

## Before Disaster Strikes: OFDA's Preparedness and Mitigation Programs

The outbreak of avian flu has sounded alarms about the prospect of a new global pandemic, which some scientists estimate could kill up to 180 million people, depending on the effectiveness of containment and response. In the face of this dire threat, in September 2005, USAID Administrator Andrew S. Natsios announced that USAID's top priority is to prepare for a global avian flu pandemic. With years of experience in the field of disaster preparedness, OFDA is poised to contribute its expertise to confronting emerging threats, such as avian flu. OFDA will be supporting the overall agency avian flu strategy to contain outbreaks before they reach pandemic levels. At the same time, OFDA continues to tackle more traditional hazards—earthquakes, hurricanes, volcanoes, tsunamis, human conflict, and displacement—that threaten the lives and livelihoods of people around the world.

OFDA views preparedness as an essential counterpart to disaster response. Strategic investments in disaster preparedness save lives, protect assets and infrastructure, and help avert costly relief operations. OFDA recognizes that effective preparedness and mitigation programs must be tailored to the specific—and often multiple—hazards that communities face. All OFDA programs, from building earthquake-resistant shelters in India to training first responders in Latin America, emphasize building local disaster management capabilities. By empowering others at the government, community, and individual levels to identify, prevent, mitigate, and respond to future crises, OFDA continues to work toward advancing self-sufficiency in disaster management. In turn, when nations can effectively manage their own risks, mitigate disaster impacts, and avert crises, key human and economic investments are safeguarded.

## LATIN AMERICA AND THE CARIBBEAN (LAC)

OFDA's efforts in the LAC region originated in 1988 in an effort to address the region's vulnerability to a host of natural and human-made disasters. Since 2000, OFDA has invested more than \$31.5 million in preparedness activities in Latin America and the Caribbean, with particular emphasis on the development of national disaster management capacities.

The signature contribution of OFDA's preparedness efforts in the LAC region has been the transfer of knowledge, skills, and experience to national and local disaster managers. One of OFDA's longest running programs, the Regional Disaster Assistance Program (RDAP) was initiated in 1989 to provide training for disaster managers and technical assistance to affected countries throughout the region. Through RDAP's multi-course instruction program in disaster management concepts, training methodology, and technical skills, OFDA has helped strengthen national and regional disaster management agencies.

Since RDAP's inception in Latin America and the Caribbean countries, in 1989 and 1991 respectively, the OFDA-funded program has trained approximately 40,000 disaster management specialists and certified more than 3,500 instructors across 26 countries. As a result, a significant percentage of



Teams practice penetrating collapsed structures as part of OFDA's Search and Rescue of Collapsed Structures (BREC) course.

middle- and upper-level managers of national disaster agencies in LAC countries have received training through OFDA programs. Over the years, the program has evolved to accommodate these successes by providing greater technical assistance for planning, strengthening, and centralizing the role of national and regional disaster management organizations. As a result, LAC countries today benefit from “second generation” disaster management leadership and capabilities, as former disaster management students emerge as trainers and disaster managers in their respective countries.

A major vehicle for promoting enhanced local preparedness and response capabilities has been the network of Latin America- and Caribbean-based disaster assistance experts prepared for immediate deployment at all times. Over the years, these OFDA consultants have traveled to disaster sites in



OFDA's network of Latin America-based disaster assistance experts discuss risk management concepts and training methodology as part of the Regional Disaster Assistance Program (RDAP).

**OFDA provided \$6.6 million\* for preparedness and mitigation programs in Latin America and the Caribbean in FY 2005, including in the following areas:**

- Advocacy for disaster preparedness;
- Technical information services and human resources training in health;
- Assessments of disaster and risk management courses in higher education institutions;
- Promotion of private sector support to emergency management activities;
- Strengthening volcano monitoring efforts;
- Development of a regional disaster mitigation facility in the Caribbean; and
- Community education initiatives.

\*The funding total above does not include regional or global preparedness activities supported by OFDA's Technical Assistance Group (TAG).

more than 12 countries to perform damage assessments and provide guidance on disaster response, preparedness, and mitigation. As part of standard operating procedure, OFDA pre-deploys teams in advance of hurricanes to proactively coordinate with local disaster agencies, ensuring a swift, effective response.

## ASIA

Asia is vulnerable to a range of natural hazards, from earthquakes and typhoons to volcanoes, tsunamis, and wildfires, as well as civil crises and complex emergencies. In the past decade, more than 500 million people in Asia have been adversely affected by some type of hydrometeorological disaster such as floods, droughts, and tropical cyclones and typhoons. Recognizing these threats, OFDA has provided more than \$46.8 million for disaster preparedness in Asia since the first programs began in 1995.

The coastal storm early warning system in Vietnam illustrates the potential lifesaving impact of sustained and effective preparedness activities. Since May 2001, OFDA has supported storm early warning systems in the coastal provinces of Vietnam through partnership with UNDP and the Government of Vietnam (GVN). The program established a radio-based



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Volunteers stand near a flood meter installed as part of the OFDA-funded Mekong River Commission community-based flood mitigation project in Kandal Province, Cambodia.

coastal storm warning system aimed at providing early warnings for fishing boats up to 105 km offshore and for 25 coastal provinces of Vietnam.

As a result of OFDA's investment in a coastal storm early warning system, Vietnam was spared a catastrophic event when Typhoon Damrey swept through coastal Vietnam with winds of 129 kph on September 26, 2005. As flood alerts were activated three days in advance of the typhoon through the early warning system, the GVN initiated a series of critical and timely actions that averted significant loss of life. The GVN evacuated 600,000 people from the coastline, reinforced sea dikes, and recalled 40,000 fishing vessels to shore. In comparison to previous storms of similar magnitude, the human and economic impact of Typhoon Damrey was significantly reduced as a result of effective OFDA-supported early warning systems and contingency plans.

In South Asia, OFDA has worked to reduce the vulnerability of populations in earthquake-prone areas. For instance, in FY 2005, OFDA and USAID/India jointly supported an earthquake safety initiative involving risk assessments and risk reduction activities in 20 of India's most earthquake-prone urban areas. In addition, OFDA supported earthquake awareness and preparedness efforts through the National Society

for Earthquake Technology (NSET) in Kathmandu, Nepal, teaching school children and community members basic earthquake safety.

In Bangladesh, the most flood-prone nation in the world, OFDA supported a community-based approach to flood monitoring and forecasting. OFDA also co-funded, along with USAID/India, an Incident Command System training project that provides training and computer-simulated training exercises in flood mapping and response at the national and state levels in India and the region.

**OFDA provided more than \$5.3 million\* for preparedness and mitigation programs in Asia FY 2005, including in the following areas:**

- Avian influenza containment activities;
- Development of a team of earthquake preparedness trainers;
- Provision of technical assistance to national volcano-monitoring organizations; and
- Training of disaster officials on the use of flood mapping.

\*The funding total above does not include regional or global preparedness activities supported by OFDA's TAG.

**AFRICA**

Following the initial successes of preparedness programs across Asia, Latin America, and the Caribbean, OFDA has adopted preparedness approaches to the many hazards faced across Africa. While millions of people in sub-Saharan Africa face seasonal food insecurity related to chronic poverty, erratic rains, insect infestations, and high HIV/AIDS rates, additional factors exacerbate these vulnerabilities, including protracted conflicts, political instability, poor governance, as well as natural disasters like volcanoes, floods, and earthquakes. Most of the humanitarian challenges that threaten the region each year impact numerous countries simultaneously and undermine broader regional security.

Similar to those in LAC and Asia, OFDA's preparedness programs in Africa emphasize building local resilience to cope with disasters and improve communications, transportation, and information networks to provide more effective responses to disasters. To this end, OFDA has added a new focus on vulnerable groups, including pastoralists. For instance, OFDA's Horn of Africa Pastoralist Initiative, launched in 2004, has provided livestock, seeds, tools, and business management skills to diversify livelihoods and improve the resilience of pastoralist communities to natural and human-caused disasters.

In addition, to increase the number of local disaster-responders across the continent, in FY 2005 OFDA supported training courses on international standards, human rights, civilian protection, and individual vulnerability issues in humanitarian responses; assessments of successful drought-mitigation technologies and best practices; and an information-sharing and coordination database.

**OFDA provided more than \$2.7 million\* for preparedness and mitigation programs in Africa in FY 2005, including in the following areas:**

- Development of cyclone warning materials, including flags, posters, and pamphlets;
- Management of disaster-warning networks such as radio stations and Internet sites;
- Investment in micro-businesses in vulnerable communities;
- Distribution of and fairs for seeds, tools, fertilizers, animals, and other agricultural inputs;
- Creation of clear water sites and sanitation services; and
- Support for community-based education and awareness systems.

\*The funding total above does not include regional or global preparedness activities supported by OFDA's TAG.



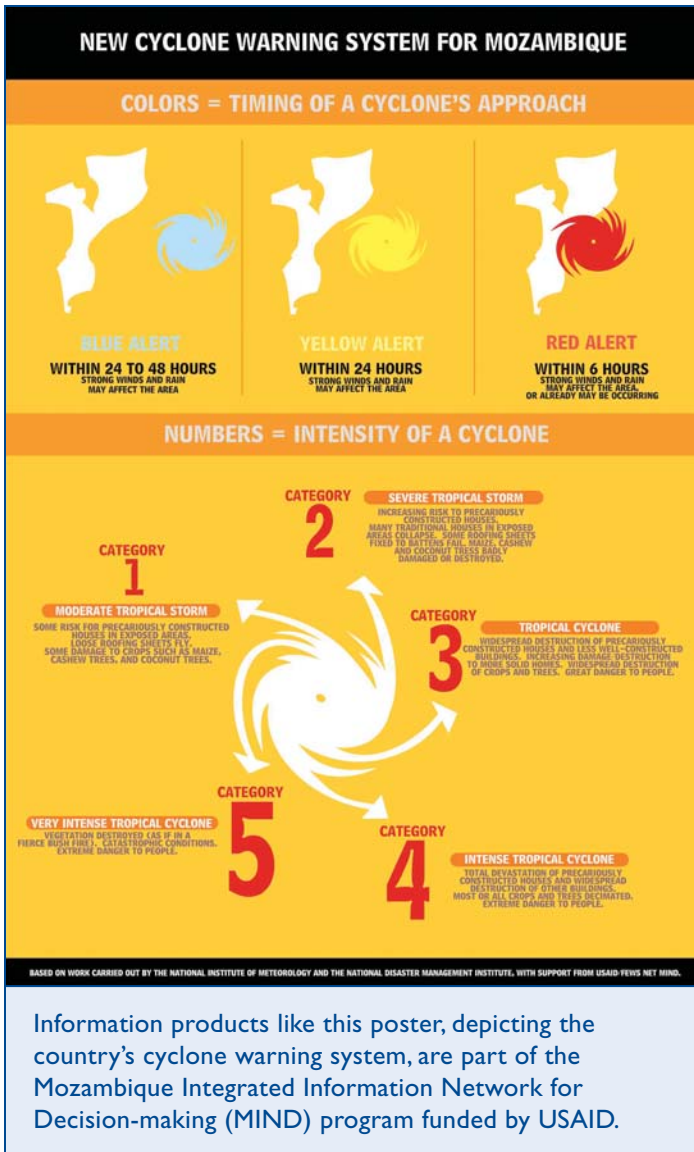
COURTESY OF NSET

An engineer from NSET explores the common mistakes committed during construction of frame structures in Nepal.

## EUROPE, THE MIDDLE EAST, AND CENTRAL ASIA

Central Asia and Turkey, where two major tectonic plates converge, are especially susceptible to earthquakes. In 1999, two earthquakes—a magnitude 7.4 centered in Kocaeli and a magnitude 7.2 centered in Duzce—devastated the Marmara region of Turkey, killing more than 17,000 people, injuring nearly 30,000 people, and displacing nearly 700,000 people. Recognizing that the next earthquake could occur near Istanbul, OFDA initiated a three-year, community-based mitigation and preparedness project in Istanbul hosted by the Kandilli Observatory at Bogaziçi University in early 2000.

To date, more than 1 million of Istanbul's 12 million residents have received training in basic hazard awareness and mitigation. Another several hundred residents received training as first responders to assist neighbors in the event of another earthquake. In addition, in 2003, OFDA's earthquake mitigation project expanded to Central Asia through the Central Asia Earthquake Safety Initiative (CAESI) in Almaty, Kazakhstan, in Dushanbe, Tajikistan, and in Tashkent, Uzbekistan.



COURTESY OF MIND

OFDA-funded seismic-risk and risk mitigation activities included basic disaster awareness training for school children and university students. Participants learned about family disaster plans, building inspection and retrofitting, non-structural indoor hazards, earthquake drills, aftershocks, and contamination.<sup>8</sup> The OFDA-funded Disaster Preparedness Education Program promoted the development of classroom activities, and focused on earthquake preparedness education, which became part of the national curriculum.

While many hazards are natural in origin, a host of socioeconomic trends, such as urbanization and environmental degradation, are forcing the settlement of hazard-prone, marginal lands in rural and urban areas. As the urbanization trend continues, the World Bank estimates that by 2025, more than half of the population of the developing world will reside in urban areas, many in crowded, makeshift dwellings, exposed to multiple hazards. For instance, the Jordan River valley—the most seismically active region in the Middle East—has a growing urban population vulnerable to earthquakes. To address these hazards, OFDA engaged partners from the Fairfax County Fire and Rescue Department, Virginia Task Force One, to enhance the Government of Jordan's capacity and improve management, operational, and logistical capacity of the Jordanian Civil Defense. By sharing best practices and training skills, USAID raised the capacity of the Jordanian Civil Defense to provide immediate lifesaving assistance to countless beneficiaries in response to sudden-onset urban disasters.

<sup>8</sup> CAESI-organized mitigation activities also included public awareness and education; non-structural mitigation; professional and community emergency response; residential, public safety, and school vulnerability analysis; hospital preparedness; and improvement of construction practices.

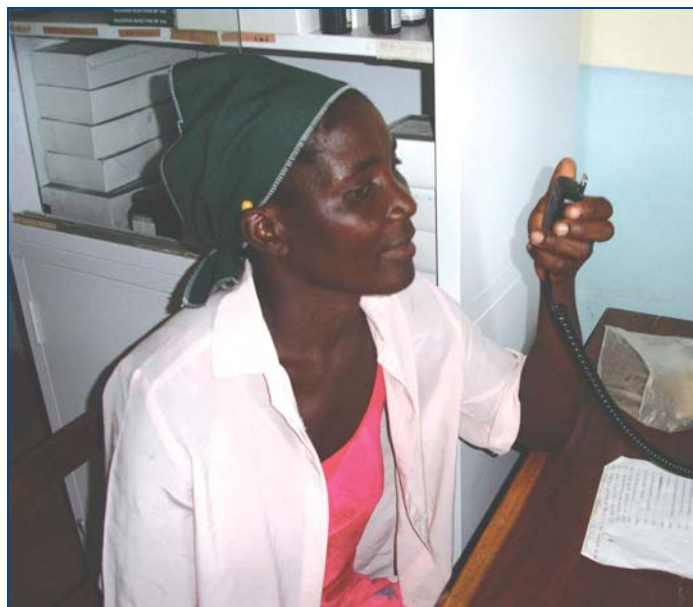
## TRANSNATIONAL PREPAREDNESS

Some hazards threaten populations across geographic regions or national borders, requiring regional or cross-border approaches to preparedness and mitigation. To address this reality, OFDA supports preparedness and mitigation activities that tackle a range of transnational threats—from regional food insecurity, public health, and nutrition emergencies to geological and meteorological hazards, and issues related to vulnerable populations and internal displacement.

For example, in Central Africa, the regional outbreak of cassava mosaic disease has grave implications for livelihoods and food security. Through support to the International Institute for Tropical Agriculture (IITA), OFDA is assisting the multiplication and dissemination of disease-resistant cassava cuttings for farmers in Central Africa. With USAID support, scientists at IITA are providing farmers with disease-resistant varieties of cassava, thus increasing productivity and food security for some of the most vulnerable agricultural families in the region.

## PLANNING, MONITORING, AND EVALUATION

To maximize the impact of OFDA's preparedness and mitigation efforts, the Evaluation and Planning Team works to strengthen OFDA's capacity to plan, monitor, and evaluate programs. Activities in FY 2005 ranged from conducting contingency planning exercises with USAID missions and supporting the expansion of humanitarian information centers to funding the development of new geographic tools to improve disaster response. OFDA's investment in planning, monitoring, and evaluating programs has proven integral to maximizing the effectiveness of all of our activities.



HARLAN HALE/USAID

A volunteer river monitor in Jofane in Inhambane Province, Mozambique, radios river level information to the provincial capital and to flood monitors downstream.