

# EAST ASIA AND THE PACIFIC – DISASTER RISK REDUCTION

FACT SHEET #1, FISCAL YEAR (FY) 2014

SEPTEMBER 30, 2014

## NUMBERS AT A GLANCE

**\$75.4  
million**

Total USAID/OFDA  
Funding to EAP in FY 2014

**\$10.7  
million**

Programs in Indonesia with  
DRR Components

**\$10.2  
million**

Programs in the Philippines  
with DRR Components

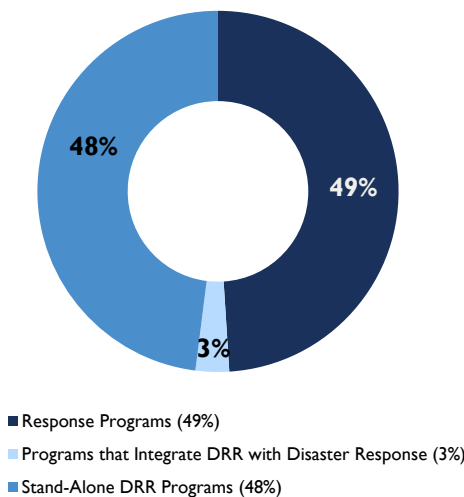
**\$7.5  
million**

Programs in Burma with  
DRR Components

**26**

Partners Implementing FY  
2014 Programs with DRR  
Components

## USAID/OFDA<sup>1</sup> FUNDING BY PROGRAM TYPE IN FY 2014



## DISASTER RISK REDUCTION (DRR) FUNDING<sup>2</sup> TO EAST ASIA AND THE PACIFIC (EAP) IN FY 2014

Stand-Alone DRR Programs \$36,120,833

Programs that Integrate DRR  
with Disaster Response \$2,277,352

**\$38,398,185**  
TOTAL USAID/OFDA  
DRR FUNDING TO EAP

## OVERVIEW

- The 32 countries<sup>3</sup> that comprise the EAP region have varying climates, levels of development and capacity, and vulnerabilities to hazards. Many countries in the region undergo seasonal periods of increased hydrometeorological activity, experiencing cyclones and monsoon rains, which can increase the risk of floods and landslides and result in significant damage. Several EAP countries situated along the Pacific Ring of Fire experience volcanic activity, as well as earthquakes and associated tsunamis. In FY 2014, USAID/OFDA continued to respond to disasters and support DRR programs that strengthen the ability of communities, governments, businesses, and other actors to prepare for and respond to emergencies.
- USAID/OFDA has focused DRR activities in the region on strategic, context-specific programs designed to meet particular risk reduction needs in each country, with capacity building as a consistent theme throughout all programs. In FY 2014, USAID/OFDA continued scaling up implementation of this strategic approach through a number of new initiatives while maintaining several regional programs that complement country-specific activities and align with the overall goal to build region-wide capacity. USAID/OFDA provided approximately \$38.4 million in FY 2014 for DRR projects throughout EAP, including programs that integrate DRR with disaster response.

<sup>1</sup> USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA)

<sup>2</sup> Total does not include other DRR programs funded by USAID's Bureau for Democracy, Conflict, and Humanitarian Assistance.

<sup>3</sup> The EAP region comprises Australia, Brunei, Burma, Cambodia, China, Democratic People's Republic of Korea, Federated States of Micronesia (FSM), Fiji, Indonesia, Japan, Kiribati, Laos, Malaysia, Mongolia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, the Philippines, Republic of Korea, Republic of the Marshall Islands (RMI), Samoa, Singapore, Solomon Islands, Taiwan, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, and Vietnam.

## STAND-ALONE DRR PROGRAMS IN EAP

In FY 2014, USAID/OFDA provided approximately \$36 million for stand-alone DRR initiatives in EAP that improved preparedness and aimed to mitigate and prevent the worst impacts of disasters. USAID/OFDA provided additional funding for regional and global stand-alone programs that included activities to strengthen disaster preparedness and response. At the regional and country levels, USAID/OFDA and implementing partners engaged communities, national and local governments, international and regional organizations, and non-governmental organizations (NGOs) to develop effective strategies—tailored to the needs of at-risk populations—to reduce the risk of disasters. These programs reflected USAID/OFDA’s commitment to support capacity development; strengthen linkages among risk identification, monitoring, early warning, and early action; and expand partnerships and joint programming. Analysis of existing capacities and social, economic, and environmental trends guided programs.

### Global and Multi-Regional Programs Active in EAP<sup>4</sup>

- **Program for the Enhancement of Emergency Response (PEER):** In 1998, USAID/OFDA began supporting PEER, which promoted disaster preparedness through the development of national and regional cadres of professional emergency response instructors. The program also assists local, regional, and national disaster management agencies to organize and conduct standardized trainings in medical first response, collapsed structure search and rescue, and hospital preparedness for mass casualties following a disaster. Implemented by the Asian Disaster Preparedness Center (ADPC) and the National Society for Earthquake Technology, based in Nepal’s capital city of Kathmandu, in FY 2014 PEER was active in Cambodia, Indonesia, Laos, the Philippines, Thailand, and Vietnam, as well as several South Asian countries. PEER-trained first responders have assisted rescue efforts throughout the region, including after the 2004 Indian Ocean tsunami, the 2009 earthquake in Padang, Indonesia, and multiple typhoons in the Philippines, among others. ADPC’s five-year program under PEER concluded activities in August 2014.
- **Volcano Disaster Assistance Program (VDAP):** The USAID/OFDA-funded VDAP, implemented by the U.S. Geological Survey (USGS), continued to provide technical assistance to national volcano monitoring organizations, including training in hazard assessment, supporting the development of early warning plans, and installing and updating volcano monitoring equipment. Since the 1990s, VDAP has assisted the Center for Volcanology and Geological Hazard Mitigation (CVGHM) in Indonesia with monitoring volcanic gas, tracking seismic activity, and responding to eruptions, including the 1994, 2006, and 2010 eruptions at Mt. Merapi. VDAP has also supported the Port Moresby Geophysical Observatory and Rabaul Volcano Observatory in Papua New Guinea to improve seismic and volcanic gas monitoring as well as warning systems. Additional VDAP information is included under country-specific award descriptions.

### EAP Regional Programs

- **Improved Preparedness and Coordination to Implement Cash Transfer Programs in Emergencies:** In the wake of natural disasters, cash and voucher programs can empower affected individuals to meet their needs while supporting local markets and stimulating trade. With \$100,000 in assistance through Action Against Hunger/U.S. (AAH/US), and in collaboration with the Cash Learning Partnership (CaLP), USAID/OFDA supported activities to build the capacity of humanitarian stakeholders to implement cash transfer programs during emergency responses. Program activities—coordinated by CaLP’s Bangkok, Thailand, office and reaching humanitarian actors in Burma and the Philippines—included training individuals on cash transfer emergency programming, supporting preparedness and contingency planning, and developing information management tools and resources—such as mapping tools—that depict the use of cash transfer programming in emergencies.
- **Building Capacity for Disaster Response in ASEAN:** The Logistics Institute–Asia Pacific at the National University of Singapore (NUS) seeks to equip individuals with humanitarian logistics knowledge and tools for effective

<sup>4</sup> Funding figures for global and regional initiatives represent program totals, including USAID/OFDA funding for activities implemented both within and outside the EAP region.

disaster preparedness and response activities. With approximately \$300,000 in FY 2014 USAID/OFDA support, NUS trained humanitarian actors—including government officials and NGO and private sector representatives—in Indonesia, the Philippines, Singapore, and Thailand in supply chain management, strengthening their ability to manage preparedness operations, such as pre-positioning supplies, as well as emergency relief distributions following a crisis.

- **Strengthening Early Warning Systems:** With \$300,000 in assistance through the U.S. National Oceanic and Atmospheric Administration (NOAA), in FY 2014 USAID/OFDA continued supporting national authorities in Burma, Cambodia, Laos, Thailand, and Vietnam with technical support to improve hydrometeorological forecasting and produce early warnings for populations at risk of weather-related disasters.
- **Building Regional Emergency Preparedness and Response Capacity:** The UN Children’s Fund (UNICEF), through its regional office in Bangkok, Thailand, and 14 country offices throughout EAP, supports effective crisis response by coordinating water, sanitation, and hygiene (WASH) humanitarian activities and integrating humanitarian response into longer-term development programs. In FY 2014, USAID/OFDA provided \$150,000 to enhance the capacity of UNICEF’s offices to respond to sudden-onset and protracted emergencies. With USAID/OFDA support, UNICEF staff developed and disseminated emergency preparedness training modules and simulation exercises, documented lessons learned from recent humanitarian responses, and participated in regional discussions on coordination and best practices. This program ended in March 2014.
- **Supporting the 6th Asian Ministerial Conference on DRR:** The regional Asia office of the UN Office for Disaster Risk Reduction (UNISDR) supports the biennial Asian Ministerial Conference for DRR, which brings regional governments, NGOs, individuals, and other stakeholders together to discuss DRR and reaffirm national commitments to implementing DRR practices. In FY 2014, USAID/OFDA—which supported the previous ministerial in FY 2012—provided \$100,000 to support UNISDR’s coordination and technical assistance role for the 6th Asian Ministerial Conference on DRR, held in Thailand in June 2014.
- **Improving Regional Search-and-Rescue Capacity:** The International Search and Rescue Advisory Group (INSARAG), led by the UN Office for the Coordination of Humanitarian Affairs (OCHA), holds regional training events around the world to strengthen the effectiveness and coordination of international urban search-and-rescue (USAR) activities. USAID/OFDA partnered with the China Earthquake Administration in FY 2012 to support an INSARAG simulation exercise in Indonesia, and again in FY 2013 for an INSARAG simulation exercise in Malaysia. In FY 2014, USAID/OFDA continued the partnership for a third year, providing \$75,000 through OCHA to support an earthquake simulation exercise in China. These exercises improve participating states’ ability to conduct and coordinate USAR activities, while strengthening relationships within the international USAR community, facilitating a smoother and more coordinated response when the next disaster requiring international USAR assistance occurs.
- **Support for ASEAN-U.S. PROGRESS:** In previous years, USAID/OFDA has supported the Association of Southeast Asian Nations (ASEAN) to strengthen disaster-resilient policies and practices among ASEAN member states. In FY 2014, USAID/OFDA built on these experiences, providing \$250,000 through USAID’s Regional Development Mission for Asia (USAID/RDMA) to the ASEAN–U.S. Partnership for Good Governance, Equitable and Sustainable Development, and Security Program (PROGRESS) to support the ASEAN Coordinating Center for Humanitarian Assistance on Disaster Management (AHA Center). With USAID support through Development Alternatives, Inc. (DAI), the AHA Center established a working group for disaster management training and curriculum development.
- **Flash Flood Guidance System (FFGS) for the Lower Mekong Region:** In FY 2014, USAID/OFDA continued supporting the UN World Meteorological Organization (WMO) to implement FFGS for the Lower Mekong Region through the Mekong River Commission. Active in Burma, Cambodia, Laos, Thailand, and Vietnam, the initiative uses

satellite data to monitor weather conditions and soil moisture to determine the potential for flash floods and aid national meteorological and hydrological services in issuing early warnings when such potential exists. Additional information on FFGS activities specific to Burma is given below.

- **Mobile Communication for Preparedness in Southeast Asia:** USAID/OFDA, through the American Red Cross (AmRC), continued supporting a program—started in FY 2013—that capitalizes on the widespread use of mobile technology in East Asia to enhance public awareness of disaster preparedness and risk reduction activities. AmRC continued to develop a short message service (SMS) platform for mobile phones and a flood alert application, or app, for smart phones. Targeting urban populations in Burma, Indonesia, the Philippines, Thailand, and Vietnam, the SMS platform and flood app will provide early warning messages, enabling greater community mobilization prior to disasters.
- **Incident Command System (ICS) Training:** ICS is the U.S. Government’s management framework for integrating personnel, equipment, procedures, facilities, and communications during emergencies, enabling more effective response operations within a common organizational structure. In 2003, the U.S. Forest Service (USFS) began working with ASEAN to build disaster response capacity in the region under the ASEAN–U.S. Disaster Management Cooperation Program. Phase 1 of the program introduced ICS to ASEAN members through trainings and a study tour in the United States. Under Phase 2, which is ongoing, USFS is continuing regional training activities, including basic and intermediate ICS courses and the development of online ICS training modules. In FY 2014, more than \$1.6 million in USAID/OFDA funding supported ICS activities in Mongolia, the Philippines, Thailand, Timor-Leste, Vietnam, and Vanuatu, as well as Emergency Operations Center activities in Burma. USAID/OFDA also continued supporting ICS training in Indonesia in FY 2014 with prior-year funding.
- **Enhancing Disaster Management Capacity in FSM, Palau, and RMI:** The Pacific Island countries of FSM, Palau, and RMI are vulnerable to a number of natural hazards, including drought, floods, and tropical storms. The Micronesia Red Cross Society (MRCS), Palau Red Cross Society (PRCS), and RMI National Volunteer Group—supported by the International Federation of Red Cross and Red Crescent Societies (IFRC)—partner with local government agencies, businesses, and communities to build awareness of disaster response activities and cultivate a knowledgeable volunteer base for emergency responses. With \$260,000 in FY 2014 assistance, USAID/OFDA continued a partnership with IFRC to support the preparedness and risk mitigation activities of the MRCS, PRCS, and RMI National Volunteer Group.
- **Weather Alerts for Remote Communities:** While some communities in FSM, Palau, and RMI have means to receive warnings for typhoons, tsunamis, and other extreme hydrometeorological events, limited electricity often governs their ability to use primary communications systems. Other communities lack access to adequate communications devices and remain unaware of approaching storms. To address this information gap, USAID/OFDA contributed \$100,000 in FY 2014 to continue support for an alert system that provides early warnings of extreme weather in remote locations. Developed by the USAID/OFDA-funded Radio and Internet for the Communication of Hydrometeorological and Climate-Related Information (RANET) project and implemented by NOAA, this messaging system connects meteorological authorities with emergency managers when a storm or other extreme hydrometeorological event is imminent and evacuations may be necessary. The alert system is weather resistant—enabling it to operate in remote and environmentally harsh environments—and does not require a consistent energy source to function.
- **Homeowner’s Handbook to Prepare for Natural Hazards:** In FY 2013, USAID/OFDA supported the creation of a handbook to help homeowners in RMI prepare for natural hazards. Building on the success of that project, USAID/OFDA contributed \$64,000 in FY 2014 through NOAA to expand the production and dissemination of a homeowner’s handbook to other countries in the Pacific Islands region, in coordination with the University of Hawaii and community colleges in FSM, RMI, and Palau.

## Country-Specific Programs

### *Burma*

- **Consortium for Capacity Development on Disaster Management:** In FY 2014, the UN Human Settlements Program (UN-HABITAT) and a consortium of relevant organizations supported the Government of Burma (GoB) to conduct training and research and raise public awareness of disaster risk management through the GoB-led Disaster Management Training Center. With nearly \$3 million in USAID/OFDA assistance, UN-HABITAT and partners provided technical assistance to develop new courses and curriculums on DRR, trained local master trainers, conducted DRR courses, and increased research of disasters in the country.
- **Improved Disaster Management in Rakhine State:** In Rakhine State, one of the poorest and most disaster-prone states in Burma, people are vulnerable to numerous disasters—including storms, floods, earthquakes, and drought. With \$1.5 million through the International Organization for Migration (IOM), USAID/OFDA supported a range of DRR activities in Rakhine State in FY 2014. IOM and other partner organizations worked with local authorities and communities to implement early warning systems, support disaster management planning, and educate populations on disaster response and preparedness practices. The program targeted vulnerable populations, including internally displaced persons (IDPs) and people residing in Rakhine's coastal communities.
- **Enhancing Disaster Safety in Vulnerable Communities and Schools in Burma:** With prior year support from USAID/OFDA, AmRC continued a multi-year program to reduce the potential impact of disasters in Burma by supporting the Myanmar Red Cross Society (MRCS) to design and implement DRR activities to help communities in the Ayeyawady and Yangon regions to mitigate, prepare for, and respond to disasters. By partnering with AmRC, MRCS strengthened its capacity to help targeted communities and schools establish disaster safety committees, complete hazard analysis and vulnerability assessments, develop disaster safety plans, and conduct simulation and practice drills, among other activities. AmRC also worked with MRCS to establish emergency response teams trained in basic response skills and equipped with first responder kits.
- **Building Community Resilience:** With nearly \$637,000 in USAID/OFDA assistance, World Vision continued a program—launched in FY 2012—to help communities understand potential hazards and provide them with ways to address vulnerabilities. The program established disaster management committees at the village level, supported community-led vulnerability and capability assessments, created community disaster preparedness plans, provided educational DRR materials, and facilitated training and disaster drills for school children. Through World Vision, USAID/OFDA also supported community-level early warning systems by providing radios and loudspeakers to disaster management committee members to communicate information on impending disasters. In FY 2014, World Vision engaged with communities in three townships in Kachin State and Taninthayi Region.
- **Increasing Disaster Preparedness in Coastal Communities:** With funding from a previous year, USAID/OFDA continued to help vulnerable communities living along the west coast of Rakhine State better prepare for disasters. The project—implemented through the Agency for Technical Cooperation and Development (ACTED)—worked to create village disaster contingency plans, develop school safety plans and drills, establish village disaster preparedness committees and associated training, and rehabilitate mangroves while raising awareness on the significance of mangroves in mitigating coastal disasters. Healthy mangrove forests can greatly reduce the strength of a tsunami or storm surge, significantly buffering coastal communities and infrastructure from disaster impacts.
- **Reducing Risks from Natural Disasters and Displacement:** USAID/OFDA began a partnership with IOM in FY 2012 to reduce vulnerability to natural disasters through the development of village disaster management committees, as well as trainings that build and standardize response capacities, in 60 villages in Kayin and Mon states in southeastern Burma. Recognizing that humanitarian needs resulting from displacement remain a reality in the area due to natural disasters and long-standing ethnic conflicts, IOM's activities included training on internationally accepted humanitarian



assistance management for displaced communities. In FY 2014, USAID/OFDA provided \$600,000 to continue IOM's efforts while expanding the program into 20 new villages in Kayin.

- **Encouraging Safer Land Use:** UN-HABITAT—through prior year funding from USAID/OFDA—continued to raise government and community awareness on DRR through effective land-use planning by conducting advocacy workshops at the national and state level, and educational campaigns at the community level, on safe community development planning. With a particular focus on coastal communities in Ayeyawady, Taninthayi, and Yangon regions and Mon State, UN-HABITAT also worked to review and develop land use planning guidance, train carpenters in disaster resilient construction techniques, and retrofit and upgrade existing cyclone shelters.
- **Stress Tolerant Rice in Vulnerable Environments (STRIVE):** Burma is vulnerable to cyclones, floods, and drought, all of which can damage or destroy the country's rice fields. Through USAID's Bureau for Food Security and in coordination with the World Bank, USAID/OFDA continued to partner with the International Rice Research Institute (IRRI) to identify, multiply, and disseminate appropriate stress-tolerant rice varieties to farming communities in Burma. With \$500,000 in FY 2014 assistance, IRRI provided rice varieties tolerant to submergence and salinity in Burma's flood-prone areas, focusing on Ayeyawady and Yangon regions and Rakhine State. In the country's Dry Zone, the program provided drought-tolerant rice varieties.
- **Mitigating Seismic Risk:** Sitting along the major fault system responsible for the 2004 Indian Ocean tsunami, Burma is highly vulnerable to earthquakes. USAID/OFDA contributed \$500,000 in FY 2014 to continue supporting USGS to assess, together with GoB counterparts, earthquake risks and identify and prioritize local needs. USGS also worked with the GoB to enhance Burma's seismic monitoring network with improved equipment and support systems.
- **Extending FFGS for the Lower Mekong River to Burma:** In FY 2014, USAID/OFDA provided \$150,000 to WMO to continue its work extending the FFGS for the lower Mekong River to include Burma. The FFGS uses satellite data to monitor weather conditions and soil moisture to determine the potential for flash floods and aid authorized entities to issue early warnings when such potential exists. Extending the system improves the capacity of authorities to produce flash flood early warnings specific to Burma.

## *Cambodia*

- **Strengthening the Emergency Response Capacity of Humanitarian NGOs in Cambodia:** USAID/OFDA continued supporting ADPC, with more than \$449,000 in FY 2014 assistance, to provide training aimed at strengthening the capacity of local NGOs and improving coordination both among local NGOs and with the Government of Cambodia and other relevant agencies. Launched in FY 2012, ADPC's program in FY 2014 also worked to strengthen coordination between the National Committee for Disaster Management and local NGOs to facilitate more coherent and effective preparedness and response operations.
- **Strengthening the Emergency Preparedness of the Humanitarian Response Forum (HRF):** The HRF—a network of UN agencies, NGOs, and international organizations—supports emergency preparedness in Cambodia by enhancing coordination and communication among humanitarian actors based in the country. With \$174,000 in FY 2014 assistance through the UN World Food Program (WFP), USAID/OFDA continued supporting the HRF to finalize sector-specific disaster contingency plans, ensure that coordination and information-sharing mechanisms are in place, consolidate assessment methodologies to fit the Cambodian humanitarian context, and provide relevant training for HRF participants, government authorities, and local NGOs. USAID/OFDA's previous support for the program facilitated capacity building activities that bolstered the ability of NGOs to successfully respond to humanitarian needs following widespread flooding at the end of FY 2013.

## *China*

- **Improving Leadership and Coordination of Disaster Management in China – Phase III:** USAID/OFDA began working with The Asia Foundation (TAF) to strengthen China’s disaster management capacity—both at the national and the community level—in 2010. In coordination with government and NGO partners, TAF is developing training programs and creating and disseminating disaster mitigation models in more than 250 communities and 200 schools. With prior year assistance, USAID/OFDA continued these community-based disaster management activities in FY 2014, while also supporting TAF’s capacity-building activities for the Chinese Academy of Governance National Institute of Emergency Management (CAG/NIEM). With 47 local branches throughout the country, CAG/NIEM is able to convene and train emergency management officials and provide policy recommendations to government bodies. The USAID/OFDA-funded program also supported China to assist other ASEAN countries, such as Thailand, to identify training needs for disaster management officials and develop and undertake context-specific training courses.

## *FSM and RMI*

- **Enhanced Pre-Positioning for Disaster Response Preparedness:** Since FY 2010, USAID/OFDA, in partnership with USAID/Philippines, has supported IOM to pre-position emergency relief supplies in three strategic locations throughout FSM and RMI to facilitate rapid disaster responses in the island nations. In FY 2014, USAID/OFDA provided \$100,000 to IOM to ensure the vital oversight and maintenance of stockpiles and warehouses established with previous USAID/OFDA funds. For example, with part of the USAID/OFDA assistance, IOM is procuring consumable parts for generators and reverse osmosis machines—which remove salt and other materials from seawater and convert it to safe drinking water—and arranging for the regular servicing of these items, thereby assuring their readiness in the event of a disaster.
- **Landslide Hazard Assessment in FSM:** Typhoons and other weather events that can trigger landslides often affect FSM. In FY 2014, USAID/OFDA—with prior year assistance—supported a USGS program to assess landslide hazards and create maps depicting the most at-risk areas in the nation. The maps allow authorities to identify populations living in landslide-prone areas and enable timely evacuations when storms threaten land.

## *Indonesia*

- **Reducing Risks of Population Displacement:** Indonesia is vulnerable to natural disasters—such as floods, earthquakes, and volcanic eruptions—that can displace people from their homes. With nearly \$700,000 in USAID/OFDA support, IOM worked to build the capacity of Indonesia’s National Disaster Management Agency (BNPB) to develop a contextually appropriate training strategy and training materials on humanitarian camp coordination and camp management (CCCM). Program activities included training BNPB and other relevant officials in CCCM practices, developing a cadre of national CCCM trainers who can then conduct courses at the provincial and district level, and developing standard operating procedures for managing evacuation sites in Indonesia.
- **Increasing Community Resilience in Aceh:** In Aceh Province, which experienced devastating effects as a result of the 2004 Indian Ocean tsunami, USAID/OFDA worked with IOM to strengthen the disaster management capacity of provincial, district, and city disaster management authorities; enhance comprehensive, multi-sectoral disaster planning among local government agencies; and link communities to government and non-governmental disaster management organizations. The program also helped form community disaster management committees to map local hazards and develop disaster response plans in coordination with local authorities. With \$1.3 million in FY 2014 support, IOM expanded into eight new districts, making the program active in 13 districts in Aceh.
- **Institutionalizing Disaster Preparedness and Management Capacity:** In FY 2014, Mercy Corps—in coordination with the BNPB—initiated a two-year program to strengthen the capacity of provincial-level disaster management agencies. With \$4 million in support from USAID/OFDA, Mercy Corps embedded qualified teams of trainers within provincial disaster management agencies to provide continuous technical support and implement a series of training

modules in coordination with BNPB. Focused on provinces with significant disaster risks, including Central Java, Southeast Sulawesi, North Maluku, Maluku, West Papua, and Papua, the program also supported local authorities to strengthen local disaster preparedness and contingency plans and participate in crisis simulations.

- **Indonesia Liquidity Facility After Disasters (ILFAD):** Many poor households and small business owners in Indonesia rely on microfinance institutions (MFIs), such as rural banks and credit unions, that provide financial services to low-income populations. Following a disaster, MFIs can provide immediate loans, savings withdrawals, and other services to help affected people repair houses and businesses or replace tools and inventory. However, MFIs are often shuttered or slowed by the same disasters that affect their clients. In FY 2011 USAID/OFDA began supporting Mercy Corps to partner with technical experts and a commercial bank to build the capacity of Indonesian MFIs. In FY 2014, USAID/OFDA continued to support Mercy Corps to provide training and technical assistance to Indonesian MFIs to develop tools and financial services specifically designed for disasters. The public-private partnership also increased access to short-term, post-disaster funding by providing a mechanism for emergency cash injections to MFIs. With an additional \$750,000 in USAID/OFDA support, Mercy Corps expanded the program in FY 2014 to target new MFIs, with more than 130 MFIs across nine of Indonesia's 34 provinces involved in the program by the end of the fiscal year.
- **Resilient Environment through Active DRR Initiatives (READI):** USAID/OFDA provided \$215,000 in FY 2014 to continue activities that reduce risks in Indonesian coastal communities by enhancing tsunami warning systems and improving tsunami safety measures. Improvements—carried out in partnership with Mercy Corps—included installing tsunami sirens in areas that lacked public warning systems and partnering with local radio stations to raise risk awareness and broadcast information in the immediate aftermath of a disaster. Mercy Corps also worked with local governments to identify structures of sufficient height for use as tsunami shelters, designate and map evacuation routes, and facilitate training for local disaster management officials. The area served by READI is home to more than 1.8 million people in the most populous cities on Sumatra Island's west coast, as well Mentawai and Nias islands.
- **Indonesia All-Hazard Warnings, Analysis, and Risk Evaluation (InAWARE):** Designed by the Pacific Disaster Center (PDC), the DisasterAWARE web-based platform integrates information, modeling, and mapping technologies to provide disaster authorities with a stream of information on current hazards. With USAID/OFDA support, PDC—which is managed by the University of Hawaii/Manoa in cooperation with the U.S. Department of Defense—worked to enhance Indonesia's capacity to monitor and respond to natural hazards through a custom AWARE platform in Indonesia. InAWARE features an Indonesian language interface and integrates real-time data from Indonesian agencies. Throughout the course of the multi-year program, PDC is also supporting government agencies to formalize information-sharing processes and training local authorities on interpreting and making decisions based on data received through InAWARE. In FY 2014, USAID/OFDA provided nearly \$837,000 to continue PDC's activities.
- **Enhancing Emergency Logistics Preparedness and Response Capacity:** With nearly \$494,000 in FY 2014 assistance, USAID/OFDA—through partner WFP—supported the BNPB to strengthen its ability to manage humanitarian logistics operations. Program activities built on a previous OFDA-funded logistics capacity building program that began in 2013 and included adapting and translating a WFP-developed training curriculum, teaching participants to lead disaster management trainings, developing disaster scenarios for training exercises, and supporting the BNPB to develop a logistics management system.
- **Improving Flash Flood Early Warnings:** USAID/OFDA provided \$400,000 in FY 2014 funding to WMO for the development of the FFWS in Indonesia. FFWS is a global collaborative program to assist national meteorological and hydrological services to monitor potential flash floods, thereby improving early warning lead time and enabling quick response. In FY 2014, the program provided flash flood early warning guidance in several countries, including Indonesia, through new technologies, forecaster trainings, and technical assistance.



- **VDAP:** The VDAP program has supported capacity-building efforts in Indonesia since 2004. In FY 2014, with \$330,000 in USAID/OFDA assistance, VDAP continued to support Indonesian officials to analyze data from monitoring sensors and satellites and advise officials on preparation and response activities for active volcanoes, including Mt. Lokon and Mt. Sinabung.
- **Reducing Climate Change Risks:** Food insecurity is a persistent problem in Indonesia, with particularly high levels of food-insecure populations in the eastern provinces of Nusa Tenggara Barat (NTB) and Nusa Tenggara Timur (NTT). Agriculture is the main livelihood for communities in these provinces, but weather patterns, including seasonal monsoon rains and droughts, limit productivity. USAID/OFDA, through FAO, supported the adoption of conservation agriculture practices in NTB and NTT to assist communities that are vulnerable to climate-related disasters and climate change. In coordination with the Government of Indonesia (GoI) Ministry of Agriculture and local government authorities, FAO drew on prior year assistance from USAID/OFDA to support farmers to adopt sustainable agriculture practices, reduce crop losses, enhance soil fertility, and increase crop diversification.
- **DRR in Nusa Tenggara:** In FY 2014, USAID/OFDA provided more than \$1.2 million to World Neighbors to strengthen the capacity of communities and local authorities in NTT and NTB to prepare for and respond to disasters. The multi-year program continued activities that train farmers on climate-resilient agriculture practices, such as conserving soil and water, partly by planting more drought-resistant crops. Through the program, World Neighbors is also working with communities to identify disaster threats and develop preparedness and mitigation plans and building the capacity of local disaster authorities through training exercises.
- **Building Resilience through Training:** The University of Hawaii/Manoa created the Disaster Management Humanitarian Assistance (DMHA) graduate certificate program to reflect the growing need for disaster management education and research in the Asia Pacific region. The DMHA certificate program provides interdisciplinary perspectives on disasters, hazards, and risk reduction and stresses the importance of understanding and working with vulnerable communities. USAID/OFDA, with prior year assistance, continued supporting a multi-year program to bring faculty members from Indonesian universities to participate in the DMHA Summer Institute and to develop academic programs similar to the DMHA certificate program at Indonesian universities.
- **Increasing Coastal Communication and Preparedness:** To help communities facing multiple coastal hazards better prepare for disasters, USAID/OFDA continued supporting a program in southern Belu District, NTT Province, with implementing partner ACTED. The program established community radio stations, formed disaster preparedness committees in target villages, created DRR plans and emergency drills, conducted trainings on natural resource use to reduce coastal hazards, and implemented small-scale mitigation projects. ACTED's activities ended in September 2014.
- **Mitigating Risks for Coastal Communities:** With prior year USAID/OFDA assistance, AmRC continued helping vulnerable communities living in coastal areas of Indonesia harness the ability of indigenous ecosystems to mitigate the impact of storms and other disasters. To achieve this objective, the program created and rehabilitated mangrove forests and greenbelts—zones of farmland and uncultivated terrain surrounding settled areas. The program supported communities in Aceh, Jawa Tengah, and NTB provinces to map local hazards, develop evacuation routes, and receive updated communications equipment and skills training to disseminate disaster early warnings.
- **Climate Adaptation and Disaster Resilience (CADRE):** Under the CADRE program, USAID/OFDA and USAID/Indonesia partnered to fund projects that educate and engage communities and local officials in climate change adaptation measures. With prior year assistance, in FY 2014, Project Concern International and Lutheran World Relief continued CADRE activities to improve sustainable land use, reduce disaster vulnerability, and mitigate the impact of climate change by rehabilitating existing mangrove forests, increasing community capacity for effective coastal

community land management, improving disaster risk management capacity, and developing income opportunities that do not rely on deforestation. Lutheran World Relief concluded program activities in May 2014.

### ***Laos***

- **Building Emergency Response Capacity:** With approximately \$565,000 in USAID/OFDA support, and in coordination with Laos' National Disaster Management Office and ADPC, IOM strengthened Laotian officials' ability to prepare for and manage disasters. By developing and implementing a National Disaster Management Training Framework, IOM facilitated knowledge sharing among authorities and ensured that disaster management officials throughout Laos are able to utilize effective disaster management systems when responding to emergencies.
- **Community-Based Disaster Risk Management (CBDRM):** Beginning in FY 2011, a USAID/OFDA-funded UNICEF program worked with villages in Laos to develop DRR plans, train local disaster authorities in CBDRM, raise awareness on disaster preparedness among local community members, and pre-position disaster response equipment, such as megaphones and life jackets. Starting in the southern province of Attapeu, the program expanded in FY 2012 and in FY 2013 to reach communities in Salavan and Xekong provinces, also in Laos' flood-prone south, as well as in the central provinces of Bolikhamxai and Khammouan. This program ended in June 2014.

### ***Mongolia***

- **DRR in Western Mongolia:** Mongolia regularly experiences various types of disasters, including severe winter conditions, floods, earthquakes, and storms. In FY 2014, USAID/OFDA partnered with World Vision to reduce the impact of such disasters in Mongolia's western-most *aimags*, or provinces, of Bayan Ulgii, Khovd, and Uvs, which are particularly vulnerable to disasters due to their isolation. With \$250,000 in assistance, World Vision supported Mongolia's National Emergency Management Agency, as well as emergency management staff and communities within the three provinces, to more effectively assess local disaster risks and develop appropriate preparation and response plans. World Vision also worked to develop new DRR resources, including educational materials on disaster preparedness and a DRR curriculum for school-based peer educators in children's clubs.
- **Support for Livestock Early Warning Systems (LEWS):** Mercy Corps, together with USAID/Mongolia and other partners, launched LEWS in Mongolia in 2007. By combining real-time weather data with satellite imagery, LEWS forecasts livestock forage conditions, enabling disaster authorities, herder communities, and rural farmers to better anticipate and respond to Mongolia's *dzud*, or severe winter conditions, and their effect on livestock and agriculture. In FY 2014, USAID/OFDA—with prior year assistance—continued supporting Mercy Corps to train community members in 15 *aimags* on LEWS and to utilize new technology, such as mobile phones, to strengthen access to national forecasting data in rural areas. This program ended in September 2014.

### ***Palau***

- **Reducing Disaster Risks in Palau:** Palau is vulnerable to typhoons, such as Typhoon Haiyan, which struck the Republic of Palau (RoP) in November 2013. To mitigate the effects of future storms and other disasters, USAID/OFDA provided \$200,000 to IOM to support the Government of the RoP to establish emergency contingency plans, develop humanitarian assessment tools, train officials in humanitarian assistance and logistics processes, and implement school emergency management plans, including evacuation drills.

### ***Papua New Guinea***

- **Building Community Resilience:** Seasonal monsoon rains combined with Papua New Guinea's steep topography make many parts of the country vulnerable to floods and landslides. The possibility of floods and landslides is exacerbated by deforestation and poor local drainage systems. However, many communities lack knowledge of disaster preparedness and response activities. With nearly \$1.3 million in FY 2014 assistance, USAID/OFDA continued

supporting IOM-led training sessions to increase DRR knowledge in ten districts of Morobe, Northern, and West New Britain provinces. IOM also worked with local authorities to develop disaster management and response plans.

- **VDAP:** USAID/OFDA provided \$220,000 in FY 2014 to support the Port Moresby Geophysical Observatory and Rabaul Volcano Observatory in Papua New Guinea to improve volcanic gas monitoring and warning systems.

### *Philippines*

- **Strengthening Capacity to Endure Severe Shocks in Metro Manila and Mindanao:** USAID/OFDA provided \$3.25 million in FY 2014 funding to Catholic Relief Services (CRS) to provide training and support on participatory DRR, as well as disaster risk reduction and management (DRRM) planning and implementation. CRS worked to build community resilience in Metro Manila, as well as three municipalities and 15 villages in Compostela Valley, through projects such as flood-resilient infrastructure, clearing of channels, and improvements to evacuation centers and early warning systems. CRS also worked on gender-responsive risk and hazard mapping, organized youth- and civil society-led waterway and community cleanups, promoted solid waste management, and provided livelihoods support to at-risk women to enable them to protect assets and cover their needs during flood events.
- **Increasing Community Disaster Preparedness in Davao Oriental:** USAID/OFDA continued to support Plan International USA (Plan USA) to improve disaster preparedness in the coastal municipalities of Baganga, Boston, and Cateel in Davao Oriental Province, which were heavily affected by Typhoon Bopha. With nearly \$500,000 in FY 2014 funding, Plan USA trained community members to implement emergency warning signals and evacuation procedures, supported the creation of local DRR strategies, and worked with disaster authorities to evaluate previous disaster responses and develop future response plans.
- **Technical Support for Disaster Preparedness and Response Activities:** In FY 2014, USAID/OFDA contributed nearly \$5 million to WFP to continue providing technical support to provincial governments and thirty municipal governments across nine provinces in the Philippines. The project worked to enhance GPH logistics response capacity, improve vulnerability assessment and mapping, build GPH institutional disaster response management capacity, and enhance GPH national and local disaster preparedness and mitigation plans, including by incorporating climate change adaptation activities into risk reduction schemes. WFP also established partnerships with academic institutions to integrate DRR into university curricula and provide opportunities for academics to share innovative DRR technologies with local communities and officials.
- **Enhancing Emergency Preparedness with Logistics Surge Capacity:** Through \$500,000 in FY 2014 assistance, USAID/OFDA strengthened WFP's capacity to address humanitarian logistics needs quickly and effectively. USAID/OFDA funding supported the procurement and pre-positioning of emergency items, such as temporary storage tents and electrical generators, in two WFP warehouses in the Philippines. The program also facilitated emergency airlifts of relief items to the Philippines from the UN Humanitarian Response Depot in Subang, Malaysia, or elsewhere, as needed.

### *Republic of Korea*

- **Building the Capacity of Humanitarian Actors:** Humanitarian actors in the Republic of Korea (RoK) are increasingly playing a role in international disaster assistance, while also responding to national crises. With nearly \$270,000 in USAID/OFDA support, IOM worked with relevant RoK organizations—including the Korea International Cooperation Agency, the National Emergency Management Agency, and various NGOs—in FY 2014 to train staff in international humanitarian principles, program management, monitoring and evaluation, and reporting. IOM also worked to develop relevant training materials and translate them into the Korean language.

### *Solomon Islands*

- **Together Becoming Resilient (TBR):** USAID/OFDA began the community-based TBR program through the Solomon Islands Red Cross and the French Red Cross (FRC) in FY 2011. With \$500,000 in FY 2014 assistance, USAID/OFDA continued to support FRC to implement DRR awareness campaigns and preparedness activities in schools and train national officials in DRR practices and risk and damage assessments. FRC also expanded CBDRM activities to target the remote communities on the Solomon Islands' Savo Island.
- **Mitigating the Impact of Disasters by Coping with Water Challenges:** The Solomon Islands are vulnerable to natural disasters—including cyclones, floods, and tsunamis—that can limit access to safe drinking water and increase the risk of disease outbreak. In FY 2013, FRC—with USAID/OFDA support—launched a program to strengthen the capacity of communities in Guadalcanal and Malaita provinces to respond to natural disasters that may affect drinking water supplies. The FRC, in coordination with the Solomon Islands Red Cross Society, continued to rehabilitate water supply infrastructure, teach basic hygiene knowledge to local communities, and incorporate WASH elements into community disaster mitigation plans in FY 2014.

### *Thailand*

- **Child-Focused DRR:** With more than \$237,000 in FY 2014 funding, USAID/OFDA continued supporting a Save the Children/U.S. (SC/US) program to develop DRR learning materials for children in Thailand. In the program's first year, SC/US created an activity book using animal characters to describe safe ways to prepare for, and respond to, disasters and distributed the book to approximately 10,000 school children in five provinces affected by the historic 2011 floods. Activities accompanying the book helped children learn simple steps to reduce risks, such as packing an emergency bag, pinpointing hazardous areas in their schools, and identifying community members who may need assistance. SC/US also coordinated with Thailand's Ministry of Education to train teachers and disseminate the books. In FY 2013, SC/US used USAID/OFDA support to produce the book in two additional languages—Burmese and Karen—and print additional copies of the Thai version. With additional support in FY 2014, SC/US expanded activities to engage more children in Thailand's disaster-prone urban areas, raising their awareness of urban risk and encouraging urban DRR practices. SC/US also began coordinating with a Thai television channel to produce and air an animated DRR series featuring the storybook characters.
- **Reducing Vulnerability to Floods:** In the wake of the historic 2011 floods in Thailand, which killed approximately 800 people and affected more than 13 million others, USAID/OFDA began working with ADPC to strengthen the capacity of the Royal Thai Government Department of Disaster Prevention and Mitigation (DDPM) and related national and local institutions in 21 provinces in middle and lower parts of the flood-prone Chao Phraya River basin to develop and implement flood mitigation and preparedness projects. With prior year support from USAID/OFDA, ADPC continued its collaboration with DDPM in FY 2014, providing technical training to a community-based volunteer network that disseminates early warning messages for floods and landslides and increasing coordination efforts among technical agencies in Thailand involved in water management.
- **Reducing the Risks of Population Displacement:** USAID/OFDA continued support, through prior year assistance, to IOM to build national and local capacity to coordinate and manage displacement situations in Thailand. Developed at the request of, and in coordination with, the DDPM, the USAID/OFDA-funded initiative trained DDPM staff, local authorities, leading civil society organizations, and community institutions in camp coordination, management, and response strategies. IOM also supported the development of guidelines for evacuation centers and public information material. This program ended in April 2014.

### *Timor-Leste*

- **Promoting Conservation Agriculture:** With \$1.1 million in FY 2014 funding, USAID/OFDA continued supporting FAO to reduce crop loss in Timor-Leste. Periods of extreme weather, combined with deforestation and other

unsustainable land practices, are eroding the country's arable land, resulting in erratic production levels of major crops, including maize, rice, and coffee. In coordination with the Government of Timor-Leste Ministry of Agriculture and Fisheries, FAO trained farmers in Baucau, Ermera, Manatuto, and Manufahi districts to adopt conservation agriculture practices—characterized by minimal soil disturbance, diversified crop rotations, and other activities that promote sustainable production and help mitigate the effects of adverse weather conditions on harvests.

- **Building Resilience in Timor-Leste:** USAID/OFDA, in partnership with IOM, supported training national-, district-, and village-level officials on disaster preparedness and response techniques and providing technical assistance to develop a national DRR strategy. With more than \$1 million in FY 2014 assistance, IOM also empowered vulnerable communities in seven disaster-prone districts in Timor-Leste to cope with natural disasters by training them in mitigation strategies—such as disaster-resistant farming techniques—and helping them develop disaster management plans.
- **Effective Seed Storage Techniques:** Since 2011, USAID/OFDA has supported a Mercy Corps-implemented program to reduce post-harvest seed loss in Timor-Leste, where the majority of rural farmers rely on subsistence agriculture for their livelihoods and are vulnerable to hazards such as drought, floods, and pest infestations. After successfully introducing effective post-harvest seed storage solutions to more than 3,000 rural farmers in four sub-districts of Timor-Leste, Mercy Corps expanded its program to new sub-districts throughout the country in FY 2013. Improving seed storage not only mitigates post-harvest losses, but ensures that seed reserves are available should disasters occur and improves overall levels of food security and resiliency. In FY 2014, with more than \$181,000 in additional USAID/OFDA support, Mercy Corps introduced a savings and internal lending communities (SILC) model, which will expand access to credit and promote a culture of savings among poor farming households.

### *Tonga*

- **Community Disaster Risk Management:** USAID/OFDA, through Act for Peace and in collaboration with the Tonga National Council of Churches, continued to support community DRR awareness and emergency response trainings—including first aid, search and rescue, and simulation exercises—in Ha'apai, Tongatapu, and Vava'u districts in Tonga. With approximately \$500,000 in FY 2014 funding, the program also worked with local authorities to conduct risk assessments and develop preparedness and response plans.

### *Vanuatu*

- **TBR:** In FY 2011, USAID/OFDA began this community-based DRR program through the Vanuatu Red Cross Society, focusing on strengthening and building DRR knowledge and skills in targeted vulnerable communities in Torba Province through activities such as evacuation exercises, first aid training, and provision of first aid and disaster preparedness kits. In FY 2014, USAID/OFDA provided \$500,000 through FRC to expand these activities to populations in Malampa Province. FRC activities included supporting the formation of community disaster committees, training committee members in disaster response and risk reduction activities, and developing emergency contingency plans.
- **Community Planning to Mitigate the Impact of Disasters:** USAID/OFDA, with prior year assistance, continued supporting the construction and rehabilitation of water supply infrastructure in Torba Province through FRC. The program worked to strengthen communities' ability to access safe drinking water in times of disaster and also provided hygiene information to community members, giving them the knowledge needed to protect water sources from contamination and thereby reduce the risk of waterborne diseases.

### *Vietnam*

- **Strengthening Public-Private Partnerships for Disaster Risk Management and Community Resilience:** USAID/OFDA continued to support TAF to facilitate DRR public-private partnerships in 20 provinces in Vietnam.



TAF launched the program in FY 2011 to build the disaster risk management capacity of small- and medium-sized enterprises located in areas vulnerable to natural disasters. Working with the Vietnam Chamber of Commerce and Industry, Government of Vietnam (GVN) officials, and local NGOs, the project established a disaster risk management training curriculum. In FY 2014, USAID/OFDA provided \$500,000 to increase the number of partners and institutionalize the role of business in disaster risk management in Vietnam.

- **CBDRM:** USAID/OFDA began partnering with AmRC in FY 2011 to implement a community-based program that trained Vietnam Red Cross Society staff members and community leaders in CBDRM techniques, including disaster preparedness and basic search and rescue. The program also taught disaster preparedness to primary school students—engaging more than 9,000 students to date—and educated emergency response teams. Previously focused on rural areas, in FY 2013 the program began expanding to urban communities in Ha Tinh, Quang Nam, and Quang Ngai provinces, as well as Hanoi city. With prior year assistance, USAID/OFDA continued supporting program activities in FY 2014.
- **Establishing Public-Private Partnerships for DRR:** Drawing on the existing relationship between the sister cities of Seattle, Washington, and Hai Phong, Vietnam, USAID/OFDA continued supporting Hai Phong to strengthen its disaster preparedness capacity through engagement with the city’s private sector. With prior year funding, Peace Winds America led an alliance of public and private entities to support business continuity and disaster preparedness planning in Hai Phong—Vietnam’s third largest city—through technical assistance, trainings, and exchanges as part of the USAID Global Development Alliance Initiative.
- **Incorporating Vulnerable Ethnic Minorities into CBDRM:** Plan USA continued a USAID/OFDA-supported program that increases the resilience and capacities of institutions and vulnerable populations, particularly children and ethnic minorities, to better prepare for, mitigate, and respond to natural disasters. In FY 2014 the program—which began in FY 2012—continued to target communities in one district in Kon Tum Province and two districts in Quang Tri Province, assisting populations to form DRR awareness-raising teams, establish disaster management committees, draft community contingency plans, and perform small-scale mitigation works. Through facilitating community participation in disaster planning and engagement with authorities, the program ensured that local experiences and concerns were reflected in the GVN National CBDRM Program.
- **Increasing Resilience in Delta Communities:** USAID/OFDA continued supporting the DRR components of USAID/Vietnam’s partnership with Winrock International, which facilitated GVN climate change adaptation and mitigation efforts through the Vietnam Forests and Delta Program. The USAID/OFDA-supported portion of the program—drawing on prior year funding from USAID/OFDA—supported the American Red Cross, in cooperation with the Vietnam Red Cross, to increase the disaster preparedness of communities through training, planning, and drills.
- **Mangrove Forestation and CBDRM:** USAID/OFDA continued to support CRS to rehabilitate mangrove forests—which are proven to reduce typhoon waves and thus protect seaside roads, bridges, and buildings—in Binh Dinh and Quang Nam provinces. Launched in FY 2012, the program also provided early warning equipment, conducted evacuation mapping and drills, and empowered communities to manage their own disaster preparedness through training and awareness-raising for local officials, schools, and communities. CRS activities ended in September 2014.
- **Vietnam Hazard Early Warning and Capacity Development:** PDC has developed a customized, internet-based platform that integrates information, modeling, and mapping technologies to provide a stream of information on current hazards for national-level decision makers in Hanoi as well as provincial authorities in central Vietnam. With prior year funding, USAID/OFDA continued supporting PDC to incorporate additional information—such as flood monitoring data for large reservoirs, dam-break models, and local disaster management resources—into the system.

USAID/OFDA also worked to bolster the capacity of the GVN Ministry of Agriculture and Rural Development to host and manage the Vietnam All-Hazard Warnings, Analysis, and Risk Evaluation (VinAWARE) system and provided relevant training for NGOs and GVN officials.

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## PROGRAMS THAT INTEGRATE DRR WITH DISASTER RESPONSE

In addition to stand-alone DRR programs implemented to prevent or mitigate the effects of hazards in the region, USAID/OFDA integrated preparedness and mitigation into disaster response, early recovery, and transition programs. These initiatives, which were in accordance with regional DRR strategies, incorporated risk reduction objectives into a broad range of sectoral interventions to increase the resilience of communities to future shocks. In FY 2014, USAID/OFDA—with nearly \$2.3 million in assistance—strengthened humanitarian coordination throughout the region, improved the capacity of IDP camps to prepare for and respond to disaster, and bolstered WFP’s capacity to address humanitarian logistics needs in areas recently affected by emergencies.

### *Burma, Indonesia, Papua New Guinea, the Philippines, and the Pacific Islands*

- **Strengthening Humanitarian Coordination:** When disasters occur, OCHA’s in-country offices coordinate humanitarian assistance to ensure a coherent response among local and international humanitarian organizations. With FY 2014 support for country-specific programs in Burma, Indonesia, and the Philippines, as well as for the OCHA Regional Office for Asia and the Pacific in Bangkok, Thailand, and the OCHA Regional Office for the Pacific in Suva, Fiji, USAID/OFDA strengthened OCHA’s capacity to rapidly organize humanitarian organizations and facilitate sector coordination in the wake of a major disaster. USAID/OFDA also supported similar capacity building activities—with prior year assistance—for the OCHA office in Papua New Guinea, with activities in that country concluding in December 2013.

### *Burma*

- **Camp Management Support and Capacity Building in Rakhine and Kachin:** Intercommunal violence since June 2012 in Burma’s Rakhine State has resulted in the continued displacement of more than 137,000 people. Humanitarian partners also report ongoing shelter needs in Kachin State due to displacement as a result of violence, with camps for IDPs existing in both states. In FY 2014, USAID/OFDA—with more than \$260,000 through partner IOM—supported camp management and coordination training for Kachin and Rakhine state officials, NGOs, and community members. Program activities also included facilitating dialogue between IDPs and host communities, establishing effective processes for sharing information with camp residents, supporting officials to maintain camp registration data, and implementing a complaints and feedback mechanism for camp residents. By strengthening the management of IDP camps, USAID/OFDA also bolstered the camps’ ability to prepare for, and respond to, natural disasters, such as storms and floods.

### *Indonesia*

- **Supporting the GoI to Assist Volcano-Displaced Populations:** Mount Sinabung volcano, located in Karo District on Sumatra Island, became increasingly active beginning in September 2013. In November, an eruption prompted the GoI to evacuate communities within 5 kilometers of the volcano’s center. By February 2014, the GoI had evacuated nearly 10,000 households, or more than 32,000 people. With \$200,000 in FY 2014 assistance through WFP, USAID/OFDA supported the GoI’s assistance to volcano-displaced populations while building the capacity of officials to respond to future disasters. Program activities included training district-level disaster management officials in humanitarian logistics processes, and establishing an operational logistics hub in Karo to manage relief operations and track emergency commodities and equipment.
- **Building DRR Capacity and Increasing Resilience in Aceh:** On July 2, 2013, a magnitude 6.1 earthquake struck Indonesia’s Aceh Province, resulting in at least 42 deaths and displacing more than 50,000 people. The earthquake

damaged more than 19,000 houses in an area where structures are generally vulnerable to earthquake shaking, according to the UN. As earthquake-affected communities in Aceh started to rebuild their homes, USAID/OFDA, through Build Change, began training homeowners, builders, NGOs, local partners, and government officials on safe, earthquake-resistant design and construction techniques. In FY 2014, USAID/OFDA continued supporting Build Change's activities, which also included public outreach and awareness activities on DRR shelter and settlements practices.

## Philippines

- **Ensuring Access to WASH Services after Typhoon Haiyan:** On November 8, 2013, Typhoon Haiyan—known locally as Typhoon Yolanda—made landfall in the central Philippines. Primarily affecting Eastern Samar, Samar, and Leyte provinces, Typhoon Haiyan resulted in 6,300 deaths and affected an estimated 16 million people. In the typhoon's aftermath, humanitarian assessments reported a lack of access to sanitation facilities and safe drinking water in the most-affected areas. UNICEF, with \$717,000 in USAID/OFDA support, addressed immediate WASH needs by installing mobile water treatment units, rehabilitating water supply systems, coordinating waste collection and disposal, conducting hygiene promotion sessions in communities, and distributing hygiene kits to typhoon-affected people. UNICEF's activities also strengthened the GPH's disaster management and response capacity by providing technical assistance and training to relevant officials in emergency WASH program design and implementation.

### USAID/OFDA DRR FUNDING PROVIDED IN FY 2014<sup>1</sup>

LOCATION	PROGRAM	ACTIVITY	PARTNER	SUBTOTAL	TOTAL
USAID/OFDA STAND-ALONE DRR FUNDING IN EAP <sup>2</sup>					
EAP Regional	Improved Preparedness and Coordination to Implement Cash Transfer Programs in Emergencies	Humanitarian Coordination and Information Management, Humanitarian Studies, Analysis, or Applications	AAH/US	\$100,000	\$1,274,922
	Building Capacity for Disaster Response in ASEAN	Risk Management Policy and Practice	National University of Singapore	\$299,922	
	Strengthening Early Warning Systems	Natural and Technological Risks	NOAA	\$300,000	
	Building Regional Emergency Preparedness and Response Capacity	Humanitarian Coordination and Information Management, Risk Management Policy and Practice	UNICEF	\$150,000	
	Supporting the 6th Asian Ministerial Conference on DRR	Humanitarian Coordination and Information Management	UNISDR	\$100,000	
	Improving Regional Search-and-Rescue Capacity	Humanitarian Coordination and Information Management	OCHA	\$75,000	
	Support for ASEAN-U.S. PROGRESS	Risk Management Policy and Practice	DAI	\$250,000	
Pacific Islands	Enhancing Disaster Management Capacity in FSM, Palau, and RMI	Risk Management Policy and Practice	IFRC	\$260,000	\$424,000
	Weather Alerts for Remote Communities	Natural and Technological Risks	NOAA	\$100,000	
	Homeowner's Handbook to Prepare for Natural Hazards	Natural and Technological Risks	NOAA	\$64,000	

Burma	Reducing Risks from Natural Disasters and Displacement	Natural and Technological Risks	IOM	\$600,000	\$6,886,550
	Improved Disaster Management in Rakhine State	Risk Management Policy and Practice	IOM	\$1,500,000	
	STRIVE	Agriculture and Food Security	IRRI	\$500,000	
	Consortium for Capacity Development on Disaster Management	Risk Management Policy and Practice	UNHABITAT	\$2,999,764	
	Mitigating Seismic Risk	Natural and Technological Risks	USGS	\$500,000	
	Extending FFGS for the Lower Mekong River to Burma	Natural and Technological Risks	WMO	\$150,000	
	Building Community Resilience	Risk Management Policy and Practice	World Vision	\$636,786	
Cambodia	Strengthening the Emergency Response Capacity of Humanitarian NGOs in Cambodia	Humanitarian Coordination and Information Management, Risk Management Policy and Practice	ADPC	\$449,297	\$623,297
	Strengthening the Emergency Preparedness of the HRF	Humanitarian Coordination and Information Management	WFP	\$174,000	
FSM and RMI	Enhanced Pre-Positioning for Disaster Response Preparedness	Logistics Support and Relief Commodities	IOM	\$100,000	\$100,000
Indonesia	Reducing Risks of Population Displacement	Shelter and Settlements	IOM	\$699,140	\$10,272,022
	Increasing Community Resilience in Aceh	Risk Management Policy and Practice	IOM	\$1,300,000	
	Institutionalizing Disaster Preparedness and Management Capacity	Risk Management Policy and Practice	Mercy Corps	\$4,000,000	
	ILFAD	Economic Recovery and Market Systems	Mercy Corps	\$750,224	
	READI	Natural and Technological Risks	Mercy Corps	\$215,000	
	InAWARE	Risk Management Policy and Practice	University of Hawaii	\$836,534	
	VDAP	Natural and Technological Risks	USGS	\$330,000	
	Enhancing Emergency Logistics Preparedness and Response Capacity	Risk Management Policy and Practice	WFP	\$493,805	
	Improving Flash Flood Early Warnings	Natural and Technological Risks	WMO	\$400,000	
	DRR in Nusa Tenggara	Agriculture and Food Security, Economic Recovery and Market Systems, Risk Management Policy and Practice	World Neighbors	\$1,247,319	
Laos	Building Emergency Response Capacity	Risk Management Policy and Practice	IOM	\$565,495	\$565,495
Mongolia	DRR in Western Mongolia	Risk Management Policy and Practice	World Vision	\$250,000	\$250,000
Palau	Reducing Disaster Risks in Palau	Risk Management Policy and Practice	IOM	\$200,000	\$200,000
Papua New Guinea	Building Community Resilience	Risk Management Policy and Practice	IOM	\$1,250,000	\$1,470,000
	VDAP	Natural and Technological Risks	USGS	\$220,000	

Philippines	Strengthening Capacity to Endure Severe Shocks in Metro Manila and Mindanao	Economic Recovery and Market Systems, Risk Management Policy and Practice	CRS	\$3,250,000	\$9,247,917
	Increasing Community Disaster Preparedness in Davao Oriental	Natural and Technological Risks, Risk Management Policy and Practice	Plan USA	\$499,990	
	Strengthening Humanitarian Coordination	Logistics Support and Relief Commodities	WFP	\$500,000	
	Enhancing Emergency Preparedness with Logistics Surge Capacity	Risk Management Policy and Practice	WFP	\$4,997,927	
Republic of Korea	Building the Capacity of Humanitarian Actors	Shelter and Settlements, Risk Management Policy and Practice	IOM	\$269,982	\$269,982
Solomon Islands	Together Becoming Resilient	Risk Management Policy and Practice	FRC	\$500,000	\$500,000
Thailand	Child-Focused DRR	Risk Management Policy and Practice	SC/US	\$237,322	\$237,322
Timor-Leste	Promoting Conservation Agriculture	Agriculture and Food Security	FAO	\$1,100,000	\$2,299,326
	Building Resilience in Timor-Leste	Agriculture and Food Security, Risk Management Policy and Practice	IOM	\$1,018,137	
	Effective Seed Storage Techniques	Economic Recovery and Market Systems	Mercy Corps	\$181,189	
Tonga	Community Disaster Risk Management	Risk Management Policy and Practice	Act for Peace	\$500,000	\$500,000
Vanuatu	Together Becoming Resilient	Risk Management Policy and Practice	FRC	\$500,000	\$500,000
Vietnam	Strengthening Public-Private Partnerships for Disaster Risk Management and Community Resilience	Risk Management Policy and Practice	TAF	\$500,000	\$500,000
<b>TOTAL USAID/OFDA STAND-ALONE DRR FUNDING IN EAP</b>					<b>\$36,120,833</b>
<b>USAID/OFDA DISASTER RESPONSE WITH DRR COMPONENTS IN EAP<sup>3</sup></b>					
Pacific Islands	Strengthening Humanitarian Coordination	Humanitarian Coordination and Information Management	OCHA	\$250,000	\$250,000
Burma	Complex Emergency Response	Shelter and Settlements	IOM	\$260,352	\$660,352
	Strengthening Humanitarian Coordination	Humanitarian Coordination and Information Management	OCHA	\$400,000	
Indonesia	Strengthening Humanitarian Coordination	Humanitarian Coordination and Information Management	OCHA	\$200,000	\$400,000
	Volcano Response	Humanitarian Coordination and Information Management	WFP	\$200,000	
Philippines	Strengthening Humanitarian Coordination	Humanitarian Coordination and Information Management	OCHA	\$250,000	\$967,000
	Typhoon Response	WASH	UNICEF	\$717,000	
<b>TOTAL USAID/OFDA DISASTER RESPONSE WITH DRR COMPONENTS IN EAP</b>					<b>\$2,277,352</b>
<b>TOTAL USAID/OFDA DRR FUNDING IN EAP IN FY 2014</b>					<b>\$38,398,185</b>



## **PUBLIC DONATION INFORMATION**

- The most effective way people can assist relief efforts is by making cash contributions to humanitarian organizations that are conducting relief operations. A list of humanitarian organizations that are accepting cash donations for disaster responses around the world can be found at [www.interaction.org](http://www.interaction.org).
- USAID encourages cash donations because they allow aid professionals to procure the exact items needed (often in the affected region); reduce the burden on scarce resources (such as transportation routes, staff time, and warehouse space); can be transferred very quickly and without transportation costs; support the economy of the disaster-stricken region; and ensure culturally, dietary, and environmentally appropriate assistance.
- More information can be found at:
  - The Center for International Disaster Information: [www.cidi.org](http://www.cidi.org) or +1.202.821.1999.
  - Information on relief activities of the humanitarian community can be found at [www.reliefweb.int](http://www.reliefweb.int).

USAID/OFDA bulletins appear on the USAID website at  
<http://www.usaid.gov/what-we-do/working-crises-and-conflict/responding-times-crisis/where-we-work>

# Natural and Technological Risks: Hydrometeorological Hazards Update

OCTOBER 2013

## HYDROMETEOROLOGICAL HAZARDS SUBSECTOR OVERVIEW

Climate, weather, and water-induced disasters, such as floods, droughts, cyclones, and tsunamis, account for the largest number of natural disasters worldwide and affect more people than any other type of natural hazard. Extreme weather and climate events often have severe socioeconomic consequences, including loss of life, property, and livelihoods; scarcity of food, water, and energy; and adverse impacts on health and the environment. USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) supports hydrometeorological Disaster Risk Reduction (DRR) activities aim to reduce populations' vulnerability to climate and weather hazards through an integrated and multi-sectoral approach that addresses community needs while emphasizing locally sustainable and environmentally sensitive measures. USAID/OFDA works closely with vulnerable communities, as well as national and local governments, international and regional organizations, universities, and non-governmental organizations (NGOs) to increase resilience to climate- and weather-induced disasters.

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## ENHANCING GLOBAL FLASH FLOOD GUIDANCE AND EARLY WARNING SYSTEMS



Water surrounds a house in Thailand during floods in October 11. (Photo by Ben Hemingway/USAID)

Each year, flash floods result in an average of 5,000 deaths globally. In an effort to reduce the loss of life and the economic impact of floods, USAID/OFDA—in partnership with the U.N. World Meteorological Organization (WMO), the National Oceanic and Atmospheric Administration (NOAA), the Hydrologic Research Center, and the national meteorological and hydrological services (NMHSs) of host countries—initiated a collaborative program in 2008 to assist NMHSs to monitor potential flash floods, thereby improving early warning lead time and enabling quick response. Through implementing technologies, conducting forecaster trainings, and providing technical assistance, the program aims to provide flash flood early warning guidance in countries where no such early warning capacity exists. In Fiscal Year (FY) 2013, systems were operational or in various stages of development in over 50 countries in Central America, the Caribbean, the Middle East, South Asia, Southeast Asia, Central Asia, southeastern Europe, and southern Africa.

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## BUILDING CAPACITY THROUGH CLIMATE VARIABILITY AND PREDICTION WORKSHOPS

In response to increased demand for improved national and regional capacity, USAID/OFDA and NOAA, in partnership with WMO and NMHSs, have organized a series of workshops throughout the world to establish and strengthen national preparedness for hydrometeorological events. The regional climate variability and prediction workshops aim to address the transboundary nature of climate by encouraging cross-continental information exchange, including sharing lessons learned, among meteorologists. In addition, trainings seek to increase meteorologists' capacity to produce climate information for decision-makers to reduce the impact of climate fluctuations on local populations. In June 2013, representatives from 33 countries participated in the fifth annual workshop and symposium, held in Istanbul, Turkey.

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## **INTEGRATED FLOOD MANAGEMENT: A MANUAL FOR GOOD PRACTICES**

In FY 2013, USAID/OFDA supported an initiative by the World Wildlife Fund (WWF) to develop a Good Practices manual to reduce flood risk and improve flood management by utilizing natural resource management. The manual uses an Integrated Flood Management approach, facilitating the incorporation of community-based knowledge and coping mechanisms with government systems to manage flood water risk and watershed resources. With the new guidance, WWF intends to assist communities, local governments, and DRR practitioners to better understand natural flood management, ways to implement natural resource-based mitigation measures at the local level to address both applied and policy issues, and how to approach the challenges associated with such interventions.

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# LATIN AMERICA AND THE CARIBBEAN

TSUNAMI PREPAREDNESS AND MITIGATION ACTIVITIES

MARCH 2014

## OVERVIEW

The Caribbean is a seismically active region traversed by deep ocean trenches, underwater volcanoes, plate boundaries, and fault lines, all of which have the potential to generate catastrophic coastal hazards in a region where millions of inhabitants live near the seashore. The Caribbean and its adjacent waters, including the Atlantic Ocean, has been the source region for 11 percent of the world's fatal tsunamis, with almost one hundred observed tsunamis that have impacted 23 countries, according to the Intergovernmental Oceanographic Commission (IOC) of the U.N. Educational, Scientific, and Cultural Organization (IOC-UNESCO), which supports governments in assessing tsunami risk and implementing tsunami early warning systems and community preparedness measures. While earlier attempts languished, efforts to establish a tsunami early warning system in the Caribbean resumed with renewed intensity following the Indian Ocean tsunami, which caused widespread death and destruction in December 2004. Since early 2005, USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) has supported development of the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Region (CARIBE EWS) in coordination with IOC-UNESCO. As part of this project, USAID/OFDA provides funding and technical assistance to improve scientific monitoring capabilities and increase tsunami awareness at the community level. USAID/OFDA disaster specialists are part of the U.S. delegation to the IOC-UNESCO Intergovernmental Coordination Group for CARIBE EWS, which first met in early 2006 in Barbados. USAID/OFDA chaired the Working Group on Preparedness, Readiness, and Resilience from its inception until January 2010.

## COORDINATION MEETINGS AND WORKSHOPS:

In February 2005, USAID/OFDA facilitated a coordination meeting among Caribbean technical agencies to begin developing the warning system. The meeting was hosted by the Caribbean Emergency Disaster Response Agency, since renamed the Caribbean Emergency Disaster Management Agency (CDEMA). This was followed in April 2006 by a USAID/OFDA-supported workshop hosted by the University of the West Indies Seismic Research Unit, now called the Seismic Research Centre (UWI/SRC), which is the agency responsible for monitoring earthquakes and volcanic activity for the English-speaking Eastern Caribbean countries, as well as the Dutch islands of Saba, St. Eustatius, and St. Maarten. The workshop brought together regional specialists who manage seismic monitoring networks to initiate information sharing and discuss equipment needs to make the warning system operational. In June 2007, more than 40 meteorologists, seismologists, and disaster managers from more than 20 countries and territories in the region attended the "Caribbean Regional Training Program in Seismology and Tsunami Warnings," funded by USAID/OFDA and implemented by the U.S. Geological Survey (USGS). These discussions led to the development of two complementary USAID/OFDA-supported projects, one focusing on improving scientific monitoring capabilities to detect seismic events or increased wave heights and the other focused on increasing tsunami awareness and preparedness at the community level.

## STRENGTHENING SEISMIC AND TSUNAMI MONITORING CAPABILITIES:

In August 2006, USAID/OFDA provided \$249,680 to UWI/SRC to implement the 18-month "Caribbean Tsunami Early Warning System Communications and Protocols Project." The project upgraded the Eastern Caribbean seismograph network—a collection of seismographs that are linked into a central monitoring unit—and enhanced its capacity to detect, monitor, and provide early warning for tsunamis and related geological hazards. USAID/OFDA funding helped purchase equipment and software to enable more rapid transmission of information regarding seismic events to vulnerable communities in the Eastern Caribbean.

## **INCREASING COMMUNITY AWARENESS:**

In September 2007, USAID/OFDA provided \$475,200 to CDEMA to implement a two-year project entitled “Empowering Coastal Communities to Prepare for and Respond to Tsunamis and Other Coastal Hazards.” The public awareness and education program provided the knowledge and skills to respond effectively to tsunamis and coastal hazards to approximately 2.5 million residents living on or near coastal areas in the Caribbean. The project featured two fundamental components: first, creating an effective model for protocols and procedures for receiving and disseminating warnings to all stakeholder agencies and potentially affected communities; and second, developing public education and awareness materials for CDEMA-participating states. These materials addressed not only tsunami-related threats, but other coastal hazards as well. USAID/OFDA’s Caribbean-based disaster risk management specialists assisted in the development of the protocols and procedures. USAID/OFDA assistance was a critical link between the investments that the U.S. Government has made in regional seismological monitoring and Caribbean countries’ national systems to effectively warn coastal inhabitants when tsunamis or other threats are detected.

## **CAPACITY-BUILDING SUPPORT:**

From 2007 to the present, USAID/OFDA has supported a number of tsunami training activities for regional disaster professionals and scientists throughout the Latin America and Caribbean region:

- Between 2007 and 2011, USAID/OFDA supported various seismologists and other regional scientists, as well as disaster managers from Antigua and Barbuda, Chile, Ecuador, El Salvador, Nicaragua, and Saint Lucia, to attend a two-week international tsunami training program at NOAA’s International Tsunami Information Center (ITIC).
- In 2012, USAID/OFDA provided \$35,000 to support the ITIC Training Program, including course materials and the participation of four scientists and disaster managers from the region.
- In 2013, USAID/OFDA provided \$60,000 to ITIC to conduct two regional workshops entitled “Strengthening Tsunami Warning and Emergency Response Standard Operating Procedures.” Workshops were held for Central American scientists in El Salvador in February 2013, and in Chile, for South American scientists, in March 2013. ITIC designed the workshops to strengthen procedures for national tsunami warning and emergency response in Eastern Pacific and Caribbean countries and provide instruction on the new Pacific Tsunami Warning Center (PTWC) international tsunami forecast products. The trainings were a collaborative effort of ITIC and IOC-UNESCO, with funding from USAID/OFDA and USGS. Participants included representatives from the national tsunami warning centers and national disaster management offices of Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, and Peru.
- In 2014, USAID/OFDA provided \$65,000 to support two additional ITIC trainings, scheduled for Mexico and Ecuador in April and June, respectively. Following the trainings, PTWC Regional Working Groups for the Central American Pacific Coast and Southeast Pacific will meet to discuss the further needs and actions required for effective implementation of the new PTWC products, among other topics.

## **SUPPORT FOR POST-TSUNAMI SURVEY IN EL SALVADOR:**

On August 26, 2012, a magnitude 7.2 offshore earthquake caused a tsunami in El Salvador that measured up to six meters at impact and affected approximately 30 kilometers of Pacific coastline. While neither event caused fatalities or significant damage, flooding from the tsunami reached up to 300 meters inland. In early September 2012, USAID/OFDA participated in a post-tsunami survey in El Salvador, organized by ITIC and conducted in conjunction with Government of El Salvador authorities, to identify gaps in early warning systems and help improve future responses.

## **CARIBBEAN TSUNAMI INFORMATION CENTER:**

USAID/OFDA supported development of the Caribbean Tsunami Information Center, which was officially launched in Barbados in December 2013. The center works with member states to implement a comprehensive tsunami preparedness and mitigation program in the region, including tsunami education and awareness activities, as well as the development of national standard operating procedures.