA) to provide fire prevention, technical assistance, and fire-related emergency response expertise to disaster-prone countries.

5. DATA COLLECTOR: Kimberly Vasconez, Lew Toulmin

6. CHRONOLOGY:

DATE:

November 1983

ACTION:

Contract awarded to the NFPA to develop training course on contemporary fire protection practices. The U.S. Department of Labor used a portion of the grant to facilitate the participation of 18 individuals. The courses were held from Nov. 14-Dec. 10, 1983, in Orlando and Washington and May 20-June 15, 1984, in New Orleans and Washington.

DATA

SOURCE:

P10/P No:  
907-11-999-84-03-0743130,  
907-11-999-84-01-0743011

Dates:

11/1/83 - 6/15/84

Contract No:

ASB-0000-G-SS-4172

COST:

\$97,700

<u>DATE:</u>	<u>ACTION:</u>	DATA <u>SOURCE:</u>	<u>COST:</u>
July 1984	<p>Grant amended (on a cost-sharing basis) to the National Fire Protection Association (NFPA-founded in 1896, with 40,000 members in 85 countries) to provide fire prevention, technical assistance and fire-related emergency response expertise to disaster-prone countries.</p> <p>Specific tasks were:</p> <ul style="list-style-type: none"><li>o support OFDA's fire relief operations</li><li>o provide a rapid response team</li><li>o organize technical fire prevention programs in target countries</li><li>o monitor and assist OPCI (Organizacion Ibero-Americano de Proteccion Contra Incendios), NFPA's affiliate in S. America</li><li>o develop or translate appropriate technical materials</li><li>o make available NFPA's worldwide network of fire experts.</li></ul>	<p>PIO/T No: 907-11-999-84-43-0743185</p> <p>Dates: 06/23/84 - 06/30/86</p> <p>Contract No: ASB-0000-G-SS-4172 (Mod. No. 1)</p>	\$125,000
February 1985	<p>OFDA provided additional funding toward the grant with no time extension or changes in the scope of work.</p>	<p>PIO/T No: 907-11-999-84-43-5073034</p> <p>Dates: 06/23/84 -06/30/86</p> <p>Contract No: ASB-0000-G-SS-4172 (Amend. No. 2)</p>	\$115,500
June 1986	<p>OFDA amended the grant to include additional funding, incorporate support for a new regional program in Asia, and extend the completion date for 7 months. NFPA proposed a lower matching ratio of 25% NFPA funding to 75% OFDA funding.</p>	<p>PIO/T No: 907-11-999-84-43-6073096</p> <p>Dates: 06/23/84 - 01/30/87</p> <p>Contract No: ASB-0000-G-SS-4172 (Amend. No. 3)</p>	\$125,500

DATE:

July 1986

ACTION:

OFDA added funding to the grant and extended the funding period from June 30, 1986 to January 31, 1987. The objective was revised as follows: to provide emergency response team (worldwide) and fire prevention information and technical assistance to selected high-priority disaster-prone country. All elements of the scope of work have remained the same except:

- o OPIC/NFPA activities included a Latin American conference on fire protection and prevention
- o establishment of an NFPA field officer in Singapore (NFPA-APAC)
- o provide technical assistance to governments with disaster preparedness programs, including Costa Rica, Ecuador the Caribbean and Africa
- o proceedings of the Latin American Conference in English and Spanish.

Amendment No. 3 reflected an erroneous balance of \$125,500 which was recorded as the final installment of the grant; this amendment corrects that.

September 1986

NFPA and OPCI held 2 conferences in Brazil. The first was a service technical conference in Brasilia, with 160 attendees from 12 countries; the second was a fire protection conference in Rio de Janeiro with 378 attendees from 15 countries. The report states that "sessions were well attended," and that benefits of this and two previous similar annual conferences have included:

- o the ability to train local fire officials with major disaster and fire response assignments
- o the ability to reach a large number of officials at a low cost.

Topics covered included:

- o new technology and equipment
- o fire investigation
- o case studies of major fires
- o combating wildland fires
- o air operations
- o HAZMAT problems
- o fire safe building design
- o industrial fire safety
- o risk management
- o fire protection standards
- o disaster operations.

DATA

SOURCE:

Dates:  
06/24/84 - 01/31/87

Contract No:  
ASB-0000-G-SS-4172  
(Amend No. 4)

COST:

(-\$500)

Letter from D. Gratz of NFPA,  
10/30/86

2721

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
September 1986	NFPA presented a Life Safety Code seminar in Manila. Attendees included 127 architects and engineers, who were trained in fire protection building practices for two days. Scores on a subject matter pre-test averaged 3.8 out of 10; average post-test scores were 9.3/10.	NFPA memo from R. Cote, 09/08/86	
September 1986	NFPA participated in training 130 officers of the National Police in fire service training. Brig. General Cordata stated that, "These officers [will now] impart their knowledge to 8,000 rank and file fire service personnel throughout the Phillipines." He also stated that, "since AID (OFDA) and NFPA presented the hotel fire safety program [two years ago], the Phillipines has not suffered a major hotel fire."	Letter to NFPA from Brig. Gen. Cordata of the Phillipines National Police 09/04/86	
September 1985-86	NFPA achievements in this period included: <ul style="list-style-type: none"><li>o completion of training courses in Manila, Antigua, Barbuda, Trinidad and Caracas</li><li>o establishment of OPC1</li><li>o training two groups of overseas fire officers</li><li>o assessment of 15-20 countries training needs</li><li>o development of a "Learn Not to Burn" curriculum in Spanish.</li></ul>	Memo to OFDA from R. Palmaccio, NFPA 04/14/86	
January 1987	OFDA amended the NFPA cost-sharing grant to add funding and to revise the scope of work. All elements remained the same except: <ul style="list-style-type: none"><li>o programs were added with the OPIC of Bogota included in-country fire safety training in the Caribbean and fire training in Lima for post-earthquake and industrial safety</li><li>o selected activities of an NFPA officer in Singapore (NFPA-APAC) were added, for emergency response and technical assistance to priority countries in the region including fire prevention training in Burma, fire codes and standards developments in Malaysia, and selected fire safety activities in Indonesia</li><li>o fire safety preparedness and training was added in priority African countries, particularly in the Sudan.</li></ul>	PIO/T No: 907-11-999-84-43-7073043  Dates: 06/24/84 - 01/31/88  Contract No: ASB-0000-G-SS-4172 (Amend. No. 5)	\$90,000

NFPA input to match the OFDA funding was \$30,000.

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1987	Miami Dade and NFPA co-sponsored a fire-safety seminar in Lima, Peru for 50 participants.	Memo from D. Jewett to A. Swan, OFDA 11/11/87	
April 1987	NFPA sponsored a "Learn Not to Burn" School Safety Week Program and an earthquake awareness program in Costa Rica. The earthquake portion of the week was especially successful, and evolved into a national, regularly scheduled earthquake drill funded and run by the GOOCR.	Interview with D. Decker, OFDA	
August 1987	A survey of 1,842 OPCI seminar participants and alumni revealed that 99% received the training they had expected, and that 82.6% evaluated the material as "excellent".	OPCI newsletter No. 1; 08/87	
January 1988	OFDA amended the grant to extend the termination date from 01/31/88 to 07/31/88; with no additional funds and no change to the scope of work. AID contracts reported that between 8/1/84-07/31/88, NFPA has contributed \$207,978, or 25% to OFDA's \$455,500 (75%) for the program.	PIO/T No: 907-11-999-84-43-6073096  Dates: 06/24/84 - 07/31/88	
April 1988	NFPA held a seminar in Aruba on fire safety, with 59 trainees from 3 countries, representing fire departments, industry, hotels, and other government agencies. The Minister of Justice also participated and stated that, "The meetings were highly productive and very instructive".	Memo from D. Gratz, NFPA to OFDA, 04/19/88; Letter from Aruba Minister of Justice, 08/05/88	
July 1988	OFDA added \$15,000 to the grant and extended the project end date from Aug. 1, 1988 to July 31, 1989. Products from NFPA during this period included: <ul style="list-style-type: none"> <li>o continued support of OFDA relief efforts as outlined in the original grant</li> <li>o organize and implement international training programs</li> <li>o monitor activities of the OPCI of Bogota</li> <li>o continued support of OFDA sponsored workshops, et al.</li> <li>o contribute relevant technical publications and audiovisuals to emergency management training programs</li> </ul>	PIO/T No: 907-11-999-84-43-8073144  Dates: 06/24/84 - 07/31/89  Contract No: ASB-0000-G-SS-4172 (Amend. No. 7)	\$15,000

2/27

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o make available investigations in fire prevention and mitigation, particularly in highly technical areas (chemical hazards, radiological incidents, etc.)
- o after activity reports.

The budget was distributed as follows: fire training in Asia and the Pacific (\$8,000), fire training in Latin America and the Caribbean (\$5,000), publications and training materials (\$5,000), and emergency response experts (\$15,000).

July 1988

NFPA/OPCI conducted training for 30 attendees in Ecuador in industrial fire standards. OFDA received credit for helping begin the program, although the OFDA grant was not charged for the seminar.

NFPA Fax memo to OFDA,  
09/26/88

No cost

September 1988

The Prime Minister, Minister of Justice and Fire Chief of Aruba indicated concern with increased development in Aruba, and with the need to establish adequate fire safety standards. As a result of earlier NFPA conferences in Aruba and the Caribbean, Aruba has prepared a new fire safety law based on U.S./NFPA standards.

Memo to OFDA from D. Gatz,  
NFPA, 09/26/88

TOTALS

11/83-09/88

\$564,200

*mg*

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 0 0 4

1. ACTIVITY NUMBERS: 4 1 1 4

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

VIRGINIA POLYTECHNIC INSTITUTE DISASTER MITIGATION CONFERENCE - Grant to Virginia Polytechnic Institute and State University (VPI) to organize an international conference on the implementation of disaster mitigation programs held in Ocho Rios, Jamaica, from November 12-16, 1984.

5. DATA COLLECTOR: Kimberly Caulfield Vasconez

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

February 1984

OFDA grant with VPI to organize an international conference on the implementation of disaster mitigation programs and to:

PIO/T # 904-11-999-84-14-073049

\$138,000

◦ prepare 6 major papers, case studies, and model mitigation plans and distribute to participants prior to the conference.

Dates: 02/01/84 - 06/30/85

◦ execute the 5-day conference, including field trips to Kingston, in cooperation with the Jamaican Office of Emergency Preparedness and Emergency Relief Coordination.

Grant No. ASB-0000-G-SS-4088

◦ edit and publish the conference proceedings and a handbook of model mitigation program plans.

2/25

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
	° award subcontracts to:  (1) the Jamaican Office of Disaster Preparedness and Emergency Relief Coordination to make on-site arrangements, provide staff support during the conference, and prepare case study material based on Jamaican mitigation programs (\$6,000); (2) Ian Davis of Oxford Polytechnic Institute to sit on an organizing committee, review papers, select international participants, and edit sections of the final product (\$4,000); and (3) Jean Parker of INTERTECT to provide guidance on programming, scheduling, and correspondence for the conference materials (\$6,000).		
November 1984	Virginia Polytechnic Institute hosted the International Conference on Natural Hazards Mitigation Program Implementation.	Conference Proceedings in OFDA library.	
August 1985	OFDA amended the grant to extend the end date from June 30, 1985 to September 30, 1985.	PIO/T # 904-11-999-84-14-0743049 Dates: 02/01/84 - 09/30/85 Grant No. ASG-0000-G-SS-4088	No Cost
mid-1985	VPI submitted its publication titled Proceedings of the International Conference on Disaster Mitigation Program Implementation to OFDA.	Conference Proceedings in OFDA library.	
<u>TOTALS</u>			
07/84-08/85			\$138,000

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 6 0 2

1. ACTIVITY NUMBERS: 4 1 1 8

2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X

3. REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): USGS Cooperative Earthquake and Tsunami Conditional Probabilities in the Circum-Pacific. PASA with the USGS for the development and implementation of analytical techniques to determine comparative earthquake and tsunami potential in circum-Pacific zones. USGS prepared maps and texts, conducted analytical surveys of video-image processing systems, conducted an investigation of historic seismic repeat-time dates, investigations of earthquake rupture processes, and research into regional tectonic mechanisms. FY 84-83 \$458,961.

5. DATA COLLECTOR: Keith Johnston

6. CHRONOLOGY:

DATE:

ACTION:

DATA

SOURCE:

COST:

July 1984

A PASA was negotiated with USGS to provide for first year funding of a 3-year program to develop and implement analytical techniques to determine comparative earthquakes and tsunami potential for Circum-Pacific zones; a regional vulnerability and hazards analysis for disaster planning in the developing countries was also included. The scope of work for year 1 planned for:

PIO/T:  
907-11-999-84-013-0743044

\$126,236

Dates:  
1/1/84-12/31/86

PASA No.:  
BOF-0000-P-16-4051-00

- o Reports, with maps, detailing the comparative earthquake zones of the west coast of South America, Central America, and Mexico
- o Evaluating the feasibility of using video-image processing technology
- o Compiling and analyzing historic data for repeat-times of strong earthquakes
- o Compiling tsunami data for the Circum-Pacific regions
- o Investigating the rupture process of two large earthquakes that produced tsunamis
- o Investigating regional tectonic mechanisms.

602

DATE:

April 1985

ACTION:

An article submitted by Dr. Stuart Nishenko to the Journal of Geophysical Research examined the seismic potential of the Chilean and southern Peruvian margins of South America that may be expected to experience great earthquakes between 1984-2004.

DATA

SOURCE:

COST:

"Seismic Potential for Large and Great Interplate Earthquakes Along the Chilean and South America: A Quantitative Re-Appraisal" Journal of Geophysical Research Vol. 90, No. B5, pp.3589-3614

April 1985

Progress report submitted for the first quarter of 1985 noted that:

- o Data was being collected for the reports and maps on comparative earthquake potential
- o The study on using video-image processing system was completed and it was determined it could not meet the needs of the project
- o Data was still being collected on the historic repeat-time of great earthquakes and circum-Pacific tsunamis
- o An evaluation of the occurrence of subduction zone earthquakes was completed and a paper was submitted to Nature
- o Most research was completed and papers written on the tectonic mechanism of major earthquakes in Peru and the Central Sunda arc.

Progress Report: Comparative Earthquake and Tsunami Potential for Zones in the Circum-Pacific 1/1/85-3/31/84

The conclusion from this last task postulated that the maximum likely earthquake to occur in Central Peru would be MS 8.4, and that a great thrust earthquake will not occur in the Central Sunda arc, but a normal-faulting one was possible. Finally, members of the project team successfully forecasted a great earthquake offshore of Valparaiso, Chile.

August 1985

The PASA was amended to provide for the second year of funding. The scope of work and other terms remained unchanged.

P10/T:

907-11-999-84-13-5074004

\$80,364

Dates:

1/1/84-12/31/86

PASA No.:

90F-0000-P-1C-4051-01

328

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
March 1986	Dr. S. P. Nishenko and S. K. Singh submitted a scientific paper to the <u>Journal of Geophysical Research</u> outlining the probabilities for the recurrence of large and great interplate earthquakes along the Mexican subduction zone for the period 1986-2006. The paper postulated that sections of western and central Oaxaca, and central Guerrero provinces had a high probability of large shocks; the Tehuantepec gap had a fairly high probability. The Acapulco-San Marcos gap was viewed as a test of the characteristic and time-predictable models used in the forecasting because the scientists believed the area would have a shorter recurrence level of earthquakes.	"Conditional Probabilities for the Recurrence of Large and Great Interplate Earthquakes Along the Mexican Subduction Zone: 1986-2006." Pre-print submitted to the <u>Journal of Geophysical Research</u> , 3/21/86	
June 1986	Dr. William Spence submitted a paper examining the Sumba earthquake(s) which produced tsunamis, and concluded that no evidence existed for thrust faulting in the Sunda arc.	"The 1977 Sumba Earthquake Series: Evidence for Slab Pull Force Acting at a Subduction Zone", <u>Journal of Geophysical Research</u> , Vol. 91, No. B7, pp. 7225-7239.	
July 1986	The PASA was amended to extend the completion date of the project and provide incremental funding for personnel, travel, and equipment	PIO/T: 907-11-84-13-6073085  Dates: 1/1/84-12/31/87  PASA No.: BOF-0000-P-1C-4051-02	\$188,199
July 1986	Dr. Spence submitted a progress report for the period April 1 - June 31, 1986. Notable results during this period include the completion of a paper by Drs. Nishenko and Baland on a method by which earthquake recurrences can be more accurately estimated, and work by Dr. Mendoza on the seismicity of Panama and Costa Rica.	Progress Report "Comparative Earthquake and Tsunami Potential for Zones in the circum-Pacific Region" April 1 - June 31, 1986	

VEN

DATE:

ACTION:

DATA  
SOURCE:

COST:

October 1986

Progress reports were submitted by Dr. Spence for the period July 1 - September 30, 1986. Notable results during this period included processing large databases of seismic/tectonic information in preparation for production of a preliminary map of comparative earthquake potential of the entire circum-Pacific region. Detailed maps of Central/South America, Alaska, the Aleutian arc, and parts of the western Pacific and Southeast Asia were also being prepared. Also during this period the total energy for all significant earthquakes in the region was calculated and would be used in estimating the "ripeness" of a seismic gap.

Progress Report "Comparative Earthquake of Tsunami Potential for Zones in the circum-Pacific Region" July 1 - September 30, 1986

November 1987

Dr. Spence submitted a progress report for the period July 1 - September 30, 1987. Notable results included completion of work on earthquake and tsunami recurrence for Alaska and the Aleutian arc and of project objectives in Southeast Asia. Work on evaluating the absolute energy of earthquakes was being routinely used by the National Earthquake Information Center -- the first time that the total energy of significant earthquakes has been routinely determined.

Progress Report "Comparative Earthquake and Tsunami Potential for Zones in the circum-Pacific Region" July 1 - September 30, 1987.

Other results to date include:

- o Work on the reports and maps of comparative earthquake potential on the coasts of Chile, Peru, Northern South America, Central America and Mexico was nearly finished. All probabilistic work was completed, some papers submitted, and seismic risk maps were either completed or being prepared
- o The survey of video-image processing systems for digitizing historic seismograms was completed, and it was determined that the present technology was inadequate for the project requirements
- o An analysis of the historic repeat-time for great earthquakes in the Northern Pacific Ocean was nearly completed
- o Work on developing a model for the interaction between forces that drive plate motions, and on developing a methodology for estimating the magnitude, moment, depth of occurrence and energy of significant earthquake was nearly completed

330

DATE:

ACTION:

DATA  
SOURCE:

COST:

November 1987 (cont'd)

- o A systematic method for gathering and analyzing tsunami data in the circum-Pacific region was completed
- o An investigation into the historic repeat-time of great earthquakes in the Southwest Pacific was nearly completed, with areas in the New Britain-Solomon arc, San Cristobal gap, and the Tonga arc representing high seismic-risk zones
- o Research into two tsunami producing earthquakes in Samoa and Japan was nearly finished, with inconclusive preliminary results.
- o Research into the tectonic mechanisms of major earthquakes in Peru and the Sunda arc were completed with results indicating the maximum likely earthquakes in Peru to be MS 8.4, and no great thrust earthquake in the Central Sunda arc (but a normal faulting one was possible).

January 1987

The PASA was amended to extend the completion date and provide the final funding to complete the project. All other terms and conditions remained unchanged.

PIO/T:  
907-11-999-84-13-8073040

\$64,162

Dates:  
1/1/84-5/31/88

PASA No.:  
BOF-0000-P-1C-4051-03

TOTALS

07/84-01/87

\$458,961

331

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 0 0 3

1. ACTIVITY NUMBERS: 4 0 9 9

2. COUNTRY BENEFITED:

NOT COUNTRY SPECIFIC: X

REGION BENEFITED: Not Region Specific (4000 Series)

4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF):

USGS VOLCANO DISASTER ASSISTANCE PROGRAM (VDAP) - PASA with the USGS to develop an interagency volcano early warning disaster assistance program capable of providing rapid, efficient, appropriate and cost-effective emergency technical response and assistance to actual or potential volcano crisis worldwide (as of Amend. #2) including such responses as (1) on-site monitoring; (2) provision of a volcano crisis Assistance Team(s) (VCAT); (3) ongoing mapping and analyses of volcano hazards; (4) preparation of quantified threat information suitable for evacuation planning in host countries; and (5) assembly and maintenance of mutually agreed upon equipment caches for the VCAT use in times of volcano emergencies.

5. DATA COLLECTOR: Kimberly Caulfield Vasconez

6. CHRONOLOGY:

DATE:

May 1986

ACTION:

OFDA arranged a PASA with the USGS to develop and conduct a 5-year interagency volcano early warning disaster assistance program for Latin America and the Caribbean. The program involves the following:

- o development of a Volcano Crisis Assistance Team (VCAT)
- o develop cache of volcano monitoring equipment for deployment when needed
- o provision of technical assistance
- o create database on information on high risk Latin American volcanoes.

DATA

SOURCE:

PIO/T #907-11-999-86-44-6073092

Dates: 05/30/86 - 07/31/91

Grant No. OTR-0000-P-IC-6116

COST:

\$277,000

252

DATE:

ACTION:

DATA

SOURCE:

COST:

August September 1986

USGS sent 3 VDAP personnel to Ecuador, Colombia and Costa Rica to establish relations with volcano observatory and other disaster-related organizations.

VDAP Annual Report for 08/06/86-09/30/87

June 1987

OFDA approved a new program for the PASA which involves an expanded program in Guatemala. New activities are to be funded entirely by USAID/Guatemala and involve training, monitoring and evaluation of 4 Guatemalan volcanoes targeted by VDAP personnel and the purchase and repair of equipment now on loan by the VCAT to Guatemala's INSIVUMEH. Outputs include:

PIO/T #502-0379-2-70065

No Cost

- o hazard maps of Fuego and Santiaguito volcanoes
- o upgraded surveillance of the 4 targeted volcanos
- o training in deformation monitoring
- o basic training and support to service, operate, and interpret the new systems.

Dates: 07/01/87 - 12/31/89

Grant No. OTR-0000-P-IC-6116

The PIO/T reflected USAID/Guatemala's funds for this task (+\$337,940).

September 1987

By the end of FY 1987, VDAP had accomplished the following in accordance with its 8 tasks as outlined in the scope of work:

- o identified 5 for the VCAT and placed 2 personnel in Manlo Park and 3 at the Cascades Observatory
- o obtained a loan of the 6 seismographs for the seismic system and developed (with the USGS Branch of Seismology) the hardware and 50% of the software
- o operationalized a new VDAP-developed system of dry tilt, developed necessary data-reduction programs, and tested/applied
- o purchased, assembled, and fielded 5 telemetered tiltmeters and 3 base stations (one unit on loan and installed in Fuego Volcano, Guatemala) also purchased parts for 5 digital telemetered mudflow alarms
- o obtained all topographic and geologic maps of volcanic terrain in Guatemala, Colombia and Costa Rica, and most maps of Ecuador volcanic areas; obtained aerial photos of 4 Ecuadorean and 4 Guatemalan volcanoes
- o produced 7 reports on assessment of risk of high-risk activities (and 3 additional publications/journal articles)
- o sent a 3 person VCAT to respond to a request from Guatemala to evaluate and mitigate the hazards of 4 threatening volcanoes in Guatemala. As a result of this request, USAID/Guatemala threatening a brought into the program

Annual Report for 08/06/86-09/30/87

233

DATE:

ACTION:

DATA  
SOURCE:

COST:

- o conducted a 1-month deformation monitoring/training workshop in Ecuador for Ecuadorean, Costa Rican and Guatemalan participants in cooperation with UNESCO and WOVO (UNESCO provided \$10,000 for the publication of proceedings); sent a Colombian to Iceland for training and coordinated with UNDRO for fact-finding missions in Ecuador and Colombia
- o traveled to and provided technical assistance in Colombia, El Salvador, Guatemala, Costa Rica, and Ecuador
- o produced an educational video.

October 1987

VDAP lent volcano monitoring equipment to the Costa Rican organizations OVSIKORI-UNA for the UNESCO-sponsored course in volcanology and monitoring techniques held from Nov. 29 - Dec. 11, 1987.

Correspondence/cables in LAC files

April 1988

OFDA provided second-year funding toward the VDAP and added Task 8 which expands the VCAT response to volcano crises worldwide. Outputs for Task 8 include:

P10/T # 907-11-999-86-44-8073080 \$250,000  
(Amend #2)

- o team lists of pre-qualified USG experts capable of working with the VCAT
- o augmenting regional geographic expertise, as necessary
- o augmenting the current volcano monitoring equipment cache at the Cascades Volcano Observatory to meet needs worldwide.

Dates: 10/01/87 - 11/30/88

Grant No. ITR-0000-P-IC-6116-02

September - October 1988

USGS VCAT Project Chief Norman Banks and Joh Ewert traveled to Quito specifically to visit Guagua Pichincha volcano which is exhibiting signs of unrest and Banks continued to Bogota to visit USAID/Bogota.

October 1988

USGS VCAT submitted a report including recommendations on the increasing activities of Guagua Pichincha and Cotopaxi volcanoes in Quito.

October 20, 1988, report on volcano unrest at Guagua Pichincha and Cotopaxi volcanoes in Ecuador

TOTALS

05/86-to date

\$527,000

*Handwritten initials*

OFDA  
NON-RELIEF PORTFOLIO  
CHRONOLOGY PROFILE FORM  
(CPF)

CHRONOLOGY #: 701

1. ACTIVITY NUMBERS: 4028
2. COUNTRY BENEFITED:  
NOT COUNTRY SPECIFIC: X
3. REGION BENEFITED: Not Region Specific (4000 Series)
4. DESCRIPTION OF ACTIVITY (ITEM 10 ON APF): Volunteers in Technical Assistance grant -- a contract to develop two databases for disaster response management -- a volunteers database and a donated materials database.
5. CHRONOLOGY SUGGESTED BY: Data collector: Lew Toulmin

6. CHRONOLOGY:

<u>DATE:</u>	<u>ACTION:</u>	<u>DATA SOURCE:</u>	<u>COST:</u>
December 1986	Proposal received from Volunteers in Technical Assistance (VITA) to establish and run a database/clearinghouse for volunteers and private donated supplies to be used in disaster response.	VITA proposal from George Garriott	
May 1987	Contract awarded to VITA to survey existing resources and networks, identify existing PVOs, and design two databases -- one in volunteers and one on donated materials. (This effort was called "Phase I.") About \$44,000 in in-kind funds from VITA were leveraged.	PIO/T 907-11-999-87-19-7073115  Dates: 5/29/87-8/29/87  Contract #: PDC-0000-G-SS-7111-0	\$10,202
January 1988	VITA contract modified to extend completion date to March 1, 1988	Grant PDC-0000-G-SS-71111-00 Mod. #1	
September 1988	VITA contract amended to undertake "Phase II" of project, to complete development of "one-stop" information clearinghouse for the coordination of private sector donations and volunteers.	PIO/T 907-11-99-88-60-8073160  Grant PDC-0000-G-SS-8203, Mod. # 2	\$55,525

65

DATE:

ACTION:

DATA

SOURCE:

COST:

Leveraged funds in Phase II:

\$82,500 from VITA, \$100,000 in concert donations, 4 radios and other equipment

Dates:

10/1/88-9/30/89

January 1989

VITA accomplishments to date have included:

- establishment of Disaster Information Center (DIC)
- establishment of two databases, one on volunteers available for foreign disaster assistance, and one on donated materials available for shipment to disaster areas.
- contacting over 120 U.S. PVOs via letter to solicit support and notify them of the OFDA/VITA DIC
- establishment of a VitaNet electronic bulletin board to allow rapid offers and management of assistance. (To date 23 PVOs and 2 embassies subscribe.)
- training of VITA staff.
- recruitment and training of 20 VITA volunteers.
- extensive response to Hurricane Gilbert and the Armenian earthquake.
- serving as secretariat to a monthly PVO disaster lunch meeting.
- arranging the donation of a 4-station packet radio system to the Jamaican Amateur Radio Association
- co-sponsoring a Kennedy Center concert that raised over \$100,000 for Armenia.

Jan. 1989 quarterly report

No cost

TOTALS

12/86-to date

\$65,727

*dfw*