



**USAID-financed locust control spray aircraft in northern Niger**

been treated by ground and aircraft. As a result of the control program and the excellent rains and harvest, food crops sustained minimal damage in 1988.

**Summary of USG Assistance**

**FY 1988**

Ambassador's authority for local support . \$25,000  
Radio and electronic equipment . . . . . \$49,686  
Local support for control operations  
(USAID/Niamey allotment) . . . . . \$155,000

Purchase and airlift of 60,000 liters  
of malathion . . . . . \$321,268  
Technical assistance to develop radio  
network . . . . . \$10,293  
Operations and crop protection service  
(USAID/Niamey funds) . . . . . \$400,000  
Pesticide and greenness maps  
(AID/Africa Bureau funds) . . . . . \$238,400  
*Total OFDA . . . . . \$561,247*  
*Total Other USG . . . . . \$638,400*  
**Total FY 1988 . . . . . \$1,199,647**

## **FY 1989**

### **Carry-over for FY 1988 disaster declaration**

Rental cost for 2 spray planes . . . . . \$166,000

Mission buy-in to AELGA (African  
Emergency Locust/Grasshopper Assistance  
project) (USAID/Niamey funds) . . . . . \$151,000

Total OFDA . . . . . \$166,000

Total Other USG . . . . . \$151,000

**Total FY 1989 . . . . . \$317,000**

**TOTAL \$1,516,647**

### **Assistance Provided by the International Community**

#### **International Organizations**

EC - contributed 90,000 liters of pesticide and a  
helicopter.

FAO - established a regional operations center  
(\$57,000), provided regional technical assistance  
(\$250,000) and a survey, and donated pesticide, a  
helicopter, and other equipment.

Islamic Development Bank - gave 6 Toyota  
pickups

UNDP - supported the OICALAV base and donated  
pesticide (at least 25,000 liters of fenitrothion).

#### **Governments**

Algeria - gave 39,000 liters of malathion

Canada - provided \$224,138 for operations, aircraft  
maintenance, fuel, and technical assistance

France - provided 20 MT of lindane, 100,000 liters  
of gammophale, battery motor sprayers, a  
helicopter, spray trucks, and operational costs.

Germany, Fed. Rep. - contributed pesticide (98,400  
liters of fenitrothion and 50,000 liters of

lambda-cylothrion) worth \$579,039, as well as  
3,000 battery-powered sprayers.

Korea, Rep. - provided 2 spray planes

Libya - furnished a Cessna aircraft, 27,000 liters of  
dursban, 50 units of protective equipment, and  
operational costs for the Agadez control program.

Netherlands - gave \$250,000 for the purchase of  
fenitrothion, and provided 4 planes, 30,000 liters of  
fuel, 2 helicopters, and other operational support.

Nigeria - contributed 30,000 liters of fuel and  
pesticide.

Switzerland - donated 10,000 liters of fenitrothion.

**TOTAL \$7,200,000**

## **MALI**

The infestations which started in April 1988  
spurred intensive control activities by the Mali  
Crop Protection Service, largely in crop areas. The  
infestations were particularly serious in the regions  
of the Adrar and Tamesna. USAID/Bamako  
estimated that the locust/grasshopper infestation  
affected a total of 871,000 ha. Overall crop loss  
was about 2%, but localized damage was often  
severe. In response to the U.S. Ambassador's  
disaster declaration on Aug. 26, 1988, OFDA  
procured and shipped 100,000 liters of malathion to  
Mali and provided field support. The AID/Africa  
Bureau also purchased pesticide and supported  
control activities.

### **Summary of USG Assistance**

Purchase and airlift  
of 100,000 liters of malathion . . . . . \$529,110

Mission allotment for in-country  
transport and field equipment . . . . . \$25,000

Mission buy-in for operations support and  
flying hours (USAID/Bamako funds) . . . \$500,000

Nosema pesticide trials  
(AID/Africa Bureau funds) . . . . . \$135,000

Procurement of 50,000 liters  
of malathion (AID/Africa Bureau funds) \$471,000

Greenness maps and FAO entomologist  
(AID/Africa Bureau funds) . . . . . \$115,000

*Total OFDA* . . . . . \$554,110  
*Total Other USG* . . . . . \$1,221,000

**TOTAL \$1,775,110**

**Assistance Provided by the International Community**

International Organizations

EC - furnished 32,000 liters of fenitrothion.  
Japan - supplied 25,000 liters of fenitrothion.

Morocco - provided 10,000 liters of malathion, 100 hours of fixed-wing aircraft operations, 2 jeeps, and technical assistance.

Netherlands - gave 25,000 liters of fenitrothion and provided operational support.

Norway - furnished 4 helicopters.

Switzerland - contributed 15,600 liters of fenitrothion.

United Kingdom - donated 8,000 liters of fecarn and 10 sprayers.

**TOTAL \$3,500,000**

massive invasion of egg-laying locusts from southwestern Mauritania. In response to disaster declarations from the Gambia on Oct. 14 and from Senegal on Oct. 24, 1988, the USG initially supported spraying operations of two small aircraft. It became obvious in early November, however, that these operations, and indeed all other attempts to control the locusts, would not be enough.

The use of blanket aerial treatment by a large plane operation, therefore, was recommended.

One C-130 and two DC-7s began flying only five days after the formal request was made to AID/Washington, demonstrating the rapid response capability of OFDA and the two aviation contractors which supplied the aircraft and crews. In support of the big plane operation, commercial and military aircraft flew additional quantities (253,200 liters) of malathion.

In total, the large plane operation applied approximately 460,000 liters of insecticide to 746,000 ha. in Senegal and 41,000 liters to 69,000 ha. in the Gambia. The small plane operation treated approximately 142,000 ha.

Locust control operations in Senegal successfully prevented the formation of an immense swarm of mature locusts that could have destroyed much of Senegal's agriculture and created future havoc in neighboring countries. The successful outcome was marred, however, by the unprovoked missile attack on the two DC-7s over the Western Sahara and the tragic deaths of five Americans working for T&G Aviation on the Senegal desert locust control program.

**SENEGAL AND GAMBIA**

The first locusts to be reported in Senegal entered from Mauritania on April 5, 1988, and did not cause much damage. The U.S. Ambassador declared a disaster on May 11, 1988, in anticipation of a destructive infestation and released his disaster assistance authority to purchase mobile radios for the Crop Protection Service (CPS).

The next invasion in September, however, did surprise international and local experts. A combination of an unusual movement of the intertropical convergence zone and uncontrolled locust breeding elsewhere led to the sudden,

**Action Taken by the Government of Senegal (GOS)**

The GOS paid purchase and shipment costs of \$2.5 million for 110,000 liters of malathion in FY 1989.

**Summary of USG Assistance**

**SENEGAL**

**FY 1988**

**First Disaster Declaration (05/11/88)**

Ambassador's authority used for procurement of mobile radios for the CPS . . . . . \$25,000

Technical assistance (USDA/OICD) . . . \$120,829

FAO - provided 25,000 liters of fenitrothion, 10 vehicles, technical assistance, and operational support.

UNDP - provided technical assistance.

**Governments**

Canada - furnished fixed-wing aircraft, a helicopter, and 10,000 liters of fenitrothion and assisted with ground support and operational costs.

France - donated 20,000 liters of lindane and 10,000 liters of gammophene, as well as 5,000 liters of gas and oil and 5,000 liters of avgas. France also supported an unspecified number of flight hours.

Unspecified purchase

(USAID/Dakar funds) . . . . . \$100,000

*Total OFDA* . . . . . \$145,000

*Total Other USG* . . . . . \$100,000

**Total FY 1988 . . . . . \$245,829**

**FY 1989**

**Second Disaster Declaration (10/24/88)**

Contract for 2 DC-7 aircraft for spray program . . . . . \$545,000

Contract for a C-130 aircraft . . . . . \$589,080

Purchase of fuel oil . . . . . \$6,840

Airlift of 253,200 liters of malathion . . \$870,915

DOD airlift of crash victims' bodies . . . \$51,020

Contract for 3 air tractors . . . . . \$190,000

Cost of flying Turbo Thrush aircraft from Morocco (USAID/Dakar funds) . . . \$31,400

Purchase and transport of 67,000 gallons of malathion (USAID/Dakar funds) . . . \$1,803,840

Extension of C-130 and operating expenses (USAID/Dakar funds) . . . . . \$196,160

*Total OFDA* . . . . . \$2,252,855

*Total Other USG* . . . . . \$2,031,400

**Total FY 1989 . . . . . \$4,284,255**

**TOTAL \$4,530,084**

**GAMBIA**

**FY 1989**

**First Disaster Declaration (10/14/88)**

Ambassador's authority used for purchase of pesticide, fuel, and equipment . . . . . \$25,000

**TOTAL \$25,000**

**Assistance Provided by the International Community**

**International Organizations**

Common Fund - allocated \$633,000 for insecticide and shovels.

EC - contributed \$1,200,000 for an entomologist, a logistician, and 130,000 liters of fenitrothion.

FAO - furnished \$153,000 for early warning and regional coordination, as well as camping materials, radios, 4 planes, a helicopter, and fuel.

Islamic Development Bank - gave \$250,000 for materials and a vehicle.

OAU - contributed \$97,000.

OICALAV - provided \$787,000 for operations.

UNDP - donated \$47,000 for equipment.

**Governments**

Canada - dispatched a regional locust coordinator and 2 small planes.

France - provided \$333,000 for a helicopter, a plane, pesticide, radios, and other equipment.

Japan - furnished \$3,700,000 for pesticide and equipment.

Netherlands - gave \$4,000,000 via FAO for the West Africa control program.

Spain - donated \$33,000 for fenitrothion.

United Kingdom - provided \$40,000 for pesticide and an equipment handbook.

**TOTAL      \$11,273,000**

**MAURITANIA**

Heavy rainfall in the summer and fall of 1987 gave rise to environmental conditions that were favorable for locust breeding and survival.

Although the 1988 season began and ended with locusts in the northern regions, the main impact of the locust plague was felt in southern pastoral and agricultural areas. Rain continued in the northern regions in early March 1988 and control programs continued on an austere level with questionable impact. Reportedly, swarms of adult locusts moved in and around Mauritania in June.

In August, all observed that treatment efforts were inadequate because of the vastness of the infested regions and the rapidly increasing numbers of locusts. The U.S. Ambassador declared a disaster on Aug. 30, 1988, and OFDA airlifted pesticide to Mauritania to support an upscaled campaign. By early September, rainfall in the south and southeast had exceeded the heavy levels of the previous year, and the area was ecologically suited for locust proliferation.

By mid-October, the FAO and Canada had each increased operations to two spray planes, and the French also had mounted a small, two-plane operation.

In response to a new disaster declaration on Oct. 27, 1988, OFDA began providing technical assistance and deployed four Turbo Thrush aircraft. The USG-funded operations were conducted from early November to mid-December with a total of 156,150 ha. treated. The combined control operations treated nearly 900,000 ha. during the 1988 season with the assistance of the Mauritanian military and the involvement of Peace Corps volunteers.

**Summary of USG Assistance**

**FY 1988**

**First Disaster Declaration (08/30/88)**

Purchase and airlift  
of 100,000 liters of malathion . . . . . \$522,877

Leasing of aircraft and  
transport support . . . . . \$35,000

Technical assistance (USDA/OICD) . . . . \$71,087