

One of the sectors most touched by Gilbert was housing. High winds buffeted or flattened structures and ripped rooftops from dwellings, exposing their interiors to the raging rains. Sports stadiums, churches, government buildings, and movie theaters sheltered the estimated 810,000 homeless. The hurricane destroyed 20% (about 100,000 units) and badly damaged another 40% of Jamaica's housing stock. Of low-income homes, 60% suffered total loss and 20% received partial damage. Over 90% of the rooftops in St. Thomas Parish were partially or entirely torn off by the storm's intense gusts. Residents were forced to use plastic sheeting as temporary shelter until repairs could be made.

Ministry of Education building in Kingston, most academic records for the country's educational system were ruined. Gilbert destroyed 200 churches nationwide and considerably damaged the waterfront of Port Royal serving Kingston.

The storm played great havoc with Jamaica's utility and communication networks. Gilbert almost totally disrupted communication outside Kingston and cut off telephone lines with the mainland. Damage to electrical services was estimated to be \$570 million and to public and private telecommunications, \$60 million to \$80 million. It took emergency teams two to three weeks to restore power in many areas and several



**Wind damage and flooding affected a military base.**

Public buildings also suffered serious damage from Gilbert's force. Between 85% to 90% of schools experienced damage with approximately 50% losing their roofs. Schools in the parishes of Hanover, Portland and St. Thomas were the most severely affected. With destruction of the

months in the devastated eastern section. As of Sept. 28, 60% of water service had been restored to the island. Trucks provided water for those in need in the countryside.

The Jamaican Defense Forces (JDF), a major actor in the official relief response, withstood significant harm. Gilbert wrecked two camps used as forward bases in drug eradication. High winds flattened the Coast Guard headquarters and smashed patrol vessels. A major JDF training center also was badly damaged.

In the aftermath of Gilbert, hospitals discharged all patients except the critically ill and remained open only for emergency cases. Out of 26 hospitals nationwide, nine bore considerable damage, 11 suffered moderate damage, and seven were without electricity. Because the hospitals without electricity also lacked back-up generators, surgeons were forced to work by flashlight. The calamity rendered 80% of Jamaica's health centers inoperable, either from damage by flooding or loss of roofs. Four such clinics were completely demolished. No critical shortage of medicine or outbreak of disease followed Gilbert. However, a paucity of health equipment and supplies led the United Kingdom and NGOs to fill the gap with emergency donations (see *"Assistance Provided by the International Community"*).

Agriculture suffered enormous losses, especially in the eastern and western parts of Jamaica. Gilbert flattened farms of all sizes ranging from family gardens to huge plantations. Jamaican cash crops of sugar cane, coffee, and citrus products were ravaged. Banana production was not expected to reach full capacity for six to nine months after the storm. The poultry sector, a relatively modern industry and a prime source of the nation's protein supply, suffered almost total destruction.

Loss of poultry coops, broiler stock, and layers and breeders topped \$60 million. Produce grown for local consumption also sustained considerable damage, increasing the need for food imports. Within four days of the hurricane, prices of fresh fruits and vegetables in Jamaican markets had tripled. In addition to crop damage, Gilbert's winds battered about 200,000 ha. of natural forest.

Jamaica's two aluminum producers, Alcoa and Alcan, lost approximately 62,000 MT in combined output or \$10 million in lost foreign exchange to the economy. Lack of electric power and repair

costs contributed to the shortfall. However, the Kaiser bauxite installation in Discovery Bay reported little hindrance to its operations from Gilbert. What flooding that occurred in its mines produced only minor damage.

The effect on Jamaica's modest industrial sector was less overall than on mining or agriculture. Disruptions of utility service temporarily hindered production in manufacturing and garment plants. Refineries belonging to the Jamaican oil company, Petrojam, survived the hurricane unblemished. Some firms, including the local subsidiaries of Johnson & Johnson and Singer, witnessed depletion of their stocks from looting that transpired in Gilbert's wake. The estimated recovery time for most small businesses was three to nine months.

Jamaica's prime foreign exchange earner, tourism, sustained significant losses. Few hotels and beaches were spared the effects of the storm. Nevertheless, the GOJ and bilateral donors succeeded in restoring electricity to even the most remote resort by December in anticipation of the winter tourist season.

Despite the quick repairs, the Jamaica Tourist Board reported that the number of stopover visitors dropped by 37% and the total number of visitors in Jamaica fell by 19% between September and December 1988 compared to the same period in 1987. This translated into an estimated loss of \$114 million in tourist earnings over the previous fiscal year.

According to the Jamaican government, Hurricane Gilbert cost the country \$1 billion in damage. The disaster caused an estimated \$150 million to \$200 million loss in foreign exchange and was expected to reduce Jamaica's annual growth rate for 1988 by 2%. The country's national income sustained an estimated \$150 million to \$200 million loss in export earnings and additional imports through March 3, 1989.

**Action Taken by the Government of Jamaica (GOJ) and Non-Governmental Organizations**

Immediate tasks facing the GOJ after the calamity included determining the breadth of damage from Gilbert, reestablishing local and international communications, and reopening the island's two principal airports. A state of emergency was declared immediately following Gilbert that lasted until Oct. 13. Prime Minister Edward Seaga met with representatives of foreign donors on Sept. 13 to outline Jamaica's most pressing emergency needs and made a special request to the USG for relief supplies and an assessment team. On Sept. 14, Prime Minister Seaga accompanied by U.S. Ambassador Michael G. Sotirhos made an aerial tour of the island to assess wreckage from the hurricane. Although airport communications remained cut off for several days, the Kingston airport was reopened for relief flights on Sept. 13 and the Montego Bay Airport on Sept. 14. The state airline, Air Jamaica, resumed regular operations on Sept. 15 from both airports. Air Jamaica flew relief commodities, gratis, from many points in the United States. In coordination with hotels and various airways, the Jamaica Tourist Bureau arranged for special flights to evacuate stranded tourists.

Due to the disaster's magnitude, the Office of Prime Minister assumed overall coordination of the GOJ response. The GOJ Office of Disaster Preparedness (ODP) took charge of receiving and allocating assistance. The Jamaica Defense Force (JDF) assisted in providing transport and distribution of food supplies, protection of those supplies at relief points, medical evacuation from remote areas, and overall security and curfew enforcement to discourage looting. Helicopters were used for aerial assessments and food distribution. Various GOJ ministries became involved as the disaster response required: for example, the Ministry of Health (MOH) took precautionary measures to prevent the outbreak of infectious and skin diseases. Jamaican NGOs working in the Gilbert relief effort included United Way of Jamaica, National Development Foundation of Jamaica, and Kingston Restoration Company.

To address the urgent needs for shelter and nourishment in the days immediately following Gilbert, the authorities disbursed plastic sheeting for temporary roofing, organized the distribution of donated construction materials through private businesses, and supplied rations of nutribuns and juice. About 15,000 people in the most severely stricken areas were housed in sports stadiums, churches, public buildings, and movie theaters. The GOJ also conducted family-by-family surveys to determine requirements in the areas of food, home reconstruction, and small-farm rehabilitation.



**Sifting through belongings after home blows down**

Once the survey was completed and the needs established, the GOJ embarked on a medium-term recovery program consisting of food and building supply entitlements for the most-affected victims. The emergency food stamp initiative, based on a pre-Gilbert program, commenced on Oct. 3 in hard-hit St. Thomas and Eastern Portland parishes. Approximately 480,000 beneficiaries used the stamps to purchase cornmeal, rice, and skim milk powder. Where such items were unavailable, shopkeepers allowed the purchase of other foodstuffs.

The Ministry of Social Security and Welfare administered the program through its local relief centers located throughout Jamaica. On Oct. 12, Prime Minister Seaga inaugurated a similar program for building supplies in the parishes of St. Thomas, Portland, and St. Mary. Residents used the stamps to purchase zinc sheeting, nails,

and lumber from hardware stores.

In an Oct. 6 radio broadcast, the Prime Minister presented an official update on Jamaica's recovery. After noting the generous amounts of assistance received by the GOJ in the weeks following Gilbert, he reported on the restoration of basic services by the GOJ and donor teams, sector by sector: electricity had been restored by 40% in Kingston, 70% in Montego Bay, 80% in Ocho Rios, 50% in Spanishtown, 70% in May Pen, 85% in Mandeville, 80% in Black River, 60% in Savanna-la-Mar, 60% in Port Antonio, and 50% in Lucea and that, with help from donors, full power would return by Christmas. Restoration of water throughout the island had reached 60%, with complete service expected by the end of October. He also estimated that reconstruction of damaged public buildings and infrastructure would continue well into 1989.

Ironically the Jamaican Tourist Bureau initiated a multi-million dollar advertisement campaign in the United States to attract U.S. tourists. Television spots singing "Come back to Jamaica" followed morning news reports of destruction and relief efforts on the island.

#### **Assistance Provided by the U.S. Government**

There were no deaths and few injuries among U.S. visitors and the official community in Jamaica. Most personnel suffered light to severe damage to their homes. At the U.S. Embassy, the staff operated emergency generators in the immediate post-hurricane period to keep power and communications functioning. Teams were dispatched to repair the hardest-hit residences of in-country USG employees.

As soon as news of the hurricane became available, OFDA mobilized its operations into a 24-hour coordination of the USG response. At the same time, the State Department convened a Hurricane Gilbert working group that managed departmental activities concerning the disaster and fielded public inquiries about U.S. citizens in Jamaica.

Ambassador Michael G. Sotirhos issued an official disaster declaration Sept. 13 and donated \$25,000 in emergency funds to the ODP to purchase local supplies. That same day, an OFDA-organized assessment team carrying three satellite communication kits, 600 ft. of rope, and three chain saw kits left aboard a DOD C-130 flight to Jamaica. The 11-member team included disaster experts from OFDA, other bureaus of A.I.D., and the Dade County Fire and Rescue Department (*Travel expenses of \$12,000 for the Dade County team members were covered by a pre-existing contract and are not figured in the USG total*). OFDA designated AID/Latin America and Caribbean Bureau member Jim Schill, a former OFDA employee, as leader for the first week of the team's three-week stay. Representatives from PAHO and the American National Red Cross (ARC) accompanied the USG team on the flight. OFDA had prepositioned the aircraft and team at Homestead AFB in Miami in anticipation of the GOJ's need for assistance. Before arriving in Kingston's Manley Airport, the OFDA team flew the island's length for a preliminary assessment. Once on land, the team met with Prime Minister Seaga to determine GOJ needs and submitted a list of specific items to OFDA.

On Sept. 14, the Prime Minister and the U.S. Ambassador were on hand at Manley Airport to receive the first of six airlifts of emergency supplies OFDA dispatched from the Panama stockpile between Sept. 14 and 15. Accompanying this shipment on a C-130 aircraft were OFDA regional advisor Paul Bell and PAHO delegate Hugo Prado, both stationed in San Jose, Costa Rica. Prime Minister Seaga, Ambassador Sotirhos, USAID/Kingston Director William Joslin, OFDA team leader Schill, and others then made a four-hour aerial tour of the island, stopping briefly in Montego Bay to deliver two pallets of relief supplies. The inspection confirmed that the eastern end of Jamaica and significant sections elsewhere sustained heavy damage.

OFDA commodities on the six airlifts included the following: 764,400 sq. ft. (294 rolls) of plastic sheeting, 614 tents, 3,815 water jugs (5-gal. capacity), 18 water tanks (3,000-gal. capacity), 10 chain saw kits, and 9,600 cotton blankets. The

tents were not replaced in the stockpile and were considered an in-kind contribution not charged to a fiscal year account. Four DOD airplanes delivered supplies on Sept. 14 and two airplanes completed the airlift on Sept. 15. Montego Bay received half a plane-load of the emergency goods and Kingston, the remainder.

Dade County team members, dispatched through the OFDA-Dade County grant, oversaw logistics as the items arrived and were stored pending ODP distribution to regional branches. The OFDA-sponsored group also worked with donors, especially the UNDP, to identify the needs and coordinate international assistance and helped facilitate emergency communications using the satellite radio systems.

A seventh OFDA airlift of 320 tents from the Panama stockpile left for Jamaica on Sept. 17. OFDA regional advisors Bell, who was making a return trip to Jamaica, and Alejandro James accompanied the shipment. Mr. Bell came back to lead the team for its final two weeks and to work with the Mission in determining spending priorities for additional USG aid.

Mr. James worked with PAHO and the GOJ's MOH in identifying emergency medical needs. These needs were later covered by aid from the United Kingdom and NGOs (see "Assistance Provided by the International Community"). Both Paul Bell and Alejandro James concluded their duties and left Jamaica on Oct. 15.

At the initiative of Congressman Cass Ballenger (R-NC), OFDA financed the transport of a Civil Defense portable hospital and passengers on board a U.S. Coast Guard C-141 aircraft. The assistance was donated by the people of North Carolina and arrived in Kingston from Charlotte on Sept. 17.

Emergency aid was donated from the DOD to the JDF at the request of the GOJ. Members of a COMUSFORCARIB military survey team arrived on Sept. 17 and 18 from Key West, Florida, to conduct an assessment of damage to JDF installations. The DOD airlifted equipment and emergency supplies, including field rations, chain saws, and water purification tablets, to the JDF on Sept.

17 and 19. DOD transported medical supplies, food and other gifts from various groups and individuals in the United States. An average of one flight per week brought in public donations with a total of 21 flights by Dec. 21.

On the morning of Sept. 18, two members of the Congressional Black Caucus, Edolphus Towns (D-NY) and Major Owens (D-NY), and the Rev. Jesse Jackson arrived in Kingston to visit the devastated areas. Later that day, they accompanied Prime Minister Seaga and Ambassador Sotirhos on a helicopter tour of hard-hit St. Thomas Parish. In a news conference, Reps. Towns and Owens explained that they had come to assess the situation and report back to Congress on what further aid was needed. Mr. Jackson stressed the need for a Jamaican bipartisan approach to relief and noted the arrival of USG assistance.

OFDA sponsored the loan of a VHF radio kit and a technician from the USFS/Boise Interagency Fire Command (BIFC) in Boise, Idaho. Communications technician Kim Peterson arrived in Kingston on Sept. 25 with the equipment. He worked with the ODP in surveying the agency's communications capabilities and needs over the following several weeks and in setting up an emergency communications network throughout the island.

To address the need for adequate shelter before the October rains, OFDA provided roofing material purchased from Goldin Industries, Inc., of Gulfport, Mississippi. From Sept. 28 to 29, a DOD C-5A aircraft carried the first load of zinc sheeting, totaling 100 MT, to Kingston. Later shipments of the remaining 500 MT arrived by ship. The ODP made the sheeting available to merchants operating under the GOJ's building voucher program, through which victims obtained the material for their damaged homes using GOJ-issued emergency stamps. The USG-donated zinc was used primarily in rural eastern Jamaica, with the first 100 MT going to St. Thomas Parish.

Representatives of Florida Light and Power Co. and Puerto Rican Electric Power Authority were in Jamaica throughout late September surveying

damage to Jamaica's electrical network. Their assessments indicated that poor maintenance and improper installation of electric poles amplified the physical damage from Hurricane Gilbert. On Oct 12, a Florida Light and Power team arrived with equipment and began immediate repairs to the main electrical lines on a five-mile stretch linking downtown Kingston to Manley Airport. OFDA paid the initial assessment costs and transport of the team; other expenses were funded by the USG rehabilitation package granted on Sept. 28 (see below).

About \$20 million in USG funds originally destined for Panama were diverted through OFDA to provide medium-term assistance to Jamaica. At a Sept. 28 signing ceremony attended by Ambassador Sotirhos, Director Joslin, and Jamaican Deputy Prime Minister Hugh Shearer in Kingston, AID/AA/LAC representative Dwight Ink officially granted the aid for use in Jamaica. Most of the initiative addressed the lack of essential services in five areas of the post-disaster economy: shelter, power, water, health, and agriculture. Specifically, funds were used to purchase roofing materials, medical supplies, farming tools, and seeds and to restore water and sewage services. The plan funded U.S. power teams, including Northeastern Utilities, Long Island Lighting Co, and the Puerto Rican Electric Power Authority, that worked on restoring electricity in affected areas over the following several months. Assistance that was not used to provide commodities and technical services amounted to approximately \$2 million. These funds went as grants to supplement NGO relief activities for a 90-day period. Recipients included the Jamaican Red Cross, the Jamaican Salvation Army, the Jamaican National Development Foundation, and the Kingston Restoration Company.

OFDA sponsored a group with representatives from AID/Washington and the PVOs VITA and the American Red Cross to visit Jamaica in December. The focus of the visit was on gathering lessons from the USG response to Gilbert, especially regarding the appropriateness of specific relief supplies. During its five-day stay, the team made trips to St. Thomas and Clarendon parishes and met with the ODP and various Jamaican NGOs.

The U.S. Congress earmarked \$35 million in rehabilitation assistance to Jamaica for FY 1989. Similar to the \$20 million in emergency FY 1988 funds, this aid was used to help restore power, communications, and water, repair schools and public buildings, and provide capital for small businesses and agriculture. Newly elected Prime Minister Michael Manley and Ambassador Sotirhos held an official signing ceremony on Feb. 15.

### Summary of USG Assistance

#### FY 1988

Ambassador's authority used to purchase local supplies . . . . .	\$25,000
Cost of DOD airlift of assessment team and of 6 airlifts of commodities . . . . .	\$114,000
Replacement costs of 294 rolls of plastic sheeting to Panama stockpile . .	\$85,231
Replacement costs of 9,600 blankets to Panama stockpile . . . . .	\$37,920
Assessment costs of Florida Power and Light Co . . . . .	\$620
Cost and transport of radio items and technicians . . . . .	\$34,000
Cost of DOD airlift of 320 tents and an OFDA regional advisor . . . . .	\$22,000
Airlift by the USCG of donated, portable hospital and passengers from Charlotte, NC . . .	\$33,000
Purchase and airlift of zinc sheeting . .	\$708,243
Rehabilitation assistance (reprogrammed from USAID/Panama)	\$20,000,000
<b>Total FY 1988 . . . . .</b>	<b>\$21,060,014</b>

#### FY 1989

Rehabilitation assistance (Congressional earmark) . . . . .	\$35,000,000
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