

there are mass movements of populations and where large groups of IDPs or refugees tend to gather in camps or settlements. Since the disease spreads so rapidly, responding with an adequate disease control program is critical to saving lives.

Although cholera can be life threatening, it is easily treated through the immediate replacement of fluids and salts lost through diarrhea and vomiting with oral rehydration salts (ORS). In the most severe cases, an intravenous ORS solution is administered until the patient is able again to ingest fluids. With prompt rehydration, less than 1% of cholera patients die. However, in communities that are ill-prepared for outbreaks, fatalities can be as high as 50%. As with cholera, the dehydration caused by shigella-induced diarrhea is treatable with ORS, although antibiotics can also effectively treat shigellosis.

In 1994, USAID/OFDA provided assistance to Rwandan refugees in Goma, Zaire, now the Democratic Republic of the Congo (DRC), during a severe cholera epidemic in refugee camps in which some 58,000-80,000 cases were reported and 23,800 deaths from cholera occurred within one month. Medical experts from the CDC sent to Goma by USAID/OFDA found that many NGO health workers providing relief assistance during the cholera epidemic were not sufficiently trained to manage cholera effectively, nor did they know how to administer ORS intravenously.

Following the Rwanda experience, USAID/OFDA decided to address the unmet need for additional training in cholera treatment in disaster settings. Since 1995, USAID/OFDA has supported a training course on emergency response to cholera and shigella epidemics, through the ICDDR,B. The two-week course is offered twice a year for 16-18 participants. The participants must have the technical competence to utilize the training in order to impart the techniques learned to others in their organizations. Since the inception of the program in 1995, 76 people have attended the course, mostly technical health professionals from NGOs working in Africa. The course is conducted at the Clinical Service and Research Center in Dhaka and Matlab, Bangladesh, where more than 100,000 diarrhea patients are treated annually.

The training provides course participants with hands-on experience in the management of diarrheal diseases, including cholera epidemics. The coursework includes lecture sessions, bedside demonstrations, case management discussions at the ICDDR,B Hospital, and fieldwork outside Dhaka that incorporates epidemiological surveillance, diagnosis, and exposure to real epidemic management in a field setting. The success and popularity of the training are due to practical bedside sessions and field visits to nearby medical facilities treating cholera patients.

An evaluation of the 55 professionals who attended the training from 1995-1998 was conducted in 1999. More than half of the respondents reported having been involved with the management of cholera or shigella since taking the course, specifically, in Sudan, Somalia, Mozambique, DRC, Uganda, Kenya, Afghanistan, and Pakistan. Graduates described the practical, disaster management aspect of the course as most important. Half of the respondents had implemented a formal action plan for responding to their outbreaks. For example, Jeylani Dini, Health Program Officer and Officer in Charge with UNICEF in Mogadishu, Somalia, who participated in the ICDDR,B training from April 26 to May 7, 1998, wrote "we succeeded to contain and put under control a cholera epidemic which prevailed in Mogadishu City for the last 2-3 months. I am now being called to anywhere in Somalia [where] cholera is detected or suspected. I express my thanks and appreciations again to the USAID/OFDA office and ICDDR,B."

While cholera epidemics and outbreaks of shigella are an ongoing reality during droughts, floods, or civil strife, the ability of additional health care professionals to reduce the impact from these epidemics, especially the fatality rates, is encouraging for USAID/OFDA as it continues to support the Bangladesh training courses.

—Olga Bilyk

CAMBODIA

FLOODS

Annual monsoons led to unusually heavy flooding along the Mekong River in northeast and central Cambodia during August 2001. According to the Government of Cambodia's National Disaster Management Office, the floods affected more than 1.5 million people and displaced more than 400,000 residents. The floodwaters destroyed or damaged crops, public buildings, houses, and roads.

On August 31, U.S. Ambassador Kent M. Wiedemann declared a disaster due to the effects of the flooding. USAID/OFDA provided \$25,000 through USAID/Cambodia to the American Red Cross for the procurement of shelter materials for flood victims.

USAID/OFDA Assistance\$25,000

CHINA

EARTHQUAKE

On February 14 and 23, 2001, two earthquakes measuring 5.0 and 6.0 on the Richter Scale struck Yajiang County in the Ganzi Tibetan Prefecture of northwest Sichuan Province, respectively. The earthquakes and subsequent aftershocks damaged or destroyed numerous houses. Due to the destruction of roads and bridges, which serve as key access routes into the county, building materials for the rehabilitation and reconstruction of houses were unavailable in the affected area through the summer of 2001, forcing many families to remain in makeshift shelters.

On June 18, U.S. Chargé d'Affaires Michael W. Marine declared a disaster in response to continuing emergency needs resulting from the earthquakes. USAID/OFDA responded by providing \$40,000 to Kham Aid Foundation, a U.S.-based NGO, for the replacement of a bridge destroyed by the earthquakes. The new bridge facilitated access to the four most severely affected townships (Egu, Boshihe, Yayihe, and Bayirong), thereby promoting recovery.

USAID/OFDA Assistance\$40,000

CHINA

WINTER EMERGENCY

On December 31, 2000, a blizzard blanketed a number of rural prefectures in Inner Mongolia, an autonomous region in northern China. The storm left snowdrifts more than two-meters deep and temperatures minus 40 degrees Celsius. Xilingol Prefecture was most severely affected, though the prefectures of Tongliao, Chifeng, Xingan, Hulunbeir, and Ulanqab were also impacted. According to IFRC, the blizzard killed at least 39 people and more than 220,000 head of livestock, the mainstay of the rural economy and principal source of food for herders and their families. IFRC estimated that nearly 2.2 million people were affected by the snowstorms. Of this total, 400,000 residents required emergency food assistance. The U.S. Embassy in Beijing reported that the storm isolated more than 1.3 million people and damaged more than 17 million hectares of grazing land.

On January 19, U.S. Ambassador Joseph W. Prueher declared a disaster due to the effects of the winter conditions in Inner Mongolia. USAID/OFDA responded by providing \$100,000 through the U.S. Embassy to IFRC in support of its international appeal. The funds were used to purchase 523 MT of wheat flour, which was distributed by the Chinese Red Cross to herders in Xilingol Prefecture.

USAID/OFDA Assistance\$100,000

INDIA

DROUGHT

In FY 2001, India experienced extreme regional drought conditions that were considered to be as severe as the drought of 1987-1988, the so-called "drought of the century." Drought conditions extended through Pakistan, Afghanistan, and across India from Rajasthan and Gujarat states in the west to Orissa State in the east. According to the Government of India (GOI), the drought affected the states of Andhra Pradesh, Chattisgarh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Orissa, and Rajasthan. Rajasthan and Gujarat states, which were still recovering from the massive earthquake of January 26, 2001, experienced the most severe drought conditions. The GOI reported that more than 125 million people were affected in approximately 1.1 million villages within 152 districts

of eight states. The drought not only damaged the potable water supply, but also led to the loss of sustainable livelihoods until the monsoon season started in July 2001.

During late April and early May 2001, a USAID/OFDA regional advisor assessed drought conditions and emergency humanitarian needs throughout the affected states. Based on the recommendations of this assessment, on May 15, U.S. Chargé d'Affaires Albert A. Thibault declared a disaster due to the effects of the drought. On May 16, USAID/OFDA provided \$25,000 through USAID/India to the Prime Minister's National Disaster Relief Fund to help meet the emergency needs of drought victims.

On June 21, USAID/OFDA provided \$388,720 to CARE and \$835,723 to CRS for cash-for-work projects in some of the most affected communities. These programs generated purchasing power for critical items such as animal fodder and food commodities in the states of Rajasthan and Gujarat. During June, a USAID/OFDA program officer was deployed to assist USAID/India in program management, disaster monitoring, and field reporting.

USAID/OFDA Assistance\$1,249,443

INDIA

EARTHQUAKE

On January 26, 2001, at approximately 8:46 a.m. local time, an earthquake measuring 7.7 on the Richter Scale struck western India. The USGS placed the epicenter of the earthquake at 69 km northeast of Bhuj in Gujarat State. According to the Government of India (GOI), the earthquake affected nearly 8,000 villages in 21 districts, resulting in the death of 20,005 residents and serious injury to 20,717 people. Nearly 16 million people were affected by the earthquake, of whom approximately 600,000 were temporarily displaced. Total infrastructure losses exceeded \$453 million, including damage or destruction to more than one million houses and 23,000 classrooms and the loss of three hospitals, 21 primary health centers, four community health centers, and 140 health sub-centers. In addition, the effects of the earthquake disrupted the communication, electrical, water, sanitation, and food distribution systems, while destroying mills, food warehouses, and irrigation infrastructure. The earthquake increased the food insecurity of hundreds of thousands of residents in Gujarat State, an area



USAID/OFDA's water purification units produced an average of 78,000 liters of water per day for families affected by the earthquake in India (photo by Michael Ernst, USAID/OFDA).

where 48% of the population typically depends on the public distribution system and where a three-year drought had already increased the number of people in need of food assistance.

On January 28, U.S. Ambassador Richard F. Celeste declared a disaster due to the damage caused by the earthquake. USAID/OFDA deployed an 11-person DART to India to assess emergency humanitarian needs, facilitate and coordinate the implementation of USG assistance, and report on the humanitarian situation. USAID/DART members began arriving in India on January 27 and immediately proceeded to the affected area. Additional USAID/DART members were located in New Delhi and Ahmedabad. The USAID/DART determined that shelter and sanitation requirements were of primary concern, as other humanitarian needs were being met through ongoing local and international relief efforts. Based on the recommendations of the USAID/DART, USAID/OFDA provided nearly \$7.7 million for emergency humanitarian assistance. This assistance included two airlifts of relief supplies, consisting of four high-capacity water purification units, 10 water distribution kits, 4,152,000 sq. ft. of plastic sheeting, 830 tents, 16,000 blankets, 16,000 five-gallon collapsible water containers, nine 3,000-gallon water tanks, 10 generators, and 20 light stands, in addition to 200 concrete saws, 100 partner k-1250 saws and accessories for debris removal. The supplies and equipment were valued in excess of \$1.8 million.