

Aircraft rental and technical assistance
from FAO (AID/Africa Bureau funds) . . \$300,000

Greenness maps (AID/Africa Bureau funds) \$50,000

Technical assistance and ground support
(AID/Africa Bureau funds) \$468,000

Total OFDA \$628,964

Total Other USG \$818,000

Total FY 1988 \$1,446,964



**Pesticide ground spreader mounted on a Unimog
truck in northern Mauritania**

FY 1989

Second Disaster Declaration (10/27/88)

Purchase and air freight of radios \$26,633

Contract for 4 Turbo Thrush aircraft
(Mauritania's share) \$700,000

Technical assistance (radio technicians) . . \$24,623

Total FY 1989 \$751,256

TOTAL \$2,198,220

Assistance Provided by the International Community

International Organizations

EC - furnished 200 hours of helicopter time,
vehicles, and 100,000 liters of pesticide.

FAO - provided a Cessna plane, \$246,000 for
OCALAV, pesticide, sprayers, vehicles, and radios.

OCALAV - provided a fixed-wing spray plane.

UNDP - gave \$166,000.

Governments

Algeria - supplied 15,000 liters of fenitrothion, 5
vehicles, and 9 technicians.

Canada - contributed 2 fixed-wing spray planes and
\$1,800,000 in regional assistance.

China, People's Rep. - donated 1.5 MT of
malathion.

France - furnished a helicopter, a spray plane, fuel,
15,000 liters of lindane, and 3,000 liters of liquid
pesticide.

Germany, Fed. Rep. - gave 32,000 liters of
fenitrothion and \$1,158,078.

Japan - contributed 40 MT of liquid pesticide, 8
vehicles, and 2,000 liters of ULV.

Morocco - sent 20,000 liters of fenitrothion.

Saudi Arabia - donated 15 vehicles and 100 MT of
pesticide.

Soviet Union - gave 30 MT of malathion.

Spain - supplied 5,250 liters of fenitrothion.

Sweden - donated 12 vehicles.

Tunisia - furnished 10,000 liters of fenitrothion.

TOTAL \$3,370,078

CAPE VERDE

Four waves of desert locusts infested Cape Verde,
with swarms first arriving in March 1988 after
early rains. Damage was mainly to fruit and
irrigated crops. OFDA and the AID/Africa Bureau

responded by supplying sprayers and vehicle spare parts after the U.S. Ambassador issued a disaster declaration on Oct. 27, 1988.

Portugal - supplied a helicopter.

TOTAL \$950,000

Summary of USG Assistance

FY 1988

Purchase of vehicle spare parts
(AID/Africa Bureau funds) \$75,000

Total Other USG \$75,000

Total FY 1988 \$75,000

FY 1989

Ambassador's authority used to purchase
100 backpack ULV sprayers \$25,000

Total FY 1989 \$25,000

TOTAL \$100,000

Assistance Provided by the International Community

International Organizations

EC - supported rental/purchase of vehicles and furnished a helicopter and insecticide.

FAO - provided 200 sprayers, technical assistance, and operational expenses.

OAU/African Development Bank - furnished a pickup truck and contributed toward operating expenses.

Governments

France - sent an environmentalist and provided 150 MT of poison bait and other pesticide.

Germany, Fed. Rep. - donated sprayers and pesticide, valued at \$164,653.

Netherlands - assisted with operational expenses and donated sprayers, all worth \$64,000.

SUDAN

On May 20, 1988, mature swarms were first reported entering Northern Darfur province from Chad. By the end of July, 350,000 ha. were infested and 2,500 ha. were treated. After a disaster declaration by the U.S. Ambassador on July 29, OFDA provided funds and radios to support an aerial spray operation run by the Sudanese Plant Protection Department. Egg laying, hatching, and hopper maturation occurred in August.

By the end of the month 180,000 ha. were infested with hoppers and control teams had treated nearly 46,000 ha. Over 550,000 ha. were reported infested by September and nearly 170,000 ha. were treated during that month. Despite heavy infestations of locusts during the summer campaign, only minor damage to grain and vegetables occurred, with severe localized damage in some areas. The loss of cereal production to locusts was estimated at 2%.

In November, second-generation hoppers matured and fledged, forming immature swarms by the end of the month. Most of these swarms joined earlier swarms in a general east and northeast migration to the winter breeding areas along the Red Sea coast. Nearly 770,000 ha. were reported infested and 207,000 ha. were treated during November. The treated area included 26,000 ha. along the Red Sea coast.

The U.S. Ambassador issued a new disaster declaration on Dec. 30, 1988, and OFDA responded by sending a DLTF program officer and a logistician to help plan control activities. From May 22 to Dec. 31, 1988, over 3.7 million ha. were infested with desert locusts in the summer breeding areas of Sudan, and over 880,000 ha. were treated by ground and aerial teams.

However, dry vegetative conditions forced many swarms from the winter breeding grounds along

the Red Sea coast. The locusts continued east to the Arabian peninsula. Some breeding, nevertheless, occurred in favorable areas of the Tokar Delta and Wadi Oko/Diib but were controlled without emergency measures.

Action Taken by the Government of Sudan (GOS)

Control activities by the GOS amounted to almost \$1.8 million in FY 1988.

Summary of USG Assistance

FY 1988

First Disaster Declaration (07/29/88)

Charter of helicopter and spray aircraft . \$555,000

Radio equipment and transport \$21,925

Protective clothing and transport \$9,108

Technical assistance of radio engineer \$7,245

Technical assistance (USDA/OICD) \$39,137

Unspecified Mission purchase
(USAID/Khartoum funds) \$30,000

Total OFDA \$632,415

Total Other USG \$30,000

Total FY 1988 \$662,415

FY 1989

Carry-over for FY 1988 disaster declaration

Aircraft for DLTF assessment team \$25,000

Greenness maps \$49,531

Second Disaster Declaration (12/30/88)

Procurement of radio equipment \$6,853

Technical assistance (logistics/operations expert, locust control coordination officer, assistant to USAID/Khartoum to start up aerial control program) \$50,599

Total FY 1989 \$131,983

TOTAL \$794,398

Assistance Provided by the International Community

Information on specific contributions is unavailable.

TOTAL \$3,428,333

ETHIOPIA

Ethiopia fell victim to pest infestations for the third year in a row. First reports of locust activity in June noted the presence of mature swarms in the Asmara region of northern Eritrea. These locally bred adult locusts were joined by swarms migrating from heavily infested Northern Darfur province in Sudan. Wet soil from unusually heavy July and August rains provided good breeding grounds for the insects along the Red Sea coast, around Asmara, and in the western lowlands. According to the Eritrean Relief Association (ERA), the relief arm of the Eritrean People's Liberation Front (EPLF), 500,000 ha. in the region were affected.

In mid-October, locusts from Saudi Arabia invaded eastern Tigray. The Relief Society of Tigray (REST) of the Tigray People's Liberation Front (TPLF) estimated that 3,000 ha. of Tigrayan cropland sustained damage. By the end of December, low- to medium-density immature swarms were reported in Tigray and in Seraie, Hamassein, and Key Bahir areas of Eritrea. Newly fledged young swarms were prevalent in the winter breeding grounds of the Red Sea coast. However, control operations from both the rebel relief groups and the Ethiopian government helped prevent major crop damage and mass migrations of the insects into neighboring countries.

As the threat became evident in July, the Ministry of Agriculture (MOA), working with the multinational Desert Locust Control Organization for East Africa (DLCO/EA), mobilized its resources for the control campaign. An FAO consultant carried out a computerized inventory of government pesticide stocks and the MOA readied mobilization teams to organize farmers for ground operations. An official appeal for international assistance was issued, and MOA and DLCO/EA base staff arranged for strategic stocking of pesticides in northern Ethiopia. The MOA Crop Protection Service supervised the ground campaign which began in August. With USG and FAO assistance, DLCO/EA undertook aerial operations in early fall using a DLCO/EA spray plane, an FAO-funded helicopter, and two chartered aircraft. Surveys and spraying occurred in Eritrea, Tigray, and parts of Wollo. DLCO/EA also conducted an aerial survey of Harerghe which revealed no presence of locusts. Political and physical inaccessibility of the most affected areas considerably constrained GPDRE and DLCO/EA efforts.

Rebel groups also conducted locust control. In June, the ERA initiated its campaign in EPLF-occupied territory of Eritrea, treating up to 18,000 ha. of infested land by Sept. 25. In TPLF-held land in Tigray, the REST campaign started in October and included a combination of fighter aircraft spraying and farmers using traditional methods.

U.S. Charge James R. Cheek declared the insect infestation to be a disaster on Sept. 2, 1988. In conjunction with the declaration and an earlier DLCO/EA request, OFDA funded three months' worth of operational support for air and ground control teams, aviation and vehicle fuel, and repair of an aircraft engine for the locust campaign in East Africa. A portion of this assistance was used for Ethiopia. OFDA purchased 44 hours of helicopter survey time in October. An FAO-funded entomologist used the survey time to conduct an aerial assessment of Tigray and Harerghe. Additionally, OFDA arranged for the procurement and transport of 40,000 liters of malathion from Cheminova Co. in Denmark. The pesticide was airlifted to Djibouti from Europe where it arrived on Sept. 21 and was stored under DLCO/EA auspices for use in Ethiopia.

Summary of USG Assistance

FY 1988

Purchase of 40,000 liters of malathion . . \$140,220

Transport of malathion \$74,600

Grant to DLCO/EA for locust control program \$193,000

Total FY 1988 \$407,820

FY 1989

Carry-over for FY 1988 Disaster Declaration

Helicopter survey time \$15,405

Total FY 1989 \$15,405

TOTAL \$423,225

Assistance Provided by U.S. Voluntary Agencies

WVRD - donated 500 knapsack sprayers.

Assistance Provided by the International Community

FAO - provided \$90,000 for one month's flying time for one helicopter.

Italy - furnished \$500,000 in technical assistance, air support, and 30 MT of pesticide.

Oxfam/UK - sponsored an assessment of usable pesticide stocks.

United Kingdom - contributed \$370,370 to DLCO/EA for use in Ethiopia.

TOTAL \$960,370