

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

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



At the end of each training, program participants build a community infrastructure project incorporating locally available materials, such as bamboo, into the construction. *Photo courtesy of Miyamoto International*

### USAID/OFDA Helps Earthquake-Affected Populations in Ecuador Build Safer Homes

It has been more than two years since a magnitude 7.6 earthquake struck Ecuador's northern coast, causing at least 660 deaths and displacing more than 30,000 people. While seaside communities in Ecuador remain vulnerable to seismic activity, USAID/OFDA and partners are working with local authorities and disaster-affected community members to promote the building of earthquake-resistant homes.

With nearly \$350,000 in USAID/OFDA funding, structural engineering company Miyamoto International is targeting nearly 750 homeowners, local builders, and masons from Manta, Pedernales, and Portoviejo cantons in Manabí Province for participation in a 20-hour training program, entitled the Ecuador Building Resilience Program (EBRP), on cost-effective solutions for constructing seismically sound structures.

EBRP was designed specifically for the Ecuadorian context and includes workshops on how to build safer, reinforced houses using locally available materials such as bricks, cement, and bamboo. The workshops feature hands-on participation so that trainees receive

practical experience using the construction methods and are prepared to apply skills learned in their communities.

At the conclusion of each training program, homeowners and builders work together on a community infrastructure project, applying skills learned in the classroom and incorporating locally available building materials into the design and construction. In addition, a public awareness campaign reinforces key messages from the training through mass media, social media, and community fairs.

"This training program was designed to provide builders with the latest information on seismically resilient construction practices while empowering earthquake-affected, low-income homeowners to recognize and hold local builders accountable for adhering to construction standards and codes," said Miyamoto International Regional Program Manager Corey Michaud.

"The program has taken steps to promote the expanded use of bamboo as a cost-efficient,

*Continues on page 2*

### USAID/OFDA Supports Ecuador's First National USAR Mobilization Exercise

USAID/OFDA, through its Regional Disaster Assistance Program (RDAP), recently provided technical assistance to the Government of Ecuador (GoE) Risk Management Secretariat (SGR) for the planning, organization, and implementation of Ecuador's first national urban search and rescue (USAR) mobilization exercise. In addition, RDAP provided more than \$26,000 for the local purchase of tools and equipment—including electric generators and communications technology—utilized during the exercise, as well as to fund the participation of eight international observers from Brazil, Chile, the Dominican Republic, Honduras, and Peru.

Built around an earthquake scenario with real-time response, the exercise was held from June 28 to July 1 in the city of Portoviejo, Manabí Province. All emergency action plans and protocols were activated, including the deployment of USAR teams from different areas of Ecuador to rescue people trapped in collapsed structures and the mobilization of medical staff to provide life-saving assistance to earthquake victims. The exercise provided a unique and dynamic

*Continues on page 2*



An SGR official thanks USAID/OFDA for its support, at the end of the USAR exercise. *Photo by Ulises Cordero, USAID/OFDA*

*USAR Mobilization Exercise continued from page 1*

opportunity to test response actions and identify and resolve challenges in a realistic scenario.

The mobilization exercise included the participation of first responders from several institutions of Ecuador's National Emergency Risk Management System (SNDGR), including accredited USAR teams from Cuenca, Guayaquil, and Quito firefighters corps; emergency personnel from Ecuador 911, the GoE Ministry of Health, the National Police of Ecuador, the National Transportation Administration; and a contingent of search dogs.

"This mobilization exercise bolstered participants' capacity to effectively respond to earthquakes and other disasters that require a significant search-and-rescue response. USAID/OFDA is committed to continue supporting Ecuador's disaster response preparedness and USAR capabilities," said USAID/OFDA Senior Regional Advisor Tim Callaghan, who was an observer at the exercise.

USAID/OFDA, through RDAP, has provided training programs and technical assistance to Ecuador since 1989. Each year, USAID/OFDA supports an average of 10 training events in the country.



Last June, USAID/OFDA's RDAP funded the participation of a team of eight international observers at the first national USAR mobilization exercise in Ecuador. Photos by Ulises Cordero, USAID/OFDA

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*Ecuador Safer Homes continued from page 1*

locally sustainable alternative to conventional building materials. In the aftermath of the 2016 earthquake, we could see that people in Ecuador respected bamboo as a building material for its seismic-resistant properties, as most of the homes built with this material withstood the earthquake with minimal or no damage," said USAID/OFDA Regional Advisor Sarah McNiece, after visiting one of the training sites in June.

EBRP, which began in 2017, features the collaboration of local partners—including the Laica Eloy Alfaro University of Manabí, the Pacific International Center for Disaster Risk Reduction, Save the Children Ecuador, and SGR—who are working together with Miyamoto International to deliver capacity-building activities to builders and residents. In addition, the program has engaged community leadership councils, established during the launch period, to mobilize local participation in the trainings and in the selection of community infrastructure projects.

"The strength of the program stems from strong community participation coupled with expert technical instruction and well-designed training materials," Michaud said. "The curriculum balances classroom learning with hands-on experience that is reinforced by the communities participating in the project."

San Vicente Canton Mayor Roxana Sevalos noted, "I am very grateful to Miyamoto and USAID/OFDA for the training provided to our community members. Through this training, they have learned about reliable construction techniques and how to use bamboo, a resistant material widely produced in our province. This type of program helps bolster the canton's development and reduce the risk of disasters."

"I live in an earthquake-prone coastal community, where most of the houses built of bamboo resisted the 2016 earthquake. This training has provided me guidance on how to build a safer home using bamboo and other resistant materials while avoiding common mistakes that could increase the risk of injury and death during an earthquake. I can now tell if contractors are building well and following building codes," said program beneficiary Edwin Aimacaña.



EBRP training program includes workshops on how to build safer, reinforced homes using locally available materials such as bricks, cement, and bamboo. Photo courtesy of Miyamoto International