

MEXICO YUCATAN
PENINSULA

GUATEMALA

HONDURAS

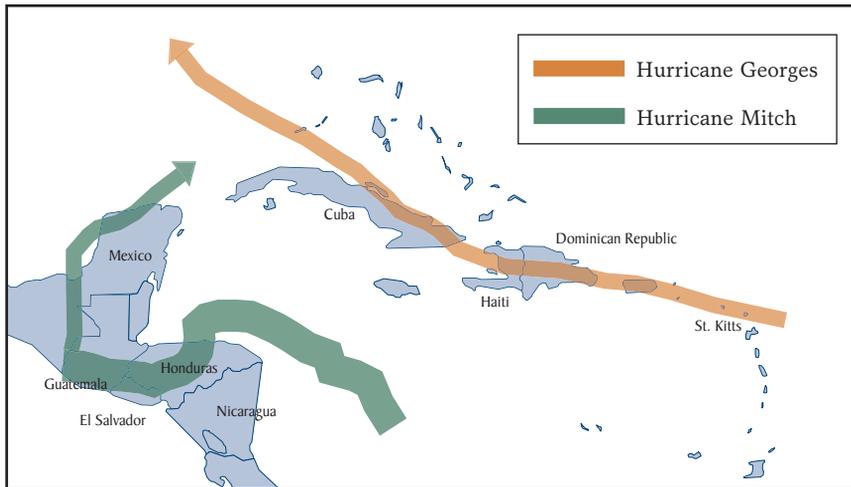
NICARAGUA



MISSION ACCOMPLISHED



The United States Completes
a \$1 Billion Hurricane Relief
and Reconstruction Program
in Central America and
the Caribbean



The ruinous track of Hurricane Georges, September 20–26, and the even more devastating path of Hurricane Mitch, October 23–November 3, 1998. A category 3 hurricane when it hit the Dominican Republic, Georges caused extensive damage as it moved slowly over some of the most populated and productive regions of the country. When Mitch struck Honduras the following month, it was a category 5 (the most intense on the hurricane scale). Though Mitch lost strength inland, its heavy rains caused catastrophic flooding and mudslides while it was stalled over Central America.

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Cover Photos

Front: The eye of Hurricane Mitch is a tiny oasis of calm encircled by deadly 180-mile-an-hour winds and torrential rains. (National Oceanic and Atmospheric Administration/National Environmental Satellite, Data, and Information Service). Picking up the pieces and "building back better" in Honduras. (Inter-American Development Bank; Paul Jeffrey: ACT-CCD; www.aes.tamu.edu/ESPAÑOL/Fotos/)

Back, left to right: Hurricane Mitch devastation in Honduras. Distribution of relief supplies in Nicaragua. (USAID) Honduras's Educatodos program, recipient of reconstruction funds. (Educatodos: Claudia Rodríguez). The Hurricane Georges rebuilding program in the Dominican Republic; new housing built after the earthquake in Colombia. (USAID)



The Disasters

Tegucigalpa, the devastated capital of Honduras, November 1998. (Inter-American Development Bank)

In September and October 1998, two hurricanes—Georges and Mitch—successively battered the Caribbean and Central America, leaving more than 19,000 dead or missing, displacing over 3 million people, and causing more than \$8.5 billion in damage.

Georges struck the Dominican Republic on September 22. During the 16 hours that the hurricane traversed the country, 130-mile-an-hour winds destroyed one-third of its forests and 90 percent of its crops. Torrential rains caused hillside villages to collapse; sea surges obliterated miles of coastal housing.

The Dominican Republic bore the brunt of Georges, though en route the hurricane had pounded Puerto Rico and the Eastern Caribbean—St. Kitts, Nevis, Dominica, St. Lucia, Antigua, and Barbuda—and continued on to wreak havoc in Haiti, Cuba, and the Bahamas.

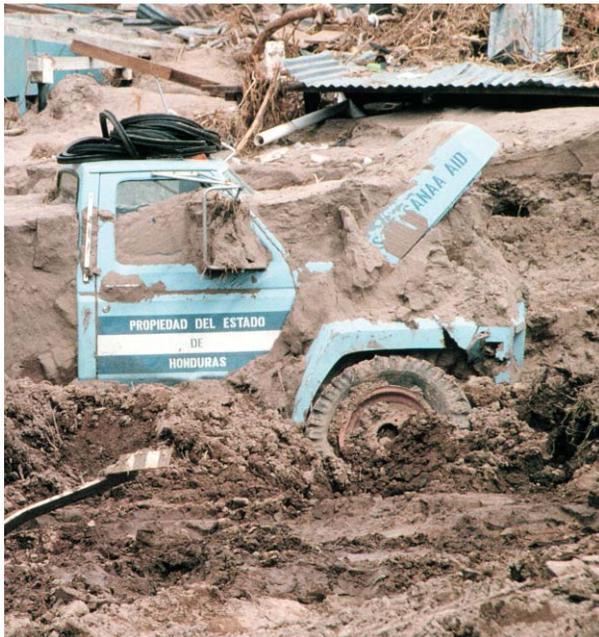
The worst was yet to come for the 1998 hurricane season. Mitch, the deadliest and most devastating Atlantic hurricane since 1780, emerged during the last week of October. It hovered off the coast of Honduras on October 26–27, generating winds up to 180



Flooding associated with Hurricane Mitch ruined transportation systems in Honduras. (USAID)

miles per hour and extraordinary rainfall. The hurricane then roiled over Honduras, Nicaragua, El Salvador, and Guatemala at a ruinously slow pace, exiting Mexico's Yucatán peninsula five days later. In parts of Honduras and Nicaragua, two feet of rain fell each day; some locations recorded accumulations of more than six feet.

Heavy rains swelled rivers into torrents that buried or demolished villages and towns. Floodwaters scoured away so much topsoil or deposited so much gravel and debris that farms and plantations were abandoned. Deforested mountain slopes could not support the weight of waterlogged earth: landslides swept away homes and destroyed rural road networks. In urban centers,



The mammoth rebuilding effort in Honduras was complicated by the destruction of equipment needed to repair and rebuild. (Inter-American Development Bank)

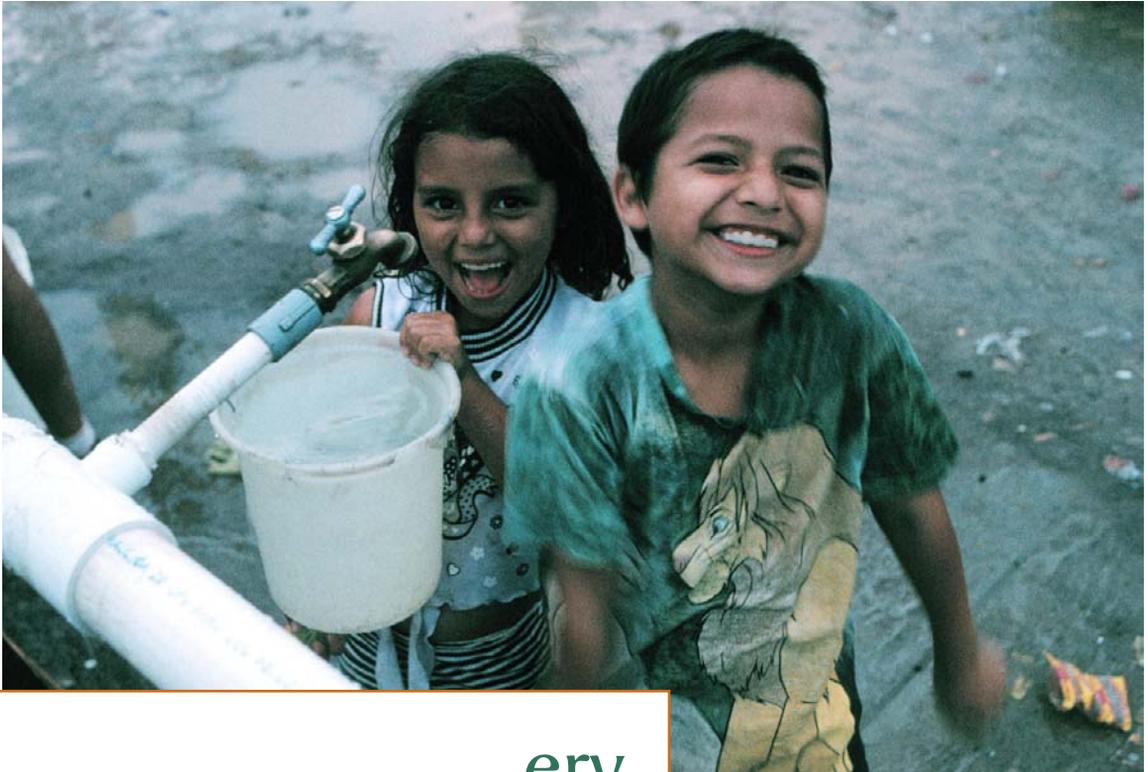


The locations of two buried Nicaraguan towns, El Porvenir and Rolando Rodriguez, engulfed in the volcano Casita mudflow on the night of October 30, 1998. Mitch's abnormally heavy rains triggered the slide. Warning ground tremor and "a roaring noise like helicopters or thunder" came only two minutes before the onslaught of fast-moving muddy debris almost a mile wide and nearly 12 feet deep. (U.S. Geological Survey)

surface water and pressure on underground pipes ruined water and sanitation systems.

The single most horrific event occurred in Nicaragua on October 30, 1998, when the side of the Casita volcano collapsed. Loose volcanic ash accumulated from centuries of eruptions became a deadly flow of mud and debris known as a lahar. During the night, it hurtled downhill at speeds of up to 60 miles an hour for seven miles, burying 2,000 people in the villages of El Porvernir and Rolando Rodriguez.

Mitch wiped out decades of investments in hospitals, clinics, schools, markets, municipal buildings, rural electrification, and irrigation systems. The hurricane also made rebuilding efforts more difficult by destroying equipment needed to repair and reopen roads.



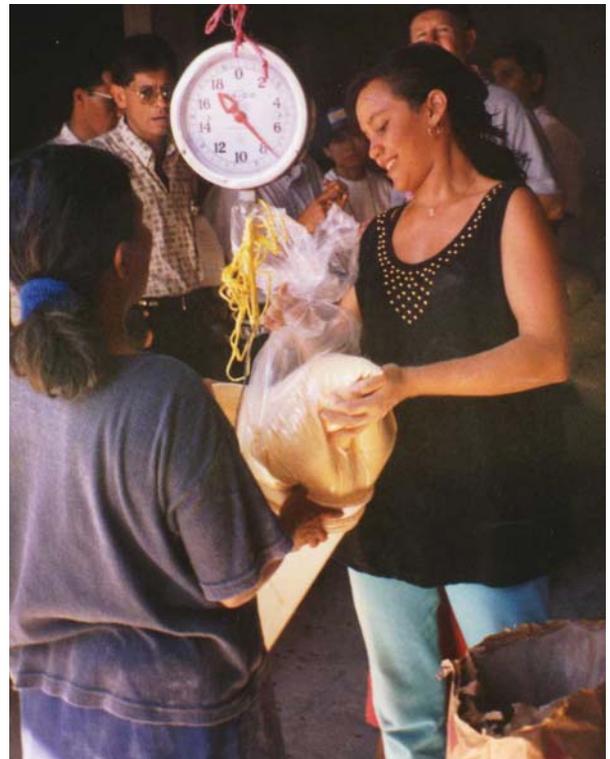
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Clean running water returns to Tegucigalpa, Honduras, after Hurricane Mitch. (Inter-American Development Bank)

Deeply affecting reports of the extent of the disasters continued for months. In the United States, the news brought out the best in volunteerism and politics. High-level, bipartisan delegations visited stricken areas to reinforce the message that the country was united in the great relief effort.

Under the guidance of the Office of Foreign Disaster Assistance, USAID and the U.S. military provided nearly \$300 million of emergency assistance: tons of food, helicopter transport, blankets, plastic sheeting, medicine, and potable water. Private citizens sent money, food, equipment, and clothing. In Central America, the distribution of relief often relied on helicopters to reach mountain communities isolated by wrecked and impassable roads and bridges.

Reconstruction: A Call to Action
Hurricane Mitch wiped out decades of



Amid the destruction and casualties, local citizens kept careful account of the distribution of relief supplies. (USAID)

development progress. The U.S. Government issued a "Call to Action" for a broad, all-cabinet response to reconstruction needs. In 1999, other countries were included in the call: Colombia (where a devastating earthquake leveled communities in the Armenia coffee region), the Bahamas (struck by Hurricane Floyd in September), and islands of the Eastern Caribbean (hit by Hurricane Lenny in November).

USAID determined needs, prepared the budget request to Congress for supplemental funds, and coordinated the participation of U.S. departments and agencies. After USAID and 12 other departments and agencies reprogrammed \$52 million to jumpstart recovery, Congress appropriated \$621 million for reconstruction, \$66 million for debt relief for Honduras and Nicaragua, and \$225 million to replenish military and USAID disaster assistance budgets depleted early in the fiscal year. Reconstruction funds were distributed among U.S. departments and agencies as shown in the table on the right.

Gearing Up Quickly

Other countries also responded generously. The magnitude of the international response to the disasters in Central America

required special arrangements to ensure the wise use of funds. In May 1999, donors gathered in Stockholm, Sweden, where they pledged \$9 billion in relief and reconstruction and established principles for managing the investment to be responsive to the region's vulnerabilities—"building back better" to mitigate future disasters.

Distribution of U.S. Government Supplemental Funds	
(\$ million)	
USAID	524.6
<i>Departments or Agencies with Direct Agreements with USAID</i>	
Department of Commerce, National Oceanic and Atmospheric Administration	16.0
Department of Interior, U.S. Geological Survey	13.2
Department of Agriculture	13.0
Department of Health and Human Services, Centers for Disease Control and Prevention	15.0
Federal Emergency Management Agency	3.0
Environmental Protection Agency	2.0
<i>Departments or Agencies Receiving a Transfer of Funds from USAID</i>	
Department of Housing and Urban Development	10.0
Department of Transportation, Volpe Center	2.0
U.S. Peace Corps	6.0
Export-Import Bank of the United States	2.7
Overseas Private Investment Corporation	1.0
U.S. Department of State	12.0
<i>Monitoring and Reporting</i>	
General Accounting Office	.5
Total	621.0
<small>Note: The U.S. Army Corps of Engineers received \$18.6 million under subagreements with USAID country missions.</small>	

Gravity-fed spigots lessen domestic work in Haiti, where the Hurricane Georges Recovery Program rehabilitated irrigation and potable water systems. (USAID)



The United States set an unprecedented goal of completing its massive reconstruction efforts in just 30 months. USAID added new development programs already underway in a dozen countries. USAID also coordinated \$96 million of programming by 12 other U.S. departments and agencies, many with no recent experience working with USAID-sponsored programs in Latin America.

Though development programs require substantial time to mobilize, the extent of damage

“Call to Action” Total U.S. Government Assistance (\$ million)

Countries Assisted <i>(Estimated number of dead and missing)</i>	Existing Resources and Debt Relief	Supplemental Appropriation	Total
Hurricane Georges			
Dominican Republic (200)	42.5	38.4	80.9
Haiti (400)	14.1	11.9	26.1
Eastern Caribbean (5)	1.9	3.5	5.4
<i>Subtotal</i>	<i>58.5</i>	<i>53.7</i>	<i>112.3</i>
Hurricane Mitch			
Honduras (14,000)	238.3	324.9	563.2
Nicaragua (3,500)	57.4	113.0	170.4
Guatemala (440)	42.5	35.9	78.4
El Salvador (370)	19.4	35.1	54.5
Costa Rica (6)	-	9.0	9.0
Central America Regional	-	27.3	27.3
<i>Subtotal</i>	<i>357.7</i>	<i>545.1</i>	<i>902.8</i>
Earthquake			
Colombia (1,000)	2.0	10.1	12.1
Hurricane Floyd			
Bahamas (1)		1.0	1.0
Hurricane Lenny			
Eastern Caribbean (7)	.1	5.1	5.2
Undistributed by area		6.0	6.0
TOTALS	418.2	621.0	1,039.4

required an urgent reconstruction pace. In Honduras, the country most devastated by Mitch, the USAID mission was asked to spend at seven times the normal startup rate during the first 12 months of reconstruction.

Simultaneously starting and accelerating so much activity in the affected countries proved difficult to manage, and only \$93 million was spent in the first 12 months. However, considerable management improvements and momentum allowed \$553 million to be spent by the end of 2001, and another \$25 million by September 30, 2002. The unspent balance will complete a complicated Honduran urban water and sanitation program.



The reconstruction program in El Salvador rebuilt bridges and repaired roads. (Inter-American Development Bank)



New housing being built in Buen Samaritano, Honduras, to replace structures obliterated or badly damaged by Hurricane Mitch. (Paul Jeffrey: ACT-CCD)



Rebuilding housing in the Dominican Republic with sweat equity: 48,000 new homes were required after Hurricane Georges battered the country. (USAID)



Workers in El Salvador construct a gabion—a rock-filled wire cage—to prevent erosion damage and landslides. (Jim Stipe: Lutheran World Relief, courtesy of M/MC Photoshare at www.jhuccp.org/mmc)

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Over 3 million people in stricken areas benefited directly from U.S. reconstruction assistance, and millions more received indirect benefits. The restoration of drinking water was direct assistance; an example of indirect assistance was the reopening of the rural road network for communities left isolated in mountain valleys.

Economic Reactivation

Funds totaling \$250 million helped restore port navigation using satellite-based global positioning systems, and more than 1,850 miles of roads and bridges, 120 miles of power lines, 42 square miles of farmland, and the incomes of 90,000 microentrepreneurs. Over 115,000 farmers received technical assistance to improve practices in soil conservation or to cultivate higher-value crops. In Honduras, \$28 million in loans allowed more than 1,200 small-scale and

medium-scale farmers to get back on their feet. In Guatemala, repairs to 22 irrigation and flood control structures allowed 100,000 farmers to return their land to production.

Public Health

Despite contaminated water sources and washed-away latrines, rapid relief and recovery efforts, including mass inoculations, prevented the outbreak of cholera or other major diseases. Funding of \$145 million helped restore 327 health facilities and more than 40,700 water and sanitation facilities for over 1.6 million people. Related assistance reinstated health surveillance systems and educated the public about contaminated water and poor sanitation practices. One such initiative was the Nicaraguan Blue Bus that traveled the countryside using children to teach their peers basic hygiene.

Disaster Mitigation

A budget of \$104 million helped establish six national and regional satellite and ground-based hydrometeorological weather and flood forecasting systems. The funds were also used to train 1,250 local communities and municipalities in disaster mitigation and fire prevention. A portion went to repair 145 miles of dikes, river banks, river channels, and drainage ditches, and contributed to the stabilization of hillsides by reforestation and other measures. The U.S. Department of Agriculture and Honduras's Zamorano University were major sources of expertise for the extensive network of non-governmental organizations that carried out these community-level projects. Over 200 square miles of watersheds and water supplies were stabilized, in part by building gabions (rock-filled wire cages) to stop soil erosion. In Colombia, the U.S. Army Corps of Engineers undertook the complicated task of stabilizing a mountainside and protecting the water supply for over 500,000 people.

Housing and Shelter

Funding of \$53 million, the labor of new owners, and the management of nongovernmental organizations repaired or built over 15,000 housing units. Wherever possible, housing was rebuilt to upgraded standards within the same communities. In other cases, families and even entire communities had to be moved because of the hazards of their original locations. Such relocations entailed finding sources of employment and land in safer areas, securing land titles, arranging water, sanitation, and transporta-



In Colombia, the U.S. Army Corps of Engineers stabilized a mountainside adjacent to the city of Pereira's principal aqueduct. If this section of the mountain had collapsed, an estimated 3,000 residents could have been killed and 500,000 would have been without their supply of potable water. (USAID)

tion services, and working out new community leadership structures.

Schools and Education

Funding of \$32 million helped repair or build nearly 2,500 classrooms and nine vocational education centers. Schools were rebuilt or repaired to resist high winds; others were relocated to safer areas. In selected cases, the new schools will serve as emergency community shelters during future disasters. Financial support also went to the nonformal, interactive instruction programs of *Educadores* in Honduras to expand access to schooling for workers affected by Hurricane Mitch. In Nicaragua, a local nongovernmental organization provided psychological recovery training to children, teach-

ers, and education officials who survived the tragic Casita volcano mudslide.

Anticorruption and Transparency

The relief and reconstruction program contained extensive and unprecedented controls to insulate its funds from corruption. Supplemental legislation earmarked \$500,000 for the U.S. General Accounting Office's monitoring of assistance delivery, while another \$1.5 million supported a concurrent audit program by USAID's inspector general. USAID missions allocated \$19 million for audits, staff monitoring, and evaluations. Resulting audits revealed that fraud was rare. Questionable costs amounted to only 2.2 percent of the total—less than half the rate for regular USAID programs. The inspector general mandated unprecedented anti-fraud training for nongovernmental organizations—training well received by thousands of staff hired to mount reconstruction programs. Such training will



The Blue Bus disseminates important health messages by means of handwashing contests and other games in a rural community in Nicaragua. (USAID)

Stockholm Principles

- ◆ Reduce the social and ecological vulnerability of the region as the overriding goal.
- ◆ Reconstruct and transform Central America on the basis of an integrated approach of transparency and good governance.
- ◆ Consolidate democracy and good governance, reinforcing the process of decentralization of governmental functions and powers with the active participation of civil society.
- ◆ Promote respect for human rights as a permanent objective. The promotion of equality between women and men [and] the rights of children, ethnic groups, and other minorities should be given special attention.
- ◆ Coordinate donor efforts, guided by priorities set by the recipient countries.
- ◆ Intensify efforts to reduce the external debt burden of the countries of the region.

become a core element of future major disaster programs.

To strengthen anticorruption and transparency for public procurement, donors at the Stockholm meeting agreed to jointly fund the establishment of *inspectorias*—similar to a government-wide inspector general—within the governments of Honduras and Nicaragua. USAID contributed \$3.2 million to a \$23.3-million, Inter-American Development Bank-managed loan-grant program in Honduras and \$1 million to a similar \$20-million program in Nicaragua. The *inspectorias* began operations in late 2002.



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USAID-financed efforts rehabilitated electricity distribution systems in the Dominican Republic. This power substation supplies electricity to the village of El Nuevo Padre Nuestro. Newly constructed houses are in the background. (Luigi Crespo: USAID)

It took an extraordinary effort to achieve so much in so little time. Prior to Hurricane Mitch, the United States had pledged billions to bring peace to the region and nurture democratic governance, poverty reduction, and economic growth. The effects of Mitch threatened to undo 15 years of these efforts.

U.S. assistance and the generosity and dedication of its citizens generated an ocean of goodwill, bringing hope to over 3 million victims of the disasters. Their hardships were lessened because the United States fulfilled its promises, committing 100 percent of its pledges and delivering 89 percent of planned-for results within 30 months.

Donors convening in Stockholm hoped the magnitude of the assistance might begin to transform policies of host governments, making them more responsive to long-standing vulnerabilities. Indeed, many positive changes have occurred.

- ◆ In El Salvador, annual flooding has been eliminated in the delta area of the Lempa river, where some of the poorest citizens live. This is due to improved management of water flows in the river's hydropower dams, resulting from the hydrometeorological forecasting system assembled by the National Oceanic and Atmospheric Administration and the U.S. Geological Survey.
- ◆ In Haiti, the Hurricane Georges reconstruction program introduced unprecedented volunteer work on community projects with the novel "3-2-1" concept of self-help. Villagers agree to receive three days of pay for every six days of work on community projects. They work two days for no pay and contribute their pay for the sixth day to a community fund. Volunteer work on government-sponsored community projects will become part of future local community



In El Salvador, wells and water supplies were contaminated by floodwaters generated by Hurricane Mitch. USAID has financed a cooperative agreement with CARE to rebuild, clean, disinfect, and upgrade wells. (USAID)

development programs and will help make donor dollars go much further.

- ◆ In Nicaragua, reconstruction assistance to restore the coffee region devastated by Mitch contributed to a small-scale farmer winning the 2002 International Coffee Cup of Excellence Competition for the country. The farmer's premium coffee earned the highest auction price on the international markets in the history of the competition. Like the winner, over half the finalists in the competition were small-scale farmers. The event caused large-scale farmers who control the Nicaraguan coffee market to indicate an interest in working with small-scale farmers to raise the quality of all Nicaraguan coffee, perhaps offering a way for the industry to survive the current crisis in the coffee market.
- ◆ In St. Kitts, reconstruction assistance transformed the Joseph N. France Hospital, severely damaged by Hurricane Georges, into one of the finest in the Caribbean region by providing urgently needed lifesaving equipment and a new 32-bed pediatric ward built to withstand hurricanes and earthquakes.
- ◆ In Honduras, the introduction and institutionalization of satellite-based geographical information systems (GIS) in 40 secondary municipalities have become an extraordinary asset for competent municipal governance. Introduced by the U.S. Geological Survey to create local disaster mitigation risk maps, GIS has become a key technology in urban planning, tax collection, watershed management, and disease surveillance systems. Before the work was even completed, the town of Campamento had digitized its property database to improve assessment and collection of property taxes.
- ◆ In Guatemala, training and laboratory equipment provided by the U.S. Centers for Disease Control and Prevention enabled the national disease surveillance system of the Ministry of Health to detect and manage a major outbreak of dengue hemorrhagic fever in 2001. No deaths resulted.

- ◆ In Costa Rica, the influx of Nicaraguan refugees fleeing the ravages of Hurricane Mitch encouraged the government to provide them with social safety net benefits and to extend these benefits to long-term refugees who arrived during the civil war. Central American countries are now discussing how to treat fairly the growing numbers whose survival depends on moving from poorer to richer countries within the region.
- ◆ Within Central America, six newly established national and regional hydrometeorological forecasting systems have substantially increased the priority of disaster mitigation within development programs. Costa Rica, El Salvador, and Guatemala are leaders in this area. Under USAID's Central American Mitigation Initiative sponsored by the Office of Foreign Disaster Assistance,



In Guadalupe Abajo, Nicaragua, Mario Lopez has recovered his losses from Hurricane Mitch by using high-quality certified seeds. Profits from the sale of his bean crop allowed him to repair his house and put four children through college. (USAID)

efforts will continue through 2003 to bring Honduras and Nicaragua to the same level of awareness.



The Joseph N. France Hospital, badly damaged by Hurricane Georges, was rebuilt with a new pediatric ward. It serves the twin islands of St. Kitts and Nevis. (USAID)

Lessons Learned

USAID is developing measures to cut the time between the disaster and the startup of major reconstruction programs. This entails creating a staffing "surge capacity" that is supported by appropriate waivers and special administrative provisions to cut the design and procurement periods for contractors and grantees. The interval required before work could begin at disaster sites meant that most partners had only 18–24 months to complete their projects, though 30 months was the target for spending \$621 million in supplemental funding. With an

additional six months and the same funding, most partners believe they could have worked even more effectively.

USAID confirmed that reconstruction programs are essentially development programs with short timeframes. Partners found that the resources available allowed them to reexamine the best way to support business development, encourage rural communities to protect their watersheds, and lead farmers to adopt new practices or higher-value crops. In fact, several partners learned that the most effective way to work with farmers is to gear programs to their 12–18-month planning periods rather than spreading technical assistance over longer periods.

Still, even in a reconstruction program, there are no shortcuts to “building back better,” training people to use new technology, or strengthening institutions to sustain reconstruction investments. A reconstruction program ultimately has the same objective as any development program: sustainable growth and prosperity.

Conclusion

The massive and successful response to these disasters was as unparalleled as the devastation itself. USAID is proud to have led the combined effort by other U.S. Government agencies, nongovernmental organizations, and the private sector to overcome huge logistical and institutional obstacles. Much credit is also due to the efforts of survivors and victims of the disasters to restore normalcy to their stricken communities.



Residents of San Carlos and El Nuevo Padre Nuestro in the Dominican Republic now live in new housing with water, sanitation, and electricity connections. USAID partnered with the Government of the Dominican Republic and several U.S. non-profit organizations to create these low-cost concrete-block homes. Each family contributed at least 120 hours of labor. (USAID)

U.S. assistance helped forge a network of knowledge, technology, and cooperation that will continue to serve the region and the world when reconstruction and development challenges arise. The legacy of the relief and reconstruction effort has helped cement the enduring friendship between the United States and other countries of this hemisphere.

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