

TUNISIA - Floods

Date: October 28-31 and November 11-12, 1982 (FY 83)

Location: Governorates of Sfax, Zaghouan, Mahdia, Tunis, Sousse, Monastir, Cap-Bon, Ben Arous

No. Dead: 117

No. Affected: 30,000

Damage: An estimated 12,000 houses were damaged or destroyed; extensive damage to roads, water and sewerage systems, bridges, communications, and agriculture (fruit and olive trees) occurred. Damage to the governorate of Sfax is estimated at \$45.9 million; nationally, damages are estimated at \$90 to \$140 million.

The Disaster

Nine of the twenty-one governorates of Tunisia were hit by unusually heavy rains on October 28-31 and November 11-12, resulting in severe flooding. Sfax, the most seriously affected governorate, received 300 mm of rainfall in 32 hours, or 181 percent of the normal annual rainfall. Heaviest damage occurred in areas along several rivers whose banks had overflowed. The number of known dead and those missing and presumed dead was 117.

During and immediately following the flooding, thousands of families sought refuge. Many were crowded into the one-room homes of nearby friends and relatives or into mosques, schools, or other public facilities. The remainder lived in tents provided by the Tunisian Government and other donors. An estimated 45,000 people were made homeless by the disaster.

The hardest hit area was Sfax City, where on October 31, all lines of communication with the rest of the country were cut. The airport closed and all rail lines and roads were impassable. The Sfax radio station ceased operation and all electrical services were disrupted.

The floods caused serious property damage in all sectors. Roads and bridges were washed out in dozens of areas. Potable water systems in the city of Sfax and other urban areas were damaged, and thousands of cisterns and wells were silted and polluted. The sewerage system in Sfax was blocked with sand and debris, causing a breakdown in four pumping stations. Approximately 10,000 houses were damaged by the floods, some filling with one to two meters of water and mud sediment. In addition, at least 2,000 houses were completely destroyed.

In the agricultural sector, 30,000 olive and fruit trees were destroyed and large numbers of stock were killed. Thirty thousand chickens were lost from one poultry center alone in Sfax; hundreds of tons of seed and food were destroyed; and thousands of hectares of land were damaged.

Action Taken by the Government of Tunisia (GOT) and the Tunisian Red Crescent

Immediately following the first occurrence of flooding, the GOT issued a list of needs to the United Nations, the U.S. Government, and other potential donor governments. This list included tents, blankets, sleeping bags, folding cots, reservoir trucks, water pumps, food, and clothing.

Relief efforts by the GOT were somewhat haphazard in the first days of the disaster, due primarily to breakdowns in the communication and transportation systems. As these networks were restored, more precise information on the flood situation and relief needs reached government officials, and consequently overall relief efforts improved. The GOT responded to the situation through three organizations: the Tunisian Civil Defense (TCD), the National Committee of Social Solidarity (NCSS), and the Tunisian Red Crescent.

The TCD, organized under the National Guard/Ministry of Interior, took responsibility for coordinating shipments arriving from abroad and for assessing data provided by regional authorities. The TCD was also charged with targeting and mobilizing resources such as National Army helicopters and trucks for rescue missions.

The NCSS, organized under the Ministry of Social Affairs, is the GOT agency which works with voluntary agencies engaged in feeding programs in Tunisia. NCSS provided 650 blankets from its stocks and purchased an additional 1,000, and provided 300 bales of used clothing, 20 tons of semolina, five tons of couscous, five tons of sugar, and five tons of oil. These supplies were delivered to the governorates of Sfax, Zaghuan, Mahdia, Sousse, Monastir, and Ben Arous in a fleet of thirty trucks owned and operated by NCSS. This organization also conducted an extensive survey of emergency food needs.

The Red Crescent sent its entire stock of tents, blankets, clothing, and food to the disaster area. On November 2, the Red Crescent appealed to the League of Red Cross Societies (LORCS) for additional tents, blankets, clothing, milk powder, and cheese, and for cash to purchase food and other items. The Tunisian Navigation Company and the national airline, Tunis Air, agreed to transport free of charge any supplies sent through them to the Red Crescent.

The GOT also created a National Disaster Coordinating Committee, which was headed by the Ministry of Public Health and charged with coordinating receipt and distribution of foreign aid. Committee members included representatives of the Red Crescent, NCSS, TCD, Customs Office, Ministry of Foreign Affairs, Office of Ports and Airports, and Tunis Air. The committee made site visits in affected areas, conducted meetings with regional and village representatives, and surveyed the damaged areas by helicopter. At the governorate level, coordinating committees organized and headed by governors and composed of local leaders, representatives of ministries, TCD, and NCSS met daily during the flood disaster.

Housing was the most important issue during and after the disaster, as 45,000 people were without shelter and had lost many or all of their possessions. The GOT responded by providing family-size tents, food, blankets, clothing, and other supplies. High priority was given to repairing salvageable houses and to replacing the 2,000 homes destroyed. The GOT made a number of limited cash grants to help victims make emergency repairs. The Tunisian Ministry of Housing also formulated three plans to aid the flood victims: 1) to assist families in completing emergency rehabilitation of their homes by providing quick disbursement, low-interest loans; 2) to construct core housing to replace housing that was completely destroyed; and 3) to expand municipalities' access to credit for the repair of urban infrastructure facilities. It is not known whether or not these plans were implemented.

Assistance Provided by the United States Government (USG)

Following the GOT's public appeal for international assistance, the U.S. Ambassador to Tunisia, Walter L. Cutler, determined on November 3 that the emergency created by the flooding was of a magnitude to warrant USG aid. Accordingly, he exercised his disaster relief authority and contributed \$25,000 to the Tunisian Red Crescent for the local purchase of relief supplies.

As the severity of the disaster became more apparent, the USG responded to specific GOT requests for assistance. An additional \$10,000 was contributed to the local relief program. The U.S. Mission in Tunis agreed with the GOT that sewage and road problems presented risks to the health, safety, and welfare of citizens in the affected areas. The Mission therefore proposed to the Office of U.S. Foreign Disaster

Assistance (OFDA) that further assistance be provided in the form of Bailey bridges, culvert pipes, jet pumps for use in sewer cleaning, and sump pumps for removing stagnant water.

The USAID Near East Regional Engineer was sent to Tunisia to carry out an extensive assessment of the situation and select sites for the Bailey bridges and culvert pipes. In addition, OFDA sent two Bailey bridge experts from the Department of Defense to assist in the on-site assessment. A disaster relief officer from OFDA was also sent to visit the affected area, oversee the relief operation, and make recommendations to OFDA regarding possible additional measures for U.S. assistance. The final assessment recommended that the damaged bridges be replaced or repaired using pony truss and I-beam type bridging instead of the more costly Bailey bridges. OFDA approved the shipment of three 90 foot pony truss bridges, three 30 foot I-beam bridges, and one 60 foot I-beam bridge, all of which were used to repair bridges in Zaghouan, Sousse, and Sfax. Culvert pipes, also purchased with OFDA funds, were used for bridge repairs in Rohia. Two U.S. military engineering personnel experienced in bridge erection assisted USAID and the GOT to insure proper site preparation, oversee the installation, and train GOT personnel.

USAID's Regional Engineer confirmed that the Sfax City sewer system was malfunctioning and that the Sfax Sanitary Engineering Department (ONAS) had only limited equipment available for restoration. A sanitation engineer from USAID's WASH Team (Water and Sanitation for Health) traveled to Tunisia to assist in the sewage cleanup operation and OFDA sent two water purification units from its stockpile in Leghorn, Italy. (Subsequently, it was determined that the water purification units would not be needed, and they were sent back to the Leghorn stockpile.) OFDA also authorized the purchase and shipment of jet pump sewer clearing equipment, water pumps, and hosing for use in restoring the Sfax City sewer system. WASH engineers and technicians from the sewer equipment manufacturing company trained local Tunisian personnel in the operation of the equipment. The cleanup operation in Sfax City continued for 16 hours a day from December 1982 through September 1983.

In response to a GOT request to Catholic Relief Services (CRS), a total of 145 MT of P.L. 480 Title II food commodities from existing stocks were authorized for distribution during the emergency. The commodities, consisting of 114 MT of wheat flour, 19 MT of oil, and 12 MT of non-fat dried milk, were adequate to feed 2,535 families, or an estimated 12,675 persons, for 30 days.

Summary of USG Assistance

Ambassador's Authority donated to the Tunisian Red Crescent relief program.....	\$25,000
Storage and transportation of water purification units.....	\$156,164
DOD bridges (pony and I-beam) including transportation and TDY of DOD Bailey bridge experts.....	\$79,000
Sewer equipment and spare parts.....	\$260,067
Six water pumps and hose.....	\$80,969
Culvert pipes, including transportation.....	\$233,283
Additional support funds for local relief program.....	\$10,000
Travel of OFDA Senior Operations Officer.....	\$2,172
Costs incurred under the WASH contract.....	\$65,062
	TOTAL
	\$911,717

Assistance Provided by U.S. Voluntary Agencies

CRS - distributed 390 bales of clothing, valued at \$58,970, to the affected population in the Sfax, Mahdia, Zaghouan, and Tunis governorates.

TOTAL \$58,970

Assistance Provided by the International Community

International Organizations

European Economic Community - cash contribution of \$184,881 through LORCS.

LORCS - on November 2, in response to a request from the Tunisian Red Crescent, LORCS issued an appeal to 25 member societies for assistance in the form of tents, blankets, warm clothing, boots and shoes, milk powder, cheese, and cash for local purchases of food, soap, and cleaning materials. LORCS also sent a delegate (see contributions below).

United Nations Development Program (UNDP) - cash grant of \$30,000.

UNDRO - at the request of the GOT, issued an international appeal on November 3 for relief assistance for the victims of the floods. UNDRO sent a relief officer to assist the UNDP resident representative and government authorities with the coordination of international assistance, and on November 5, the UNDRO Coordinator arrived in Tunis to survey the affected areas. UNDRO also donated \$30,000 from its disaster assistance account for the purchase of emergency supplies.

World Food Program (WFP) - donated 1,575 tons of wheat, 126 tons of dry skim milk, and 94.5 tons of edible oil, all for distribution to 35,000 beneficiaries for 90 days in the governorates of Sfax, Mahdia, and Zaghuan. In addition, WFP provided 600 tons of wheat to farmers in affected areas. Total value of contribution, including transport, was \$1,083,600.

World Health Organization - provided essential medicines valued at \$5,500 (including transport).

Governments

Belgium - Government and Red Cross: provided in-kind contribution valued at \$103,510 through LORCS.

Canada - gave \$46,197 in cash through LORCS.

France - provided 6,000 blankets and 100 tents, valued at \$289,855 and one ton of protein tablets. The French Defense Ministry offered the use of an underwater rescue vessel to the Tunisian Government.

Germany, Federal Republic of - contributed \$39,370 in cash, 40 large tents, and 2,000 blankets; value not reported.

Hungary - gave blankets, tents, and medicines valued at \$33,726.

Italy - gave 600 blankets, 48 large tents, 144 camp beds, the services of three civil protection experts, and 100 masks for rescue teams; value not reported.

Japan - contributed \$9,790 in cash through the Japanese Embassy in Tunis.

Kuwait - airlifted medicines, food, tents, and blankets; value not reported.

Libya - provided 1,000 tents, three pumps mounted on trucks, and three water pumps; value not reported.

Luxembourg - airlifted 810 blankets to Tunis, valued at \$15,310.

Morocco - gave two tons of jam, six tons of rice, 12 tons of sugar, and 500 blankets; value not reported.

Netherlands - contributed \$17,863 of in-kind assistance through LORCS.

Saudi Arabia - contributed \$10,000,000 in cash for reconstruction.

Switzerland - donated 400 tents and 2,000 blankets, and sent a disaster assessment team. Government and Red Cross: gave ten tons of whole milk powder, valued at \$19,132, through LORCS.

Syria - airlifted food, the quantity and value of which was not reported.

United Kingdom - Government and Red Cross: gave 60 ground sheets, 2,000 blankets, 3,125 knitted blankets, and 200 tents, all valued at \$118,629.

Voluntary Agencies

Action d'Urgence Internationale (France) - provided the services of one doctor, one Red Cross promoter, one mason, and eight rescue workers.

Algeria Red Cross - provided 100 tents, 2,700 blankets, ten tons of semolina, three tons of tea, and three tons of sugar, with a total value of \$81,109, through LORCS.

Australia Red Cross - contributed \$965 in cash through LORCS.

Austria Red Cross - gave assistance valued at \$29,165 through LORCS.

Bahrain Red Cross - contributed \$18,665 in cash through LORCS.

Belgium Red Cross - provided three tons of clothing, 1,000 blankets, and eight tents, all valued at \$11,136, through LORCS.

Canada Red Cross - gave \$7,933 in cash through LORCS.

Caritas/Diakonisches Werk (FRG) - provided 500 tents, 9,100 blankets, and 3.5 tons of food, with a total value of \$106,299.

Caritas/Lucerne (Switzerland) - donated 600 blankets valued at \$4,545, through LORCS.

China (P.R.) Red Cross - contributed \$10,000 in cash to the Tunisian Red Crescent.

Denmark Red Cross - contributed \$5,580 in cash through LORCS.

Entraide Protestante (Switzerland) - provided in-kind contributions valued at \$4,410 through LORCS.

Finland Red Cross - donated 1,000 blankets valued at \$8,352 through LORCS.

France Red Cross - provided one ton of protein tablets valued at \$3,593 through LORCS.

German Democratic Republic Red Cross - gave children's clothing and blankets valued at \$22,821 through LORCS.

Germany (F.R.) Red Cross - provided 201 family tents, 4 six-person tents, 9 eight-person tents, and 15 tons of used clothing, with a total value of \$71,423, through LORCS.

Hungary Red Cross - gave in-kind assistance valued at \$29,482 through LORCS.

Islamic Conference Organization - gave \$500,000 in cash.

Jordan Red Crescent - contributed \$560 in cash through LORCS.

Korea Republic Red Cross - contributed \$2,917 in cash through LORCS.

Kuwait Red Crescent - gave in-kind assistance valued at \$19,631 through LORCS.

Libya Red Crescent - provided 2,000 blankets, 50 large tents, 50 small tents, 400 tins of milk, and 11,000 pieces of clothing, with a total value of \$125,895, through LORCS.

Luxembourg Red Cross - contributed \$933 in cash through LORCS.

Monaco Red Cross - gave \$2,734 in cash through LORCS.

Netherlands Red Cross - provided 80 family tents valued at \$17,707 through LORCS.

New Zealand Red Cross - gave \$467 in cash through LORCS.

Norway Red Cross - gave \$7,070 in cash through LORCS.

Secours Populaire Francais - collaborated with the team of relief experts from Action d'Urgence Internationale by providing blankets and medicines, value not reported.

Soviet Union Red Cross - donated 1,000 blankets, an unspecified quantity of medicines, and 3,000 cans of baby food, with a total value of \$45,730, through LORCS.

Spain Red Cross - gave in-kind assistance valued at \$17,545 through LORCS.

Sweden Red Cross - provided 255 tents worth \$15,495; 2,000 blankets and 25 tons of clothing and boots, valued at \$85,989; and 15,230 kg of clothing, first aid kits, and blankets, valued at \$53,914, through LORCS.

Switzerland Red Cross - gave 21 tons of used clothing valued at \$22,889, and 47 folding beds, value not reported, through LORCS.

Turkey Red Crescent - provided 500 family tents and 3,000 blankets valued at \$137,751, through LORCS.

Yugoslavia Red Cross - gave assistance valued at \$2,207 through LORCS.

TOTAL \$13,502,275