

OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE (USAID/OFDA)

REGIONAL OFFICE FOR LATIN AMERICA AND THE CARIBBEAN, SAN JOSÉ, COSTA RICA



Miyamoto International structural engineers, firefighters, and engineering students collect building data in San José, Costa Rica, as part of the USAID/OFDA-funded earthquake preparedness program. Photo by Irene Gago, USAID/OFDA

USAID/OFDA and Miyamoto International Team Up To Strengthen Earthquake Preparedness in San José

With support from USAID/OFDA, earthquake and structural engineering company Miyamoto International is helping national and municipal authorities in San José, Costa Rica, better prepare to respond to a major earthquake.

The program, entitled Preparing Rescue and Emergency Personnel to Ameliorate the Response to Earthquakes (PREPARE), is assessing the seismic risks facing those who live or work in the capital city to improve government response planning and local urban search-and-rescue (USAR) capabilities. The support is part of the Urban Disaster Risk Reduction (DRR) Program that USAID/OFDA implements throughout Latin America and the Caribbean.

Public agencies and first responders working with the program, which Miyamoto began in Costa Rica earlier this year and will implement in Pasto, Colombia, in the coming months, will also improve earthquake response preparedness by addressing the most likely stumbling block to recovery following a

massive event: rubble management.

“How do you deal with massive amounts of debris after a significant earthquake? This can paralyze a city after an earthquake. How can you make sure first responders have access to those who need help? What are the steps for successful demolition of unsafe buildings? Where do you put all the debris, especially if some of it is hazardous?” commented Forrest Lanning, Miyamoto structural engineer and PREPARE Program Manager.

In Costa Rica, the USAID/OFDA-funded program will help partner organizations answer these questions to create more effective earthquake response plans. Program partners include the National Commission for Risk Prevention and Disaster Response (CNE), the Municipality of San José, the Costa Rica Firefighters Corps, the University of Costa Rica (UCR) Civil Engineering School and National Materials and Structural Models Laboratory (LANAMME), the Costa

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Central American Program to Strengthen Comprehensive Disaster Management

With support from USAID/OFDA, the Central American Coordination Center for the Prevention of Natural Disasters (CEPRENAC) is working to strengthen the institutional capacities and increase the effectiveness of national disaster management systems and civil defense agencies in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

USAID/OFDA is contributing \$1 million to the two-year CEPREDENAC program, which began this month and expects to benefit more than 1 million people, including more than 6,000 direct beneficiaries.

Entitled “Strengthening Institutional Capabilities for Comprehensive Disaster Risk Management and Climate Change Adaptation in the Central American Region,” the program aims to improve regional capabilities identified

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From left: Kurt Pope, USAID/Honduras Deputy Mission Director; Tim Callaghan, USAID/OFDA Senior Regional Advisor; Lisandro Rosales, Minister of the Honduras National Emergency Commission (COPECO); and Roy Barboza, CEPREDENAC Executive Secretary launch the USAID/OFDA-supported DRR program. Courtesy of COPECO



PREPARE program staff train firefighters and engineering students how to collect building survey data to be used to create hazard maps. Courtesy of Miyamoto International

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Rican Ministry of Public Education, and the Costa Rican Social Security Administration (CCSS), which manages hospitals and clinics.

“Our main goal is to reduce the number of casualties as well as the social and economic impact of a major earthquake,” explained Diana Ubico, National Manager of the Costa Rica PREPARE program.

The program will categorize San José into different areas using seismic hazard data, aerial photography, satellite imagery, soil data, and building sample survey data, including approximate age, construction type, number of occupants during the day and night, and likely performance during earthquakes of various intensities. To assist with data collection, teams of firefighters and engineering students carried out field surveys among residential buildings, public schools, hospitals, and other buildings in April.

Once the field survey results have been compiled with seismic hazard and soil data, the program will use a global seismic risk assessment model to create color-coded maps of projected building damages, collapses, and associated casualties based on varying earthquake scenarios. The maps will help guide local government agencies’ and USAR teams’ training and response planning and preparedness efforts.

The information “is like a crystal ball, in a sense, allowing us to see how the city will hold up during an earthquake. City authorities and emergency responders need this information to guide policy and decision making,” said Álvaro

Poveda, Deputy Director of UCR’s Civil Engineering School.

Miyamoto International also will help stakeholders develop and coordinate a plan to have qualified assessment teams systematically evaluate the post-disaster safety or habitability of earthquake-affected structures.

“After an earthquake, it is important to let people know whether they can go back to using their buildings, or, if the buildings are damaged, what is required to rehabilitate them,” explained USAID/OFDA Regional Advisor Phil Gelman, who worked with Miyamoto International to conduct a large-scale habitability assessment in Port-au-Prince following the Haiti earthquake in 2010. “In Haiti, the post-event habitability assessments took a long time because we had to develop the tools and equip and train the teams after the quake. The PREPARE program aims to set up such a system in advance, so that habitability assessments can be performed much quicker after an earthquake.”

The PREPARE program is generating significant enthusiasm among stakeholders, according to Miyamoto International.

“We feel that we are going to make a huge impact on earthquake preparedness in San José, Costa Rica, and Pasto, Colombia. Getting local stakeholders involved and a policy framework in place requires time and coordination among many organizations. Fortunately, both cities have a good track record of working to reduce their risk and increasing their capabilities to respond effectively,” Lanning said.

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during the early stages of implementation of the Comprehensive Disaster Risk Management Policy for Central America and the Regional Plan for Disaster Risk Reduction by building local and national capacities as a foundation for stronger regional capacities.

Specifically, the USAID/OFDA-funded program is promoting the exchange of experiences and good practices in comprehensive disaster risk management within the region, with a focus on greater inclusion of women in processes, and working to strengthen the regional mechanism of cooperation and joint actions on behalf of participating countries.

The program also promotes specialized and technical training for staff of the national disaster management agencies, aims to increase the inclusion of DRR management in educational curricula, and supports USAR and forest fire response drills and simulations in each country as well as at the regional level. Additionally, the program will develop a regionally available virtual course on comprehensive disaster risk management.

Finally, the program aims to strengthen the capabilities of CEPREDENAC’s Executive Secretariat to better support the six Central American countries and increase awareness of other USAID/OFDA-supported national and regional disaster management activities.

CEPREDENAC launched the program in Tegucigalpa, Honduras, on April 5.

During the inauguration ceremony, CEPREDENAC Executive Secretary Roy Barboza noted that the program provides an opportunity to implement effective and efficient disaster risk management in order to help preserve and elevate quality of life among Central American men and women.

According to USAID/OFDA Senior Regional Advisor Tim Callaghan, “This program is part of our continued support for disaster preparedness and strengthening of disaster response systems throughout the region. We are happy to partner with CEPREDENAC to increase local and national capacities to prepare for disasters and reduce disaster risks. We are committed to understanding the realities and needs of the countries, so that we know how to best direct our resources to help achieve disaster management goals.”

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