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**U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT**  
BUREAU FOR DEMOCRACY, CONFLICT, AND HUMANITARIAN ASSISTANCE (DCHA)  
OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE (OFDA)

## ***LATIN AMERICA AND THE CARIBBEAN – Disaster Preparedness and Mitigation Programs***

Fact Sheet #1, Fiscal Year (FY) 2007

September 30, 2007

### **Background**

The countries of Latin America and the Caribbean (LAC) are highly vulnerable to a range of natural hazards, including earthquakes, hurricanes, floods, tsunamis, landslides, volcanoes, and drought. At times, El Niño Southern Oscillation meteorological events and poor land use management exacerbate the effects of some of these hazards. In addition, disasters triggered by environmental or technological incidents, such as forest fires and chemical and oil spills, pose a potential threat. Some LAC countries are also vulnerable to civil unrest and associated humanitarian consequences.

Recognizing these vulnerabilities, USAID/OFDA supports disaster preparedness and mitigation programs aimed at reducing loss of human life, alleviating suffering, and lessening the economic impacts of disasters. These programs include risk identification, prioritization, and reduction, as well as post-disaster recovery and short-term rehabilitation projects. In the LAC region, USAID/OFDA promotes local and national self-sufficiency in disaster preparedness and management. USAID/OFDA's programs build upon and strengthen the capacity of established national and regional disaster management institutions, many of which have the ability to meet most emergency needs after an event.

Established in 1989, the Regional Disaster Assistance Program (RDAP) is the primary vehicle for USAID/OFDA's support of disaster risk management in LAC. Over the years, given the increased capacity of LAC countries, USAID/OFDA has shifted from a strictly instructional approach to providing more technical assistance for planning, strengthening, and centralizing the role of national organizations in disaster management. USAID/OFDA's technical assistance enhances local and regional abilities to respond to emergency needs by increasing understanding of disaster preparedness and mitigation activities and encouraging intra- and inter-governmental coordination in all risk management initiatives. In many LAC countries, disaster management training is conducted entirely by national trainers, with USAID/OFDA providing only technical assistance.

The RDAP and other preparedness programs are overseen and monitored by USAID/OFDA's team of five regional advisors based in San José, Costa Rica, and a consultant network of 19 disaster experts dispersed throughout the region. USAID/OFDA regional advisors and consultants are available for immediate deployment in response to disasters to conduct damage and needs assessments and to help coordinate U.S. Government emergency response activities, if required.

USAID/OFDA supports the development of risk management in LAC through a number of programs. In FY 2007, USAID/OFDA provided nearly \$7.6 million for ongoing disaster preparedness and mitigation projects.

### **USAID/OFDA/LAC Preparedness and Mitigation Assistance**

#### ***Regional Programs***

- **Regional Disaster Assistance Program (RDAP):** Through a contract with the International Resources Group (IRG), USAID/OFDA maintains a network of disaster assistance experts throughout the LAC region who are available to deploy to disaster sites, perform damage assessments, and provide guidance on disaster preparedness and mitigation activities. IRG consultants oversee a multi-course program with instruction in disaster management concepts, training methodology, and technical disciplines. The program also provides technical assistance, including guidance for strategic planning and organizational development processes, facilitation in the development and evaluation of national and local risk management training programs, support for inter-institutional coordination mechanisms, and assistance in the preparation of local, departmental, and national emergency action plans. The program began in Latin America in May 1989 and expanded in 1991 to include the Caribbean countries. Since the program's inception, 44,339 participants have been trained and 4,686 instructors certified in 30 countries. Many of the USAID/OFDA-trained individuals have assumed leadership roles in national disaster management organizations and presently conduct training in their own countries using their resources. USAID/OFDA has contracted IRG to implement the RDAP from 1998 to 2008. Total funding of the program since 1998 amounts to \$35,194,654..... **FY 2007 \$4,800,000**

- Emergency Health Preparedness Program: Since 1998, USAID/OFDA has supported the Pan American Health Organization's (PAHO) efforts to promote improved disaster preparedness and response in the health sector. In 2003, USAID/OFDA and PAHO entered into a five-year agreement focused on increasing the capacity of health professionals to respond to disasters in the LAC region. The U.K. Department For International Development, the Canadian International Development Agency, and the European Commission's Humanitarian Aid Office (ECHO) also support the program. PAHO is working to increase and improve advocacy, technical information services, and human resources training in health, environment, and all related sectors. Specific PAHO activities include production and dissemination of training materials and health guidelines, support for developing building codes for health and water facilities, and health surveillance for local communities in the immediate post-disaster period. Total USAID/OFDA funding to PAHO for regional technical support in the LAC region since 1998 is \$10,450,870 ..... **FY 2007 \$1,000,000**
- Assessment of LAC Risk Management Curricula – Phase I and Phase II: Implemented by Florida International University (FIU), Phase I of this project, completed in August 2004, assessed the state of disaster, emergency, and risk management instruction in higher education institutions in the LAC region. In Phase II, FIU is supporting three higher education institutions in South America identified in Phase I to receive small grants to strengthen disaster management learning through creative and innovative approaches. Since FY 2003, USAID/OFDA has provided \$251,206 to FIU for both phases of this project.
- Private Sector Involvement in Disaster Assistance: Since July 2004, USAID/OFDA has supported the Pan American Development Foundation (PADF) to promote private sector engagement and contributions to emergency management activities before, during, and after disaster events in the LAC region. PADF has helped businesses to develop strategies that encourage quick mobilization of private sector resources for disaster assistance. The program is also bringing emergency management training to private enterprises, as well as creating awareness among businesses regarding disaster preparedness and mitigation. Since 2004, USAID/OFDA has provided a total of \$870,554 toward the implementation of this project. The program will conclude in January 2008.
- Volcano Assistance: USAID/OFDA supports the U.S. Geological Survey's (USGS) Volcano Disaster Assistance Program (VDAP) that provides technical assistance to volcano-monitoring organizations throughout the world. VDAP assistance includes crisis response, training for risk assessment, the development of early warning plans, and the transfer of volcano-monitoring equipment and technology. In FY 2007, VDAP worked with the Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología and the Coordinadora Nacional para la Reducción de Desastres (CONRED) to begin the construction of a new volcano-monitoring network in Guatemala. A VDAP team assessed recent unrest at Baru Volcano in Panama and provided assistance to counterparts to design a volcano-monitoring program, perform hazard mapping, and raise public awareness of the potential volcano hazards. VDAP assistance in FY 2007 helped local agencies forecast eruptions at Huila Volcano in Colombia, helping save lives and prevent serious injuries. Since 1986, VDAP assistance in LAC has totaled approximately \$7 million ..... **FY 2007 \$720,000**

### ***Caribbean Programs***

- Caribbean Tsunami Early Warning System: In August 2006, USAID/OFDA entered an agreement with the University of the West Indies (UWI) Seismic Research Unit (SRU) as part of a multi-national, regional project to strengthen the capacity of the SRU to detect, monitor, and provide early warning of tsunamis and related geological hazards. New equipment and software will assist to transmit information regarding these events to vulnerable communities in the Eastern Caribbean. This program will also benefit disaster management officials, island governments, planning departments, and people living in the Caribbean, especially those residing near coastlines. The first phase of the program will end in February 2008. In June 2007, USAID/OFDA provided more than \$70,000 to USGS to implement a six-day training program in seismology and tsunami warnings in Trinidad and Tobago. The course was part of an ongoing regional effort to develop tsunami warning systems for the Caribbean and adjacent areas. Over 40 participants from more than 20 countries attended the training ..... **FY 2007 \$73,070**
- Development of Hurricane Hazard Maps for the Caribbean: In FY 2007, USAID/OFDA supported PAHO to develop wind hazard maps for the Caribbean basin, including all of the islands of the Caribbean and the Caribbean coastlines of South and Central America. The program will incorporate over 20 years of the region's data to improve the quality of currently available wind hazard information. The proposed maps will enable wind hazard experts, government authorities, and the engineering and architectural communities to obtain better wind hazard guidance for structural design, including new hospitals and other relevant facilities. PAHO is collaborating with

the U.N. International Strategy for Disaster Reduction, the Caribbean Division of the Institution of Structural Engineers, the Council of Caribbean Engineering Organizations, and ECHO. PAHO plans to disseminate the maps to all relevant stakeholders at a regional conference in early 2008 ..... **FY 2007 \$126,560**

- Disaster Mitigation Facility for the Caribbean (DMFC): Between April 2000 and December 2006, USAID/OFDA provided more than \$1 million to the Caribbean Development Bank (CDB) to establish a disaster mitigation facility in the region. The six-year program supported activities that promote sustainable development through reduced risk and losses from natural hazards in the English-speaking countries of the Caribbean. In addition, DMFC worked to incorporate natural hazard considerations into new development projects financed by the bank.
- Disaster Risk Management Program in Haiti: With \$250,000 provided in FY 2005, USAID/OFDA supported the U.N. Development Program's (UNDP) efforts to reduce natural hazard risks faced by vulnerable populations in Haiti through February 2007. UNDP collaborated with Haiti's Civil Protection Department to strengthen local and national response, preparation, and training capacities and to develop disaster prevention and mitigation projects.
- National Flood Early Warning in Jamaica: In June 2007, USAID/OFDA provided funds to the Government of Jamaica's Office of Disaster Preparedness and Emergency Management (OPDEM) to conduct a simulation test of the national flood early warning system. The preparedness exercise is a practice tool for local disaster coordinators to assess the preparedness and capacity of authorities and local populations to respond to the threat of flooding in several areas, including Fort George and Rio Grande Valley, Portland Parish, Annotto Bay, Saint Mary Parish, and Rio Cobre basin, Saint Catherine Parish ..... **FY 2007 \$35,000**
- Tsunami and Coastal Hazards Warning System: In FY 2007, USAID/OFDA funded the Caribbean Disaster Emergency Response Agency (CDERA) to help establish a tsunami and coastal hazards warning system at regional and national levels among CDERA participating states. The two-year program will provide public education and awareness campaigns to help coastal communities respond to warnings and reduce the communities' vulnerability to tsunamis, storm surges, flash floods, and other hydro meteorological hazards. In collaboration with the Intergovernmental Oceanic Commission's Intergovernmental Coordination Group for Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions, this program promotes a partnership between technical and specialized agencies, emergency managers, donors, and at-risk communities..... **FY 2007 \$300,000**

### ***Central America Programs***

- Central America Mitigation Initiative Assessment: Following Hurricane Mitch in Central America in 1998, USAID/OFDA provided funding to USGS to enhance stream-flow monitoring in El Salvador, Guatemala, and Nicaragua, and to increase the capabilities of geographic information systems in Honduras. In September 2007, USGS began to assess the projects' impact. The assessment will conclude in 2008..... **FY 2007 \$93,005**
- School Safety Curriculum in Costa Rica: In FY 2007, USAID/OFDA provided funding to the Universidad Estatal a Distancia (UNED) for the development of a distance education module based on the original USAID/OFDA/LAC school safety course. The development of the module will facilitate dissemination of its content to a greater number of institutions in Latin America due to the expanded access afforded by distance education. UNED will implement the project in collaboration with USAID/OFDA/LAC..... **FY 2007 \$50,000**
- Strengthening Risk Management in El Salvador: In October 2005, two eruptions at the Ilamatepec Volcano deposited a large amount of material at the volcano's summit. Following the volcanic eruptions, heavy rains resulted in floods, landslides, and volcanic mudflows in surrounding communities. To address the country's vulnerability to these natural hazards, USAID/OFDA provided funding through USAID/El Salvador to the Centro de Protección de Desastres (CEPRODE) to support activities to strengthen the risk mitigation and disaster management knowledge and capacities in the municipalities of El Congo, Santa Ana, and other communities on the eastern side of the Ilamatepec Volcano. The program promotes capacity for risk reduction and disaster prevention and promote appropriate emergency response actions. Project activities will include creating school, municipal, and community civil protection commissions; developing plans and risk maps; equipping shelters, operation centers, and emergency brigades; identifying secure evacuation routes; conducting periodic evacuation simulations; leading risk management trainings for students and teachers; and installing rain gauges in three schools. CEPRODE will coordinate efforts with a variety of partners, including the National Civil Protection System and the Government of El Salvador's Ministry of Education and Ministry of Health..... **FY 2007 \$185,600**
- Community Forest Fire Management Project in Guatemala: In FY 2007, USAID/OFDA funded the Wildlife

Conservation Society (WCS) to implement a forest fire management project in El Petén Department in northern Guatemala. The project will benefit the communities of Uaxactún, La Colorada, and Carmelita in the Maya Biosphere Reserve, and Paso Caballos on the southeast of Laguna del Tigre National Park. WCS will implement educational initiatives, including early warning systems and guidance to manage fire safely in order to prevent forest fires in these populated areas..... **FY 2007 \$20,000**

- Earthquake Simulation Exercise in Guatemala: In FY 2007, USAID/OFDA provided funding to CONRED to conduct a national earthquake simulation exercise. The preparedness exercise will serve as a practice tool for local disaster coordinators and will enable the government to assess the preparedness and capacity of authorities and the population to respond to disasters ..... **FY 2007 \$15,000**
- Disaster Preparedness in Vulnerable Municipalities of Western Honduras: In September 2006, USAID/OFDA awarded a grant to Action of Churches Together (ACT) in Honduras to train and organize local emergency committees in 40 highly vulnerable communities in Naranjito and Azacualpa in Santa Bárbara Department, in Nueva Arcadia in Copán Department, and in La Unión in Lempira Department. The emergency committees created risk maps and contingency plans to facilitate evacuation and rescue, installed an early warning system to alert the population to signs of danger and thresholds for evacuation, and carried out small-scale mitigation projects to reduce risk in the most vulnerable communities. ACT strengthened coordination at local and municipal levels with existing governmental structures and civil society groups. The program will conclude in December 2007.
- School Disaster Preparedness Project in Honduras: Between April 2006 and June 2007, USAID/OFDA supported a pilot effort by World Vision United States (WVUS) to teach basic disaster preparedness principles to approximately 4,400 children in 42 schools and educational centers in the disaster-prone departments of Valle and Francisco Marazán in Honduras. The project enhanced risk management capacity for all the members of the school communities, including the parent associations, teachers, administrators, and WVUS program staff. The program provided for physical improvements to schools, such as repairs to roofs, windows, walls, sanitary facilities, floors, and walkways to further reduce risk. Using USAID/OFDA teaching methodology, WVUS staff developed work plans and formed school-level working committees trained in evacuation, first aid, rescue operations, and school safety. The program also served as a guide for the inclusion of risk reduction knowledge in the curriculum for grades 1-9 in Honduras. USAID/OFDA continues to provide technical support to Honduras' main teacher training institute to include risk reduction in the course of study for prospective teachers.
- Reducing Risk and Preparing Vulnerable Communities in Puerto Cabezas, Nicaragua: Between November 2005 and January 2007, USAID/OFDA supported the Nicaraguan Red Cross (NRC) to strengthen the capacity of vulnerable communities in Puerto Cabezas, particularly in the geographically and socially isolated areas near the Wawa River. The project raised awareness of the importance of risk reduction, improved understanding of natural hazards, and strengthened local capacity to respond to disasters. NRC conducted information campaigns to teach the residents of Puerto Cabezas about potential risks and advocated that risk reduction education be included in relevant courses of study at schools and universities. NRC worked with the municipal government and communities in disaster preparation activities, early warning systems, and the implementation of small mitigation projects. USAID/OFDA provided \$50,000 in FY 2005 funding for this program.
- Risk Reduction and Disaster Preparedness at Teacher Training Institute in Panama: Between October 2005 and October 2006, USAID/OFDA worked with the Juan Demósthene Arosemena Teacher Training Institute (JDATTI) in Panama to incorporate risk reduction into teaching curricula. Approximately 2,500 men and women study at JDATTI, under the supervision of 90 administrators and 120 professors. Nearly 400 primary school teachers graduate from JDATTI annually and begin teaching in schools throughout Panama, including in disaster-prone and isolated areas of the Caribbean coast and southern region. With funding from USAID/OFDA, the institute enhanced risk reduction and disaster preparation by providing computers and Internet service and purchasing specialized books, documents, and curriculum guides for students, professors, and administrators. The new facilities enabled JDATTI students and faculty to publish original research on risk reduction and disaster preparation. In FY 2005, USAID/OFDA provided \$21,500 for this program.
- Strengthening Local Emergency Prevention and Response Capacities in Panama: Heavy rainfall in the highlands of Panama's Chiriquí Province and poor agricultural and waste disposal practices lead to frequent floods and landslides. In FY 2007, USAID/OFDA awarded a grant to the Fundación para el Desarrollo Integral Comunitario y Conservación de los Ecosistemas de Panamá (FUNDICCEP) to strengthen community capacities for prevention and response to emergency and disaster situations. Project activities will include risk and vulnerability documentation in Cerro Punta, development and implementation of a plan of action for inter-sectoral cooperation

on community capacity building for emergency and natural disaster prevention and response, and documentation of experience, lessons learned, and limitations of the capacity building plan ..... **FY 2007 \$96,351**

- **Wildfire Prevention and Preparedness in Mexico:** USAID/OFDA partnered with the U.S. Forest Service (USFS), USAID/Mexico, and the Government of Mexico’s National Forest Commission to develop a plan to manage the risk of wildfire and ensure effective and safe responses at the local, regional, and national levels. Based on the ongoing work of USAID/USFS Fire Management Program, the program promotes increased inter-agency coordination and capacity at all levels while mitigating health, environmental, and economic damages. Program activities focused on prevention, preparedness, and planning. More than 190 staff in relevant agencies in the affected states of Chiapas, Campeche, Yucatán, and Quintana Roo received training in Incident Command System to enhance their effectiveness at coordinating disaster management. The program will conclude in December 2007.

**South America Programs**

- **Earthquake Monitoring and Surveillance in Bolivia:** In FY 2007, USAID/OFDA provided funding to the Observatorio San Calixto (OSC), a small private observatory that works to monitor earthquake activity. With USAID/OFDA funds, OSC is monitoring micro-earthquakes that occur near the capital city of La Paz, with portable seismic equipment. By determining where small earthquakes occur, OSC will identify the areas that are most vulnerable to larger earthquakes in order to prioritize future mitigation activities..... **FY 2007 \$71,673**

**Total USAID/OFDA FY 2007 LAC Preparedness and Mitigation Assistance.....\$7,586,259**

**USAID/OFDA DISASTER PREPAREDNESS AND MITIGATION ASSISTANCE IN LAC REGION<sup>1</sup>**

| <i>Implementing Partner</i> | <i>Project</i>   | <i>Location</i> | <i>FY 2007 Funding</i> | <i>Cumulative Funding for Active Projects</i> |
|-----------------------------|--|-----------------|------------------------|---|
| ACT                         | Disaster Preparedness in Vulnerable Municipalities   | Honduras        | —                      | \$76,400                                      |
| CDB                         | Disaster Mitigation Facility   | Caribbean       | —                      | \$1,414,000                                   |
| CDERA                       | Tsunami and Coastal Hazards Warning System   | Caribbean       | \$300,000              | \$300,000                                     |
| CEPRODE                     | Strengthening Risk Management  | El Salvador     | \$185,600              | \$185,600                                     |
| CONRED                      | Earthquake Simulation Exercise in Guatemala  | Guatemala       | \$15,000               | \$15,000                                      |
| FIU                         | Assessment of LAC Risk Management Curricula  | LAC Region      | —                      | \$251,206                                     |
| FUNDICCEP                   | Strengthening Local Emergency Prevention and Response Capacities                                   | Panama          | \$96,351               | \$96,351                                      |
| IRG                         | Regional Disaster Assistance Program   | LAC Region      | \$4,800,000            | \$35,194,654                                  |
| JDATTI                      | Risk Reduction and Disaster Preparation at Teacher Training Institute                              | Panama          | —                      | \$21,500                                      |
| NRC                         | Reducing Risk and Preparing Vulnerable Communities   | Nicaragua       | —                      | \$50,000                                      |
| OPDEM                       | National Flood Early Warning System  | Jamaica         | \$35,000               | \$35,000                                      |
| OSC                         | Earthquake Monitoring and Surveillance   | Bolivia         | \$67,796               | \$67,796                                      |
| PADF                        | Private Sector Involvement in Disaster Assistance  | LAC Region      | —                      | \$870,554                                     |
| PAHO                        | Development of Hurricane Hazard Maps for the Caribbean   | Caribbean       | \$126,560              | \$126,560                                     |
| PAHO                        | Emergency Health Preparedness Program  | LAC Region      | \$1,000,000            | \$10,450,870                                  |
| UNDP                        | Disaster Risk Management Program   | Haiti           | —                      | \$250,000                                     |
| UNED                        | School Safety Curriculum   | Costa Rica      | \$50,000               | \$50,000                                      |
| USFS                        | Wildfire Prevention and Preparedness   | Mexico          | —                      | \$100,000                                     |
| USGS                        | Earthquake Monitoring and Surveillance (in coordination with OSC)                                  | Bolivia         | \$3,877                | \$3,877                                       |
| USGS                        | Seismic Research Unit Caribbean Tsunami Early Warning System (implemented in conjunction with UWI) | Caribbean       | \$73,070               | \$73,070                                      |
| USGS                        | Central America Mitigation Initiative Assessment   | Central America | \$93,005               | \$93,005                                      |

|   |  |            |                    |                     |
|---|--|------------|--------------------|---------------------|
| UWI   | Seismic Research Unit Caribbean Tsunami Early Warning System | Caribbean  | —                  | \$249,680           |
| VDAP  | Volcano Assistance   | LAC Region | \$720,000          | \$7,045,000         |
| WCS   | Community Forest Fire Management                             | Guatemala  | \$20,000           | \$20,000            |
| WVUS  | School Disaster Preparedness                                 | Honduras   | —                  | \$165,720           |
| <b>USAID/OFDA PREPAREDNESS AND MITIGATION ASSISTANCE IN LAC</b> |  |            | <b>\$7,586,259</b> | <b>\$57,205,843</b> |

<sup>1</sup>USAID/OFDA funding represents anticipated or actual obligated amounts as of September 30, 2007.