

OFDA Volcano Preparedness Programs Save Lives Across the Globe

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Volcanic hazards, including toxic gas emissions, lava flows, landslides, and ashfall, can kill people and destroy property within hundreds of kilometers. Fortunately, volcanoes often show signs of imminent activity that scientists and other observers can use to warn communities in the vicinity. Since 1986, OFDA has worked to mitigate volcanic hazards through a partnership with the U.S. Geological Survey known as the Volcano Disaster Assistance Program (VDAP). VDAP initiatives provide technical assistance to volcano-monitoring organizations throughout the world and include crisis response, training for risk assessment, early warning plans, and the transfer of volcano-monitoring equipment and technology.

In FY 2006, several active volcanoes were a source of concern for residents living in surrounding communities, and four volcanic eruptions resulted in USG disaster declarations. These events illustrated how investing in people and building capacity among national volcano-monitoring institutions can achieve tremendous results and minimize loss of life. Two examples occurred in April 2006 at Mt. Merapi in Indonesia and in August 2006 at Tungurahua in Ecuador.

The increase in volcanic activity at Mt. Merapi prompted the deployment of a four-member OFDA-funded VDAP team that assisted Indonesian authorities and upgraded seismic-monitoring equipment.



Volcanic eruptions at Mt. Merapi threaten local populations in Indonesia (USAID/Indonesia).

Rigorous surveillance by the Indonesian Volcano Technology Development and Research Agency provided critical information that led to the decision to evacuate as many as 20,000 citizens, the majority of whom included children, pregnant and lactating women, and the elderly, at the height of volcanic activity. Alongside this technical support, OFDA funded the Indonesian Red Cross (PMI) to assist families evacuated from the vicinity of the volcano. PMI and local authorities organized evacuation centers, set up early warning systems, and briefed local citizens on the hazards of an eruption at Mt. Merapi.

Several months later, VDAP's long-term relationship with and technical assistance to Ecuador's Instituto Geofísico helped successfully forecast the eruption at Tungurahua volcano in August 2006. Again, careful monitoring and interpretation of the volcano's behavior and characteristics permitted the timely evacuation of 19,000 residents from the danger zone. VDAP also replaced the seismic-monitoring equipment destroyed in the eruption.

VDAP's efforts encompass a range of mechanisms that draw from OFDA's technical assistance capacity and expertise. OFDA-funded VDAP assistance also included the deployment of a volcanologist to El Salvador to assist with increased activity at Santa Ana volcano in October 2005 and the shipment of equipment to the Observatorio Vulcanológico y Sismológico in Costa Rica to measure volcanic gas emissions from Poás volcano in April 2006. In Asia, OFDA provided support to the Philippine National Red Cross to care for families evacuated from the vicinity of Mount Mayon volcano in Bicol Province, Philippines, in September 2006. In addition, VDAP is engaged in a multi-year project to assist the Center of Volcanology and Geological Hazard Mitigation in Indonesia to improve volcano hazard monitoring and assessment through the construction of a regional volcano observatory for North Sulawesi and the nearby Sangihe Island volcanoes, where more than 500,000 people live on the flanks of hazardous volcanoes. VDAP members also deployed to Papua New Guinea and the Philippines to assist with volcanic emergencies in FY 2006.



OFDA preparedness programs in Ecuador helped to ensure that local populations safely evacuated prior to the eruption at Mt. Tungurahua (Sydney Velado, USAID).