



Office of U.S. Foreign Disaster Assistance (USAID/OFDA) Regional Office for Latin America and the Caribbean, San José, Costa Rica

DISASTER PREPAREDNESS



Photo by Krystal Hartman, USAID/OFDA

Brasilia is the capital of Brazil and the seat of the Federal District. The city is known for its modernistic architecture and progressive views geared toward transforming Brazil's emergency response system into a framework for resiliency.

Building Brazil's Resilient Cities

As Brazil's economy and national capacity grow, USAID/OFDA continues to help build the nation's response capability and reinforce a culture of resilience pertaining to the modern-day challenges of climate change and the need to reduce urban disaster risk. Examples of how USAID/OFDA collaborates with Brazil's emergency systems in numerous ways, most notably in the Federal District and Sao Paulo, and Santa Catarina states.

Home to Brazil's capital, Brasilia, the Federal District, is one of the principal cities for training and building capacity of civil defense teams and firefighter brigades. Over the years, USAID/OFDA has trained teams from the Federal District through the Re-

gional Disaster Assistance Program (RDAP) course portfolio, including the Basic Life Support and Training for Instructors courses.

Speaking to the evolution of Brazil's emergency system, former Civil Defense Coordinator for the Federal District Dr. Nilo Lima noted, "Since 2000, USAID/OFDA and the Brazilian Civil Defense have had an alliance towards progress, especially through [USAID/OFDA's] emergency response framework, the risk management projects, and courses that train instructors. Such programs have helped establish a baseline for the eventual formation of Brazil's national emergency system."

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(From left) USAID/OFDA disaster risk management specialist (DRMS) for Brazil and USAID/OFDA information officer speak with Colonel Aurelio, Coordinator of Sao Paulo's State Civil Defense, about projects to increase the city's resilience to disasters.



Photo courtesy of Sao Paulo Civil Defense

DISASTER RISK REDUCTION

Rio do Sul: Brazil's Model City for DRR Planning

One of USAID/OFDA's most notable achievements in the adoption and implementation of its emergency response framework in Latin America and the Caribbean (LAC) is found in the one mountain community situated at the confluence of three rivers where flooding is an annual reality.

In the heart of Santa Catarina State in southern Brazil, Rio do Sul Municipality is located where the Itajai South and Itajai West rivers join with the formidable Itajai-Açu River. Approximately 62,000 residents of this rapidly growing city have learned to live with heavy rains and a flood cycle that reaches peak heights every twenty five years on average.

In September 2011, after weeks of intermittent heavy rains followed by seven days of torrential downpours, the Itajai-Açu River reached record heights not seen in more than a quarter of a century. Water levels rose 13 meters above mean-river height, leaving nearly 13 percent of Rio do Sul's urban center submerged under two meters of water. Unlike the 1983 and 1984 floods of similar magnitude, which resulted in numerous fatalities and required several months of recovery efforts, the Rio do Sul municipal government, State and Federal Civil Defense, and emergency management authorities responded quickly and efficiently to the 2011 flood.

In the words of Municipal Coordinator for the Rio do Sul Civil Defense Andre Gustavo Wormsbecher, who helped lead the 2011 flood response, "By modeling [USAID/OFDA's] emergency contingency plan and adapting it to the specific needs of our city, in addition to USAID/

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Photo by Krystal Hartman, USAID/OFDA

One of three principal dams leading into the Itajai-Açu River helps monitor and maintain river levels in an effort to protect residents of Rio do Sul and 37 other municipalities located downstream.



Photo by Krystal Hartman, USAID/OFDA

In line with USAID/OFDA methodology, government authorities in Brazil's urban centers, including Florianópolis (above) in Santa Catarina State, are realizing that risk prevention measures, such as advanced weather forecasting, can save lives.

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Today, Brasilia continues to spearhead the nation's growth in emergency management and prevention as it prepares to receive the 2014 FIFA World Cup and the hundreds of thousands of fans expected to visit.

In Sao Paulo State, authorities are working together to improve overall disaster response on multiple levels. USAID/OFDA DRMSs and urban search-and-rescue experts work with government officials to incorporate USAID/OFDA training and technical assistance to enhance response capacity for flooding and landslides, hazardous material first response, urban fire management in limited-access favela communities, and high altitude rescue training, especially important since Sao Paulo residents reside primarily in high-rise apartment buildings that pose numerous rescue challenges. Sao Paulo is also aggressively pursuing risk reduction measures through urban restructuring in some of its most vulnerable neighborhoods, including providing safe housing, facilitating community cohesion, and promoting greater accessibility to health and education. Additionally, in line with the U.N. International Strategy for Disaster Reduction's Resilient Cities Campaign and incorporating USAID/OFDA's emergency response framework, the federal and state civil defense and national firefighter corps in Sao Paulo recently developed a database consisting of interactive software to map and track disaster incidents, accidents, and risks in the macro-metropolitan area, which comprises 208 municipalities and is home to an estimated 42 million people.

The Secretariat of Florianópolis State Civil Defense - located in Florianopolis, Santa Catarina State - has drawn a contingency timeline that aims to train and equip the state's municipalities and strengthen response capacity. Where necessary, authorities will establish emergency operation centers along with supplemental training and technical assistance for local emergency responders and staff. The Santa Catarina municipal civil defense also plans to install a meteorological radar with prognostic forecast capacities for up to 75 percent of the state; existing radars in neighboring Paraná and Rio Grande do Sul states will supplement the meteorological data to provide broad coverage for Santa Catarina.

USAID/OFDA has helped build capacity for integrated risk management planning in Brazil since 1987. Alongside its team of specialized disaster experts, USAID/OFDA has a regional advisor who oversees humanitarian activities in Brazil and a Brazil-based DRMS who together have actively coordinated risk management training and technical assistance activities through RDAP. Working closely with Brazil's federal- and state-level civil defense - comprising the county's firefighter brigades, emergency medical response organizations, and military and police forces - as well as federal, state, and private universities, USAID/OFDA has contributed to the evolution of a comprehensive national disaster risk management plan.

DISASTER RISK REDUCTION

USAID/OFDA DRMS Antonio Pinheiro and UDESC's DRR expert Vicente Lapolli stand in front of Rio do Sul's municipal government headquarters, where historic flood levels are recorded on the entrance walls.



Photo by Krystal Hartman, USAID/OFDA

Rio do Sul

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OFDA training courses and technical assistance, the individual roles of each response organization during the 2011 flood - including local-government actors, national and local civil defense authorities, and emergency response teams - were well defined and the necessary steps for a successful response and recovery clearly communicated."

By evaluating the city's Geographic Information System database - developed through an agreement with Santa Catarina State Secretary of Planning and Civil Defense and modeled after USAID/OFDA's disaster response framework - Rio do Sul's Civil Defense took risk mitigation measures that directly saved lives. As a result of this effort, authorities successfully alerted local populations of the impending floods and evacuated an estimated 12,000 people from vulnerable neighborhoods, housing those without alternative lodging in 28 pre-identified and equipped emergency shelters. Emergency crews also enacted protective measures for local infrastructure and prepared the city for possible damage.

For the first time in Rio do Sul history, authorities and emergency responders conducted an after-action review to identify the strengths and weaknesses of the city's emergency response plan and the actions taken. In addition, authorities analyzed the management of the three river dams leading into Rio do Sul that ensure that 38 municipalities, including the industrial metropolis of Blumenau, are protected from the majority of inundations. USAID/OFDA DRMS for Brazil Antonio Pinheiro and partner Santa Catarina State University (UDESC) provided technical assistance for the after-action review meeting.

In addition to the after-action review, the Rio do Sul municipal government is taking the initiative to increase awareness by implementing public education and flood preparedness campaigns, as well as through offering tax incentives for populations that build second stories on their homes and businesses in high-risk areas. The municipality also plans to build an additional four dams in the near future.

With support and guidance from USAID/OFDA and partner UDESC, Rio do Sul represents the successful incorporation of disaster risk reduction (DRR) on a municipal level. In turn, USAID/OFDA plans to model its RDAP portfolio DRR course around the example of Rio do Sul.

Photo by Krystal Hartman, USAID/OFDA



Rio do Sul valley, where 2011 flood waters reached 13 meters.

DISASTER RISK REDUCTION

2014 World Cup Preparations Include Advanced Disaster Planning

Brazil is gearing up in preparation for the 2014 FIFA World Cup, scheduled to take place in 12 states across the nation and expect to attract more than three million fans to the games.

Brazil's capital city of Brasilia - one of the principal venues for the matches - is in full throttle with upgrades and innovations to the city's infrastructure. The city replaced the old stadium with the modernistic Mané Garrincha Stadium, which is within walking distance of the hotel district. These and other sounds of construction fill the air as hotels and restaurants make additions to accommodate the expected crowds.

Yet preparations are not limited to beautifying the city's already notable façade. State and federal civil defense authorities are aggressively engaged in proactive risk reduction measures in anticipation of the population increase.

According to Major Clayson Augusto of Brasilia's Civil Defense and Pre-Hospital Emergency Attention Group, more than 40,000 emergency responders nationwide have received basic life support and instructor training in Brasilia through RDAP in the past 15 years. Many have become course instructors, adapting USAID/OFDA course methodology to suit state and municipal needs, such as in Brasilia where significant international events are commonplace.

Local officials in Brasilia have developed a district public safety plan, based largely on USAID/OFDA's emergency response framework, which was adopted into the city's emergency system in 2000. The safety plan incorporates roles and responsibilities of each participating emergency response organization, as well as a matrix of 93 different emergency/disaster scenarios that could possibly occur during the games.

Local response authorities successfully put the safety plan to the test during the 2013 FIFA Confederations Cup, rehearsing for the larger scenario of the World Cup.



Photo by Krystal Hartman, USAID/OFDA

Mané Garrincha National Stadium in Brasilia holds approximately 70,000 spectators.

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DISASTER PREPAREDNESS



Photo by Krystal Hartman, USAID/OFDA

Brazil's Superior Firefighter Academy offers firefighters, emergency first responders, military, and police brigades - from cadets to officers - disaster response preparedness training and capacity building.

USAID/OFDA Supports Brazil's Top Firefighter Academy

Brazil's Superior Firefighter Academy in Franco da Rocha Municipality, Sao Paulo State, is arguably one of the best first-responder institutions in Latin America. USAID/OFDA RDAP training courses and workshops are core components of the school's curriculum, including the Training for Instructors, Medical First Responders, and more recently, the Search-and-Rescue in Collapsed Structures courses.

Boasting a 110 hectare campus and training grounds, live-in quarters for 700 people, 32 classrooms to accommodate up to 1,000 students and staff, and state-of-the-art equipment, the school also offers the ability to practice an extensive range of rescue scenarios, including aerial and water rescues, forest fire management, and high-rise and collapsed building extractions. Unlike many firefighter academies, the Superior Firefighter Academy trains a range of emergency responders, including state- and federal-level firefighters, emergency medical responders, military personnel, and police teams.

Since 2010, the Brazil-based USAID/OFDA DRMS and other USAID/OFDA disaster specialists in LAC have worked with the academy to provide technical assistance for the design and development of course material, integrate new developments in resiliency and business continuity planning, and promote the advancement of DRR. Going forward, the academy plans to incorporate the updated DRR course based on the 2011 flood response in Rio do Sul Municipality, Santa Catarina State.

Photo by Krystal Hartman, USAID/OFDA

Firefighter cadets receive training in front of two state-of-the-art fire simulation towers.

