

PD-AAU-750
48136

PROJECT PAPER

AFRICAN EMERGENCY LOCUST/GRASSHOPPER ASSISTANCE

698-0517
625-0517

March 17, 1987

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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE

3

COUNTRY/ENTITY
Africa Regional

3. PROJECT NUMBER
698-0517 (625-0517)

4. BUREAU/OFFICE
AFR/OEO

5. PROJECT TITLE (maximum 40 characters)
Africa Emergency Locust/
Grasshopper Assistance

6. PROJECT ASSISTANCE COMPLETION DATE (FACD)

MM DD YY
09 30 90

7. ESTIMATED DATE OF OBLIGATION
(Under "B" below, enter 1, 2, 3, or 4)

A. Initial FY 87 B. Quarter 3 C. Final FY 89

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 87			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	4,000		4,000	15,000		15,000
(Grant)	(4,000)		(4,000)	(15,000)		(15,000)
(Loan)						
Other						
U.S.						
Host Country		2,000	2,000		7,000	7,000
Other Donor(s)	25,000		25,000	40,000		40,000
TOTALS	29,000	2,000	31,000	55,000	7,000	62,000

9. SCHEDULE OF AID FUNDING (\$000)

A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FNX	120	070				14,000		14,000	
(2) FHX	120	070				1,000		1,000	
(3)									
(4)									
TOTALS						15,000		15,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODE
210

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code BS BR
B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

The project will, in accordance with the operational authorities of Africa Bureau medium-term locust and grasshopper strategy: a) treat the recovery and rehabilitation aspects of problems generated by the locust and grasshopper pest problem currently threatening many African countries, and help to bring it back under control; and b) help to establish improved management and control mechanisms that will keep this problem under control in the future.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
05 88 05 89 05 90

15. SOURCE/ORIGIN OF GOODS AND SERVICES

060 941 Local Other (Specify) see waivers

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

17. APPROVED
BY

Signature

David C. Fischer

Title

Director, Office of
Emergency Operations

Date Signed

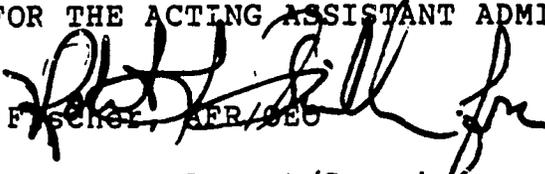
MM DD YY
02 27 87

18. DATE DOCUMENT RECEIVED
IN AID/W, OR FOR AID/W DOCU-
MENTS, DATE OF DISTRIBUTION

MM DD YY
02 27 87

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D C 20523

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: Fred C. F.  FENSCH, AFR/CEO

SUBJECT: Africa Emergency Locust/Grasshopper Assistance
Project (698-0517/625-0517), Project Authorization

I. Problem:

Your approval is required to (1) authorize a three year six month \$15 million Africa Emergency Locust/Grasshopper Assistance project; (This \$15 million project will be funded by grants totaling \$14 million during fiscal years 1987, 1988, and 1989 from the ARDN appropriation, and \$1 million from the SDP appropriation in fiscal year 1987.) (2) approve a blanket source and origin waiver from Geographic Code 000 (U.S. only) to Geographic Code 935 (Special Free World) for the purchase of survey and control equipment and pesticides and (3) approve a waiver of the provisions of Section 636(i) of the FAA, as amended for motor vehicles and spare parts financed by A.I.D. under the project.

II. Discussion:

A. Project Description: The project's dual purpose is: (1) to address the recovery and rehabilitation needs generated by the emergency locust and grasshopper pest problem currently threatening many African countries, thereby helping to bring this problem back under control; and (2) to assist in establishing improved management and control mechanisms that will keep these pests under control in the future.

The project purpose will be achieved by participating in multilateral locust/grasshopper survey and control campaigns, the broad outlines of which are coordinated through FAO-chaired international coordination conferences. Detailed country pest management plans and interventions are prepared by host governments in collaboration with Donor (Country) Coordinating Committees in each pest-infested country. Specific A.I.D. initiatives are based upon Action Plans prepared by USAID field missions, and implemented with project funding.

The focus of the project is to provide emergency assistance to alleviate the threat posed by uncontrolled locusts and grasshoppers in Africa during the next three years, not institutional development, per se. The project will provide technical assistance, short-term training, commodities, and institutional support to conduct survey and control activities.

In addition to the principal purposes of the project described above, the project committee is exploring alternatives for

responding to other types of emergency situations in Africa that cannot be identified at this time. Such situations may occur prior to the declaration of a disaster, and the initiation of OFDA operations, or after the period of direct OFDA intervention (usually 90 to 120 days). Although a general description of these needs is included in the project paper, the project paper will be revised subsequent to this authorization to delete these descriptions if and when an alternative mechanism is identified.

B. Financial Summary: In FY 1987, planned project obligations will total \$4 million, although up to an additional \$6 million will be provided by the Office of Foreign Disaster Assistance (OFDA) to cover certain pre-project activities that are essential to disaster mitigation. Details of the OFDA inputs are provided in Table II-5 of Part II, Cost Estimate and Financial Plan, of the Project Paper. For the remainder of the project's three-year obligational life, \$2 million has been identified within the Bureau's proposed FY 1988 budget--against an anticipated need of \$7 million. In addition, \$3 million has been tentatively earmarked for FY 1989--against an expected requirement of \$4 million. Although the lack of clearly identified project funding in the out-years poses a problem, it is anticipated that it will be resolved through the budget reallocation process that occurs normally during the operational year. In this regard, the Bureau will seek an additional \$2 million for obligations in FY 1987. In FY 1988, The Bureau again will seek additional funding to assure adequate financing for this emergency program. The revised project budget follows.

Table No. I-1

Line Item Project Budget by Fiscal Year
(U.S. \$ 000)

<u>A.I.D. Input</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>LOP</u>
Technical Assistance	915	1,400	800	3,115
Training	300	1,250	500	2,050
Pesticides	1,225	2,050	1,300	4,575
Control Equipment	1,100	1,800	900	3,800
Institutional Support	460	500	500	1,460
Total	<u>4,000</u>	<u>7,000</u>	<u>4,000</u>	<u>15,000</u>

Based upon the contributions of the other donors and host countries during the emergency campaign of 1986, it is estimated that host country contributions to the locust/grasshopper problem over the life of the project will total \$7 million, and other donor assistance will total \$40 million. In addition, during FY 1987, A.I.D.'s Office of Foreign Disaster Assistance will provide up to \$6 million to meet the pre-project requirements of this disaster, or disaster mitigation.

The project committee is finalizing the most appropriate methods of implementation and financing which will take into consideration the payment verification policy statements. The project paper will incorporate this plan when it is completed.

C. Technical, Economic, Social and Environmental Description:

This project is based upon the experience obtained during the multilaterally supported, emergency pest control campaign carried out in 1986. This activity has been assessed by three multi-donor evaluation teams. Their analyses and recommendations have been considered and incorporated where appropriate in the design of this project. The project design builds upon specific Country Plans and USAID Action Plans, which identify the inputs required for the control of the target pests. These plans result from donor and host country program coordination.

Recognizing the difficulty of attributing values to benefits achieved through preventive measures, and in recognition of those social and political factors that normally motivate A.I.D. participation in humanitarian responses to situations such as the threat of uncontrolled locust/grasshopper pests over the next few years, a "least cost" economic analysis has been conducted.

The socio-cultural analysis recognizes the primacy of farmer and host country responsibility for dealing with the pest problem, and the project respects this responsibility. Consequently, a special emphasis is given to collaborative planning and operational implementation with host country farmers and governments. Based upon the experience of the 1986 campaign, the project is considered to be socio-culturally sound.

Given the important role played by pesticides in project implementation, the environmental aspects of the project have been carefully reviewed. Although the requirements of A.I.D. Regulation 16 have not been satisfied, a program for addressing this requirement has been developed. It will provide a basis for justifying necessary pesticide waivers in fiscal year 1987. Further, it will address all remaining outstanding environmental issues and assure their resolution prior to the initiation of activities for the remaining two years of the project. The IEE has been approved by the Africa Bureau's Environmental Officer.

D. Implementation Plan and Administrative Analysis: Project implementation will be based upon Country Plans prepared on an annual basis by host country governments, in collaboration with Donor Coordinating Committees, in each of the project's three years. Specific initiatives for A.I.D. financing will be identified in Action Plans prepared by USAID field missions; i.e., selected elements of the Country Plans will be recommended to AID/W as being suitable for A.I.D. financing and implementation.

Project management will be the responsibility of AFR/OEO, but close coordination will be required with USAID field missions, other donors, and the various host countries in order to assure that project responses to the rapidly changing nature of the locust/grasshopper threat remain appropriate. In particular, efforts will be made to maintain a close liaison with the United Nations Food and Agricultural Organization, which has an international responsibility for maintaining surveillance of the locust/grasshopper threat on a world-wide basis.

E. Waivers:

The project constitutes a necessary response to an emergency situation in Africa that requires timely responses in a rapidly changing environment. Consequently, a blanket source and origin waiver for AA/AFR approval is included in Annex D of the Project Paper, and in the Project Authorization permitting Code 935 procurement for commodities and services of up to \$100,000 per transaction, and \$5 million in total over the life of the project. In addition to the general source and origin waiver on the procurement of commodities, Annex D of the Project Paper includes for AAA/AFR approval a blanket waiver of Section 636(i) of the FAA for the financing of vehicles of non-U.S. manufacture.

III. Justification to the Congress:

Congress was notified on February 27, 1987, of A.I.D.'s intent to obligate up to \$4 million for this project in FY 1987. The Congressional Notification waiting period expired on March 16, 1987. A Bureau determination has been made that the current Africa Emergency Locust/Grasshopper Assistance Project financial management and accounting system meets the requirements of FAA Section 121(d).

IV. Gray Amendment:

When contracts are awarded under full and open competition procedures, AFR/OEO will encourage the participation to the maximum extent possible of small business concerns, small disadvantaged business concerns, and women-owned small business concerns in this activity as prime contractors or subcontractors in accordance with Part 19 of the Federal Acquisition Regulation. A.I.D. will make every reasonable effort to identify and make maximum practicable use of such concerns. All selection evaluation criteria being found equal, the participation of such concerns may become a determining factor for selection.

V. Project Paper Documentation:

The Project Paper will require some editorial and other minor changes. Except as discussed herein, these changes will not substantially affect project design or implementation. Upon incorporation of all necessary changes, the final project paper will be submitted to you for approval.

VI. Recommendation:

It is recommended that you sign the attached Project Authorization, thereby authorizing the subject project and the requested waivers and certifying that exclusion of procurement from Free World countries other than the cooperating country and countries included in Code 941 would seriously impede attainment of U.S. foreign policy objectives and the objectives of the foreign assistance program.

Attachments: (A) Project Authorization
(B) Justification for Waivers

Clearances:

AFR/PD, CPeasley	<u>APL</u>	Date	<u>4/2/87</u>
AFR/PD/SWAP, BBurnett	<u>1/5/87</u>	Date	<u>4/2/87</u>
AFR/SWA, BAmundson	<u>(draft)</u>	Date	<u>4/1/87</u>
AFR/TR, DReilly	<u>(draft)</u>	Date	<u>4/1/87</u>
S&T/AGR, CCollier	<u>(subs)</u>	Date	<u>4/1/87</u>
GC/AFR, BBryant	<u>(draft)</u>	Date	<u>4/2/87</u>
M/SER/OP/AFR, SDean	<u>(subs)</u>	Date	<u>4/1/87</u>
AFR/DP, RWhitaker	<u>(phone)</u>	Date	<u>4/1/87</u>
AFR/CONT, RKing	<u>(draft)</u>	Date	<u>4/1/87</u>
AFR/TR, BBoyd	<u>(phone)</u>	Date	<u>4/1/87</u>

Drafted by: AFR/OEO, RLFriedline/AFR/PD, NMMcKay, rlf:02/09/87:
revised: 03/31/87: x647-8745: 1567b

PROJECT AUTHORIZATION

Country: Africa Regional
Project Name: Africa Emergency Locust/Grasshopper Assistance
Project Numbers: 698-0517 (Section 103 funds)
625-0517 (Section 121 funds)

1. Pursuant to Sections 103 and 121 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Africa Emergency Locust/Grasshopper Assistance Project for Africa, involving planned obligations of not to exceed \$15,000,000 in grant funds over a three-year period from the date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project. Except as A.I.D. may otherwise agree in writing, the planned life of the project is three years and six months from the date of initial obligation. Funding authorized under the project will be charged to the cited appropriation accounts as follows:

Section 103	\$14,000,000
Section 121	\$1,000,000

2. The project will contribute to the multilateral emergency program to eliminate the famine threat posed by uncontrolled locust and grasshopper infestations in Africa through the end of fiscal year 1990. The project will provide technical assistance, commodities, institutional support, and operational training in support of this emergency program. The purposes of the project are to help in the recovery and rehabilitation aspects of the ongoing pest problem and to help institute improved methods for keeping locusts and grasshoppers under control.

3. The project agreements which may be negotiated and executed by the officers to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate:

a. Source and Origin of Commodities, Nationality of Services.

Except as A.I.D. may otherwise agree in writing:

(1) With respect to project activities carried on in relatively least developed countries,

(a) Commodities financed by A.I.D. under the project shall have their source and, except for motor vehicles, their origin in the Cooperating Country or in countries included in A.I.D. Geographic Code 941.

(b) Motor vehicles financed by A.I.D. under the project shall have their origin in the United States.

(c) The suppliers of commodities or services financed by A.I.D. under the project shall have the Cooperating Country or countries included in A.I.D. Geographic Code 941 as their place of nationality.

(2) With respect to other project activities,

(a) Commodities financed by A.I.D. under the project shall have their source and, except for motor vehicles, their origin in the United States or in the Cooperating Country.

(b) Motor vehicles financed by A.I.D. under the project shall have their origin in the United States.

(c) Except for ocean shipping, the suppliers of commodities or services financed by A.I.D. under the project shall have the the United States or the Cooperating Country as their place of nationality.

(d) Ocean shipping financed by A.I.D. under the project shall be financed only on flag vessels of the United States.

(3) As used herein,

(a) "Relatively least developed countries" are those described as such in Handbook 1, Supplement B, chapter 5.

(b) "Cooperating Country" means a country in which an activity financed hereunder takes place.

b. Conditions Precedent.

Prior to any disbursement, or the issuance of any commitment documents under the project to finance local costs, the

responsible A.I.D. officer shall have made the programming determinations required under chapter 18A1c of A.I.D. Handbook 1, Supplement B.

4. Waivers. Based on the justifications set forth in the project paper and notwithstanding paragraph 3a above, I hereby:

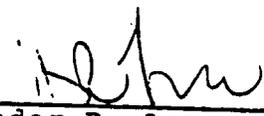
(a) Approve a blanket source and origin waiver from A.I.D. Geographic Code 000 to Code 935 to procure pesticides, survey and control equipment, and other goods and services for ground survey and control, e.g., leased vehicles and aircraft, radios and sprayers, in an amount not to exceed \$5,000,000.

(b) Certify that the exclusion of procurement from Free World countries other than the Cooperating Country and countries included in Code 941 would seriously impede attainment of U.S. foreign policy objectives and objectives of the foreign assistance program.

(c) Determine that special circumstances exist which justify a blanket waiver of provisions of Section 636(i) of the Foreign Assistance Act of 1961, as amended.

Date: _____

2/27/78



Alexander R. Love
Acting Assistant Administrator
Bureau for Africa

Clearances: As shown on the Action Memorandum

2059H

1

I. Project Rationale and Description

A. Background and Setting

There is a direct, if perverse, correlation between drought and pest cycles in Africa. During periods of drought, pestilence from locusts and grasshoppers is kept in check by the lack of moisture for the hatching of eggs. This lack of moisture also fails to produce food for hatchling locusts and grasshoppers. With the return of increased rainfall, agronomic food crop production prospects rise, but so do threats from pest-induced famine. To a major extent, this correlation between food and pestilence holds true with rats and other African pests.

Although population levels of grasshoppers and locusts are heavily influenced by weather conditions, these pests are present and lay eggs every year. Environmentally adapted to the arid areas in which they exist, the eggs of most species will not hatch if there is a lack of sufficient moisture, but remain viable until conditions improve--even if it takes until the next rainy season. Thus, with enormous numbers of eggs just waiting for the right hatching conditions, an immediate threat by locusts and grasshoppers is extremely probable after a drought breaks. Further, the geometric progression by which these pests reproduce can generate plague levels of infestation quickly.

Some locusts and grasshoppers tend to breed and develop in isolated, recession areas, where detection and monitoring are extremely difficult. Indeed, these pests can change through several instars (stages in development), and even become adults, reproduce, and congregate into swarms prior to detection. Treatment in these areas is hard to accomplish and expensive.

Since the mid-1970's the Inter-State Committee to Combat Drought in the Sahel (CILSS), the United Nations Food and Agriculture Organization (FAO), the Agency for International Development (A.I.D.), and other donors have been collaborating to protect crops from locusts and grasshoppers through integrated pest management and other crop protection measures in West Africa.

Traditionally, the treatment of locust and grasshopper infestations has been limited to the application of pesticides, or other response techniques, after these pests have gotten out of control. More recently, however, improved methods for early detection of pest threats and Integrated Pest Management techniques, e.g., satellite technology, induced diseases, and baits, have provided new and more proactive weapons for the control battle.

In 1985, normal rainfall returned to the Sahel and the other drought-prone areas of Africa following a devastating three year drought. However, little thought was given to the problem of pestilence, which was sure to follow. Those who had labored

long and hard to meet famine conditions emanating from the drought continued to be consumed with distributional problems relating to large population pockets still remaining in near starvation conditions. Further, infestations of locusts and grasshoppers in 1985 did not appear to be significantly greater than normal.

Thus, the United States and other members of the international external aid donor community initially took little notice of the problem, in spite of warnings given late in 1985 by the United Nations Food and Agriculture Organization (FAO), which has an international mandate to monitor locust/grasshopper threats, and PRIFAS, a French research organization specializing in locusts and grasshoppers. Both organizations indicated that 1986 could be a year in which infestations of grasshoppers and locusts reached plague proportions. However, this neglect of the problem began to change rapidly in the early spring of 1986. Serious infestations were detected in Sudan and Burkina Faso, and the U.S. Ambassadors to these countries soon declared that disaster conditions existed that were beyond the resource capabilities of host governments to handle.

These disaster declarations set in motion a chain of activities within A.I.D., including an initiative to assure that the leadership of the FAO was taking prompt coordination of activities to address the problem. A joint Task Force of the Bureau for Africa and the Office of U.S. Foreign Disaster Assistance was soon in place, and meeting daily. Similarly, the FAO established an Emergency Center for Locust Operations (ECLO), with special procurement and contracting authorities required to expeditiously initiate emergency locust/grasshopper control program operations.

Through the coordination of FAO/ECLO, an emergency campaign strategy was developed and implemented with considerable success. As a result, \$39 million dollars was expended to save food crops valued in excess of \$80 million. The U.S. contribution to this effort was \$9 million. The area treated by all donors was 3.8 million hectares, with over 3 million hectares of this being protected by air. Treatment initiatives were carried out in some 20 countries, including 11 in which locust/grasshopper disasters were declared by U.S. Ambassadors, i.e., Burkina Faso, Sudan, Ethiopia, Chad, Senegal, Mauritania, the Gambia, Mali, Botswana, Tanzania, and Zambia.

As noted above, control is largely dependent on timely identification and treatment. This requires the definition of exactly where there is an infestation problem, and the magnitude of that problem, as early as possible. This requires surveying by trained and well equipped technicians in the field, and then the communication of the data they gather to some central point for evaluation, analysis, and the organization of a control response.

Other A.I.D. activities are already underway to provide information needed to predict food assistance requirements. The mandate of the AGRHYMET project is to help increase food production in the Sahel by providing farmers, herders, and national planners with timely weather and climatic data, and with better knowledge as to cyclical events and their impact upon water, soils, vegetation, and crops. This is to be accomplished through a regional information system composed of interdisciplinary working groups in each CILSS country drawn from national meteorological, agricultural, and hydrological services. The Famine Early Warning System established by A.I.D. also tracks climatic data from a variety of sources to monitor the factors which seem consistently to reduce food production in Africa.

Other donors are also working to improve early warning systems, e.g., PRIFAS, a French research organization which has developed a system for predicting Sahelian grasshopper levels. PRIFAS has the ability to analyze data, but needs data to receive data more quickly. With timely data, PRIFAS could produce fifteen day forecasts every ten days during the season for Senegalese grasshoppers. PRIFAS has also developed models for African migratory locusts and desert locusts. FAO has reasonably good locust data collection and analysis capabilities, especially for desert locusts.

Throughout the 1987 and future year locust/grasshopper control campaigns, efforts will be made to coordinate the early warning and surveillance activities of the various donors, regional organizations, and host countries to increase the efficiency and effectiveness of the campaigns, and to reduce redundancy.

While the 1986 emergency control campaign has been described as highly successful, at least in the aggregate, it was not implemented without a number of very definite shortcomings. The most important of these was the failure to get the program underway early enough in the locust/grasshopper reproductive cycle. As a result, control efforts were continually tardy throughout the emergency campaign. Consequently, several of the major efforts to kill the pests through aerial spraying programs, e.g., in the Gambia and Chad, succeeded in killing adult grasshoppers only after they had laid their eggs, i.e., eggs that will hatch in 1987. It is this fact that provides the basis for expert predictions that the problem in 1987 will be even more serious than in 1986.

A second major negative factor in the 1986 emergency control campaign was the failure of the donors to reach agreement on definitions, such as what level of infestation constitutes an emergency, how to measure infestation levels, where it is appropriate to treat the pests (in croplands, rangelands, or fallowlands), what pesticides are appropriate for application, and the method for applying pesticides. The most notable of

these disagreements took place in Senegal, where the U.S. provided four-engine aircraft to conduct an aerial campaign that could not have been carried out in any other way due to a shortage of smaller aircraft, and the limited autonomy of such craft from existing staging facilities. However, many of the other donors felt that no spraying at all would have been preferred to blanket spraying over the vast areas involved.

The third major source of conflict between the donors concerned the roles to be played in the development of strategy and its implementation by the FAO, the various host countries, and the Donor (or Country) Coordinating Committees established in all the countries to which major donor resources were provided. Due to communication gaps, decisions made at the field level were often "second guessed" at all other levels, and the FAO failed to announce several campaign appeals to donors not having field representatives, who awaited FAO imprimatur of programs to determine when and where to make financial contributions.

Finally, the emergency campaign suffered from a lack of flexibility. In July of 1986, the FAO chaired a meeting of donors in which a control program for 1986 was proposed. This plan was produced long before any real assessment was made of the depth and magnitude of the problem, and did not recognize the fact that locusts and grasshoppers are notorious for their 'here today and gone tomorrow' presence. Subsequently, the FAO and several other donors showed a very strong reluctance to support any deviation from this plan- even when changed circumstances clearly indicated that revisions were warranted.

Recognizing that there were problems during the 1986 emergency control program which needed to be resolved prior to initiating the 1987 campaign, as well as a need to engage in some detailed planning, the FAO convened a December 1986 meeting in Rome. This session was preceded by a meeting of technical experts, who developed and submitted a series of policy and operational recommendations for approval by the donor representatives. The U.S. representatives were exceptionally successful in achieving their positions on the various issues, and major positions they advanced were subsequently adopted by the donors. These are discussed in greater detail in the Technical Analysis, Section V A of this paper. These issues papers are available from AFR/OEO for those desiring detailed information on these matters.

It is against this background, and in this setting, that this project was designed.

B. Project Goal and Purpose

The project goal is to contribute to the improved nutritional status and well being of Africans by reducing the threat of locust and grasshopper plague-induced famine, and its associated economic and social suffering.

The project's purpose, in accordance with the medium-term policy of the "Africa Bureau Locust/Grasshopper Strategy Paper" of February, 1987, is to: (1) treat the recovery and rehabilitation aspects of problems generated by the locust and grasshopper pest problem currently threatening many African countries, and help to bring it back under control; and (2) help to establish improved management and control mechanisms to keep this problem under control in the future.

A separate--financially distinct--purpose of the project is to establish a mechanism through which the Bureau for Africa can mobilize resources to respond quickly to other types of emergency situations that may arise in Africa. This element of the project has no funding allocated to it at present, nor are funds programmed for this purpose. A full discussion of how this project element may be accessed is contained in Section V E of this project paper.

C. Summary Project Description

The "Africa Bureau Locust/Grasshopper Strategy Paper" of February 1987 defines a special project role for assisting affected countries recover and rehabilitate from the effects of locust and grasshopper plague conditions during the medium-term period that often occurs between the termination of disaster conditions, as defined by the period of direct OFDA intervention (usually 90 to 120 days), and the conceptualization, design, and implementation of traditional long-term A.I.D. development assistance projects (18-24 months). This project is just such an activity. It is designed to focus resources on an imminent emergency, and to control that problem as quickly as possible.

Although a number of the activities financed by the project will have host country institution building effects and create a capacity to deal with any future recurrences of the problem, the project's success must be evaluated in terms of the speed and efficiency with which it helps to identify and control the immediate crisis. As noted earlier, the present locust and grasshopper problems of Africa are not unique, and the current crisis has undergone one year of treatment under emergency conditions. This project draws upon past experience in dealing with the problem, particularly that of the 1986 emergency control program, to define a carefully vetted strategy and an implementation plan for resolving it.

In essence, the strategy for treating the locust/grasshopper threat consists of the following simple steps.

- Obtain agreement among the major donors, the FAO and affected African host countries concerning the policies and tools to be used in implementing the locust/grasshopper control campaign in 1987.

- Provide assistance, as necessary, to enable governments and Donor Coordinating Committees in affected, or threatened, African countries to prepare individual, field level designed, Country Plans for treating the pests. The office of the FAO field representative will act as the Secretariat for this exercise, and forward the final products to FAO/Rome for issuance of international appeals.
- Provide assistance, as necessary, to enable USAID field missions to analyze the Country Plans, and recommend elements of them for U.S. financing through the submission of Action Plans.
- Develop and implement training programs for Africans, in collaboration with the other donors and the FAO, to assure that trained human resources are available in sufficient numbers to facilitate, when needed, the implementation of Country Plans.
- Continue to coordinate with other donors, using FAO/Rome as a Secretariat, to assure that Country Plans are fully subscribed, and organized to function properly.
- Assure full U.S. technical participation in pest threat assessments, as well as in all other technical activities that provide a basis for determining the form and substance of program operations.
- Implement ecological baseline studies to provide an empirical basis for analyzing the effects of various treatment procedures, including environmental assessments and pesticide testing activities.
- Assist member-supported regional organizations, and national plant protection services, as recommended in USAID Action Plans, to maintain a functional capacity to treat emergency pest infestation threats.
- Engage in research activities in such relevant areas as biological control, the use of satellite technology for locating the pests, baiting and other pesticide application methods, and assessment of the costs and efficacy of various treatment programs. This includes using programs and facilities of the U.S. Department of Agriculture and the Environmental Protection Agency.
- Periodic programmatic, managerial, and administrative assessment of the current campaign, with particular emphasis upon the resources provided by A.I.D. and the internal coordination between AFR/OEO, the OFDA, and such central bureaus as the Bureau for Science and Technology. The results must then be factored into the succeeding year's campaign.

The initial step in developing the strategy was taken in December of 1986, at the previously mentioned FAO conference of donors and affected African countries (principally from Africa's Sahel region). At this meeting, the U.S. presented 45 issues papers, replete with draft U.S. policy positions. These documents analyze such subjects as environmental considerations, communications, pesticide use and handling, various entomological issues, aircraft usage, and logistics. Without exception, the U.S. positions on these issues were adopted by the other donors and they became part of recognized FAO policy for dealing with the locust/grasshopper crisis. Among the more important of these was the decision to discontinue use of such environmentally dangerous pesticides as BHC and dieldrin.

During this same time frame, a decision was reached in the Office of the Administrator of A.I.D. that the U.S. would provide up to \$10 million in 1987 to fight the locust/grasshopper problem. Further, it was agreed that OFDA would provide up to \$6 million of this amount, and cover the immediate costs associated with U.S. participation in the 1987 international control campaign. In essence, these are expenses that the Africa Bureau can not cover pending the authorization of this PP. These pre-project investments include such items as the pre-positioning of pesticides, the financing of egg pod surveys and training programs, equipment, technical personnel to support host country and USAID planning activities.

Project implementation operations will follow a simple process.

- Country Plans, approved by host countries and Donor Coordinating Committees, will be forwarded to FAO/Rome for formal issuance of appeals for donor assistance.
- The FAO will coordinate contributions to the Country Plans, and monitor the actual versus anticipated levels of infestation to assure that all requirements are met.
- USAID field missions will recommend appropriate elements of the Country Plans to AID/W for financing through Action Plans, as well as keep Washington and other relevant posts up to date on the status of the threat and ongoing control programs through regular numbered status reports.
- AFR/OEO will chair special coordination meetings at which resources will be allocated to respond to field mission Action Plans, as well as determine how available resources will be allocated among competing requirements.
- AFR/OEO will also initiate various types of ecological and operational research to find better ways of dealing with the threat posed by grasshoppers and locusts. This includes assessments of economic, programmatic, and managerial effectiveness.

Activities to be financed by the project include the remainder of the 1987 control program, and the anticipated requirements of the 1988 and 1989 control programs. It is expected that the pest infestation will be under control by the end of the 1989 control campaign. Indicative items of particular significance that will be financed by the project include the following.

- Support for field control operations, including technical entomological support, campaign management assistance, training and institutional support to national plant protection services, survey materials, pesticides, and spraying equipment.
- A Programmatic Environmental Assessment. A draft Scope of Work for this assessment is attached as Annex E.
- A pesticide testing program in three pest threatened ecological zones of Africa, in coordination with the USDA and the Environmental Protection Agency. Related research will be carried out to develop effective natural pesticides, e.g., crushed neem tree seeds.
- Meetings and conferences where campaign strategy will be formulated and field operations planned. The U.S. will continue to stress its various ecological and policy positions at these events.
- Institutional support for the environmental and pesticide testing programs of the Desert Locust Control Organization of East Africa (DLCO-EA).
- Research in various biological control areas, such as *Nosema Locustae* and viral diseases, in coordination with the U.S. Department of Agriculture.
- Satellite mapping research through the U.S. Geological Survey to develop better survey and assessment techniques, as well as to improve operational response capabilities.

The specific financing requirements for 1988 and 1989 will be dependent upon the outcome of 1987 operations. Thus, the project includes internal assessment activities to adjust its economic, administrative, and managerial implementation, with particular emphasis on preparations for new campaign years.

One additional aspect of the evaluation process deserves special attention. Because of the recurring nature of locust and grasshopper plagues, evaluations of the project will be charged with identifying control activities meriting consideration for long-range project assistance, as defined by the Africa Bureau Locust/Grasshopper Strategy Paper of February, 1987. Such activities will be implemented, of course, by the Bureau's Geographic Offices and USAID field missions.

II. Cost Estimate and Financial Plan

A. Project Contributions

This project provides the U.S. contribution to a multilateral campaign to control locusts and grasshoppers in Africa, an effort which is expected to take three more years to achieve. In 1986, the donors contributed nearly \$40 million to this end, of which \$9 million was provided by the U.S. No estimates exist of host country contributions to the 1986 emergency control campaign.

It is anticipated that donor contributions will decline over the next three years, as the sense of immediate emergency declines. Other donor contributions are estimated at \$25 million in 1987, and \$40 million over the three year life of the project. The principal other donors are Canada, France, The European Economic Community, The Netherlands, Germany, and the FAO. Table II-1 provides an indicative list of host country and other donor contributions to the 1987 campaign, as of the end of February, 1987.

Table II-1

Indicative List of Contributions to the
1987 Locust/Grasshopper Control Campaign
(000 of units)

<u>Contributor</u>	<u>Purpose</u>	<u>Amount</u>
<u>Burkina Faso</u>		
Canada	Training, Operating Expenses, and Pesticides	\$1,770
EEC	Pesticides, Experts, Clothing	155 ECU
FRG	Training, Environmental analysis, Sprayers, Protective Clothing, Pesticides	700 DM
<u>Chad</u>		
Govt. of Chad	Pesticides	100,000 CFA
EEC	Pesticides, Experts, Clothing	155 ECU
FRG	Experts, Protective Clothing	210 DM
France	Flying Hours, Operating Expenses, Equipment, Egg Pod surveys	490 F
Indonesia	Operating Expenses	\$10

Italy	Protective Masks	NA
World Vision	Hand Sprayers	NA
Switzerland	Training	\$7.8
<u>Gambia</u>		
Govt. of Gambia	Egg Pod Survey	NA
<u>Mali</u>		
EEC	Pesticides, Experts, Surveys	210 ECU
<u>Mauritania</u>		
FAO/TCP	Training	\$20
Japan	Pesticides	NA
<u>Niger</u>		
EEC	Pesticides, Protective Clothing, Experts	295 ECU
<u>Nigeria</u>		
EEC	Pesticides, Protective Clothing, Experts	180 ECU
<u>Sudan</u>		
UK	Pesticides, Vehicles	NA
<u>Sahel Regional</u>		
OAU	Operating Expenses for CILSS	\$300
<u>West Africa Req.</u>		
France	Air Flights, Helicopters, Sprayers, PRIFAS, Operating Expenses	20,000 FF
<u>DLCO-EA</u>		
UK	Pesticides, Sprayers, Pumps, Radios, Protective Clothing	NA

(Source: FAO)

As donor contributions decline during the latter part of the project, it is expected that host country contributions will increase from \$2 million (local currency) in 1987, to a total of \$7 million over the life of the project. These will be local currency contributions, consisting largely of recurrent budget costs for the support of national plant protection services.

As previously stated, the FAO has an international mandate to monitor the locust/grasshopper problem on a world-wide basis, and it will act as the Secretariat/Coordinator for the current crisis in Africa. In this role, it is responsible for assuring that the financing required to implement each individual Country Plan is available, and that resource inputs are available for each Plan element. This is a difficult task, given the mechanisms used by donors for making contributions to the campaign. These are:

- through bilateral programs negotiated between the donor and the host country in support of the Country Plan, or a specific portion of it; and
- through the assignment of resources to the FAO for the general campaign, for a specific type of activity, or for a specific country.
- direct financing by donors of goods and services.

In the 1986 emergency campaign, A.I.D. used both mechanisms. In 1987, A.I.D. assistance will be provided through the bilateral agreement process, as preferred by most host countries. Special care will be taken by AFR/OEO to assure that the FAO is kept apprised of the type and magnitude of U.S. contributions.

A.I.D. contributions to the locust/grasshopper control campaign in 1987 will total up to \$10 million, including \$6 million provided by the OFDA to cover pre-project implementation activities, i.e., disaster mitigation activities for which commitments had to be made prior to the authorization of this project. In the final two years of the project, OFDA inputs will be limited to situations involving disaster declarations.

Project requirements for the 1987 control campaign will total \$4 million. Approximately half of this amount will support campaign activities of USAID field missions. The remainder will initiate environmental and research activities. Although the resource requirements for campaign operations in 1988 and 1989 will be dependent upon prior campaign and weather factors, there will be a major requirement in these years for financing to complete the research and environmental studies begun in 1987. Should additional funds become available in 1987, it would be desirable to provide these activities with supplemental funding.

In 1988, the project will require additional resources to cover many of the items previously financed by the OFDA. In addition, continued financing will be required for campaign financing, research activities, and further environmental assessment. This is expected to require \$7 million of new obligational authority. Should additional funds become available and be obligated in 1987, perhaps from deobligations, this resource requirement could be reduced accordingly. Of course, the return of drought in 1987 would reduce the locust/grasshopper problem in 1988, at the expense of a different set of emergency conditions.

The anticipated \$4 million budget for 1989 represents resources required for 'mop up' operations upon the resolution of the current problem, plus final requirements for research, project evaluation, and environmental assessment. As with the 1988 budget, the 1989 budget level is highly conditional upon events transpiring during the two preceding years.

B. Budgetary Analyses

Table 1, the Summary Cost Estimate and Financial Plan, provides an aggregate summation of the expected financial requirements for control campaign operations and U.S. research and environmental studies. It does not include financing for research activities that might be undertaken by other donors and African host countries. No data on any such activities is available at the present time. Further, it does not report local currency contributions that might be provided by USAID field missions, or other donors. This factor must be kept in mind when comparing the control campaign contributions of the U.S. and the other donors. It must also be noted that no inflation or contingency factors are included in Table 1, or anywhere else in the financial analysis. These items are excluded from the analysis for three basic reasons: (1) there are few activities in the control campaign that have fixed costs, dependent as the activity is upon the vagaries of weather and the pests themselves; (2) the budget items themselves are highly indicative, and it makes little sense to add an arbitrary estimate on top of what is already only an approximation; and (3) the large number of other donors to the control campaign, which provides a wide range of optional sources for obtaining additional resources.

Table II-2

SUMMARY COST ESTIMATE AND FINANCIAL PLAN

(U.S. \$ 000)

Funding Sources	A.I.D.		Host Country		Other Donors		Total
	FX	LC	FX	LC	FX	LC	
Tech. Assist.	3,400	-	-	-	7,000	-	10,400
Training	1,600	-	-	500	4,500	-	6,600
Pesticides	4,500	-	-	-	11,000	-	15,500
Equipment	3,500	-	-	-	8,000	-	11,500
<u>Inst. Support</u>	<u>2,000</u>	<u>-</u>	<u>-</u>	<u>6,500</u>	<u>9,500</u>	<u>-</u>	<u>18,000</u>
Total	15,000	-	-	7,000	40,000	-	62,000

Although project outputs are focussed narrowly, Table II-2, Costing of Project Outputs by Inputs, provides an interesting analytical perspective. In particular, it indicates that significant A.I.D. resources (31%) are being devoted to activities that may affect locust/grasshopper control long beyond the project's life. Most of these are in the area of research and improved management. To some extent, they have a clear institutional development nature. This occurs even though institutional development is not cited as the project's goal or purpose.

Table II-3, Projection of Expenditures by Fiscal Year, shows the anticipated decline of other donor support for the locust and grasshopper problem as control activities become effective against the current problem. Indirectly, it suggests a further problem for the affected host countries.

Various campaign activities, especially those involving training and institutional support for national plant protection services, tend to generate governmental recurrent costs. Since affected African governments already face severe financial crises, with few exceptions, it appears that a negative effect of solving the locust/grasshopper problem could be the strain placed on the recurrent cost budgets of national governments. Consideration of this possibility provides another reason why this project is avoiding an institutional development approach to the resolution of the problem. Indeed, until African government financial problems begin to diminish, the recurrent cost problem would appear to justify handling future recurrences on a similar emergency basis.

Table II-3

Costing of Project Outputs by Inputs

(U.S. \$ 000)

<u>Project Inputs</u>	<u>Project Outputs</u>				<u>Total</u>
	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>	<u>No. 4</u>	
<u>A.I.D. Funds</u>					
Tech. Asst.	2,400	100	600	300	(3,400)
Equipment	-	-	3,000	500	(3,500)
Chemicals	-	-	4,500	-	(4,500)
Inst. Support	-	-	1,200	800	(2,000)
Training	-	900	400	300	(1,600)
Total	2,400	1,000	9,700	1,900	15,000
<u>Other U.S.</u>	-	-	-	-	0
<u>Host Country</u>					
Training	-	500	-	-	(500)
Inst. Support	-	-	-	6,500	(6,500)
Total	-	500	-	6,500	7,000
<u>Other Donors</u>					
Tech. Asst.	N/A	500	4,000	2,000	(6,500)
Equipment	-	-	6,000	-	(6,000)
Chemicals	-	-	10,000	-	(10,000)
Inst. Support	-	3,000	4,000	7,000	(14,000)
Training	-	1,000	2,000	500	(3,500)
Total	N/A	4,500	26,000	9,500	40,000
<u>Total</u>	2,400	6,000	35,700	17,900	62,000

No. 1: Research Technologies in Pesticides, Biological Controls, Environmental Impacts, and Early Warning

No. 2: Africans Trained in Locust/Grasshopper Control

No. 3: Reassertion of Control over the Pest

No. 4: Improved Management and Control Techniques

A specific line item budget for FY 1987, is provided in Table II-4. It also shows how the \$4 million to be obligated in the first year of the project will be spent in terms of funding categories.

Table II-4
AFR/OEO, FT 1987 Obligation Plan
(U.S. \$000)

<u>Line Item</u>	<u>Amount</u>	<u>Funding Category</u>
Pesticide Testing Program	550	Technical Assistance
Programmatic Environmental Assess.	300	Technical Assistance
Nosema Locusta Research Project	200	Technical Assistance
Technical Campaign Support	500	Technical Assistance
DLCO/EA Institutional Support	300	Institutional Support
Training Workshops	300	Training
FAO Conference for E & S Africa	50	Training
Chemicals/Pesticides	1,000	Commodities
Equipment Procurement/Leasing	<u>800</u>	Commodities
Total	4,000	

Table II-5
Projection of Expenditures by Fiscal Year
(U.S. \$ 000)

<u>Fiscal Year</u>	<u>A.I.D.</u>	<u>Host Country</u>	<u>Others</u>	<u>Total</u>
1987	3,500	2,000	25,000	31,000
<u>OFDA</u> 1987	(6,000)			
1988	6,000	3,000	10,000	20,000
1989	3,500	2,000	5,000	11,000
<u>1990</u>	<u>2,000</u>	<u>0</u>	<u>0</u>	<u>2,000</u>
All Years	15,000	7,000	40,000	62,000

With the exception of the non-add line contained in Table II-3, details concerning the up to \$6 million that the OFDA is providing for pre-project costs are not covered in the Budgetary Analysis. This understates the magnitude of the U.S. contribution to the 1987 locust/grasshopper control campaign. Table II-6, Status of OFDA Commitments to the 1987 Control Campaign, provides a report on OFDA financial activities, current to the date of Project Paper preparation. It is significant to note that more than \$3.1 million, or 52%, of the OFDA contribution has been allocated prior to the approval of the PP. This provides a clear indication of A.I.D.'s commitment to the campaign effort. Further, it demonstrates the degree to which the project is part of an on-going activity that is well under way.

Table II-6

Status of OFDA Commitments to the 1987 Control Campaign

(January 1 to February 20, 1987)

<u>Country</u>	<u>Amount</u>
Burkina Faso	618,400
Chad	1,191,000
The Gambia	96,000
Mali	170,000
Senegal	3,375
Sudan	1,032,290
Total	3,111,065

III. Implementation Plan

A. Description of Responsibilities

It would be misleading to think of this project as a self-contained activity. Rather, it is one piece of a much larger effort to identify and control locust and grasshopper infestations all over Africa. This necessitates coordination efforts involving African host countries, international organizations, African regional organizations, other international donors, and A.I.D. The responsibilities of these various organizations, and how they fit together is described in detail below.

1. African Host Countries: The primary responsibility for dealing with locust and grasshopper infestations in Africa rests with the Africans, and their governments. This critical consideration must not be lost in the hurried process of attempting to deal with the problem.

Unfortunately, most of the African countries infested by the pests are already suffering from severe financial problems, including the residual effects of the recent 1983-1985 drought. Thus, they do not have the financial resources to deal with the problem. This has meant that adequate resources have not been provided to maintain the technical skills and capabilities that existed at the end of the most recent infestation of plague proportions, about ten years ago. In the absence of serious threats, national plant protection services focussed upon alternate priorities. In many cases, they also were forced to cut back severely on operational activities in order to meet recurrent expenses.

At the end of the last major locust/grasshopper outbreak, regional organizations to deal with the problem were in place in many parts of Africa, and individual countries came to rely upon them for meeting potential threats. In many cases, however, this reliance did not extend to keeping membership contributions current.

Under these conditions, most affected African countries have had to rely on emergency/ad hoc contributions from their major foreign assistance donors for resources with which to address the problem. Despite their penury, these countries must recognize that the external resources provided for this problem, in most cases, are additional to normal assistance levels. Further, they must take advantage of this opportunity by assuring that personnel are available for training and operational tasks, providing support for short-term technical advisors and researchers, eliminating all taxes and customs duties on locust/grasshopper commodities and equipment, and taking

extraordinary steps to facilitate the rapid delivery, customs clearance, and application of campaign supplies.

Finally, the affected host countries must assume individual responsibility for developing approved Country Plans for the implementation of locust and grasshopper control campaigns, working collaboratively with the Donor Coordinating Committees established in each of the affected countries. These two responsibilities derive directly from the primary onus these countries have for dealing with their own problems, as noted previously.

2. Regional Organizations: As alluded to above, efforts have been made over several years to institutionalize a regional capacity to deal with the locust/grasshopper issue in Africa. In most cases, these efforts met with failure. Basically, this has been because member governments have not had the resources to support their specialized and rarely utilized capabilities. As a result, only the Desert Locust Control Organization of East Africa (DLCO/EA) has played a significant role in the current emergency. However, during the 1986 campaign it was possible to obtain the services of many well trained former employees of such organizations as OICMA and OCLALAV, and this had a definite effect on its success. Similarly it will effect the 1987 campaign.

Not until African countries can cover the expenses of specialized regional organizations will it make sense to provide donor assistance to them. A possible exception to such a policy may be DLCO/EA. However, a more systematic attempt must be made to assure that the skilled technicians of former regional organizations are fully utilized in the current control campaign, and eventually incorporated in national plant protection services.

3. FAO: The FAO received an international mandate to monitor locusts and grasshoppers on a world-wide basis at the conclusion of the last major plague. Although it has continued to carry out this responsibility, the resources assigned to this function declined along with perceptions of its importance in the absence of major infestations. Full-time staff dedicated to the problem, survey capabilities, reporting networks, and influence with its client countries declined accordingly.

Nevertheless, the FAO was one of entities to recognize and predict, late in 1985, that a serious infestation problem would occur in 1986. In addition, in 1986 it created an emergency unit (ECLO) to coordinate donor resource inputs into the 1986 emergency control campaign. The FAO has continued to perform this rather difficult coordination role, both in Rome and in individual host countries.

In the current context, the FAO has two special functions. The first is to sponsor a forum where the various players involved in the locust/grasshopper control exercise can meet to reach agreement on pertinent policy and operational matters. This is a role that the FAO has performed well, including follow-up activities to implement decisions reached at FAO sponsored conferences.

The second major role is to maintain communication with the donors involved in the control campaign and, thus, assure that the requisite resources have been identified to carry out the Country Plans approved in the field. Because some of these resources are provided through direct bilateral programs with African host countries, this has been a difficult task for the FAO to perform. It is made additionally difficult by the need to assure that resources from a variety of sources are sequentially arranged, available in-country when needed, and without critical resource gaps. Because A.I.D. is providing its resources bilaterally, and from two sources--this project and the OFDA, it must make a special effort to keep the FAO advised in this regard.

Important additional FAO responsibilities include continued monitoring of conditions to help provide early warning of where new pest infestations will occur, the development of implementation and procurement plans for expending the financial resources channeled to the problem directly through the FAO, and the issuance of international appeals for resources, in accordance with approved Country Plans. With respect to the design and approval of these plans, the FAO performs a secretariat function. The FAO is not responsible for approving or confirming the validity of Country Plans.

4. Other Donors: Responsibility for economic development in Africa has been adopted by the donor community for a wide variety of reasons. It is assumed, benevolently, that the prime motivation in the present situation is the relief of potential human suffering. This holds true for Private Voluntary Organizations, as well as for governmental donors.

Once committed to participation in the control campaign, the responsibilities of all donor organizations and countries, including the U.S., are very similar. The success of the campaign requires that the participants agree on strategy and policy, including implementation activities, and then carry them out in a timely and efficient manner.

Very importantly, the donors have a comparative advantage over African host countries in planning how to resolve

crisis situations, such as the locust/grasshopper problem. Thus, Donor Coordinating Committees were formed in virtually every one of the affected African countries during the 1986 emergency to determine the extent of the infestation and coordinate resource inputs to the control program. The donors have now enhanced the technical backstopping available to these Committees, and this should improve the planning for the 1987 (and future) campaigns. The creation of Country Plans by host countries and the negotiation of the approval by Donor Coordinating Committees, is a responsibility second only, perhaps, to the implementation of the plans. Clearly, they must make the best possible use of scarce resources. Also, they must be collaborative design efforts among the donors represented in the field, as well as the host country. The Country Plans are the cornerstones of the entire control program design process.

5. A.I.D.: As with many donor governments, A.I.D. has responsibilities at both the field and central office levels. Four principal activities dominate in the field. USAID Missions are responsible for:

- providing the U.S. with an assessment of the infestation's magnitude and location, i.e., for defining the local problem;
- participating actively in Country Plan design;
- analyzing the Country Plan, determining what elements of it are appropriate for A.I.D. financing, and advising AFR/OEO of these through the submission of an Action Plan; and
- managing the resources A.I.D. has contributed to the control campaign, and assessing the general success of the exercise.

In Washington, the principal responsibilities are to determine policy, communicate and coordinate with the other donors concerning the overall program, and allocate resources among the various competing requirements.

In addition, A.I.D. has a special interest in research and evaluation activities, which are being managed from Washington.

B. Procurement Plan

The dominant implementation feature of the project is the procurement of goods and services in a timely manner to address a problem whose location is only loosely defined. This poses special problems, and these will require the use of waivers.

The basic problem is that the exact time and location of when and where locust and grasshopper infestations will occur cannot be accurately predicted, and after they are located there is a very narrow window of opportunity during which control activities must take place in order to be cost effective.

To some extent, this problem can be ameliorated by making purchases in an orderly fashion prior to determining exactly when and where they will be needed, and then by shipping them to Africa via lower cost surface transportation. However, the higher storage and management costs of prepositioned commodities often can offset any savings otherwise generated. Another factor, or course, is the transshipment within large countries, such as Chad, over often precarious roads.

Nevertheless, it is a certainty that there will be occasions when the pests will be found in an unanticipated area. Further, such events will require an immediate response. These conditions, which cannot be anticipated in advance, necessitate the waiver of normal procurement practices. Thus, Annex D to this PP contains a waivers for approval as part of the authorization process.

-- This waiver will permit procurement of goods and services from Code 935 countries up to \$100,000 per transaction, and in a total amount of \$3 million over the life of the project. It is anticipated that this waiver authority will be used, primarily, to procure aerial spraying services when a need develops unexpectedly, there is no local capability to meet this need, and the cost of obtaining such services from the U.S. would be prohibitively expensive, even if they could be provided in a satisfactory time frame. This type of situation occurred with some frequency during the 1986 emergency control campaign.

Authority to exercise this waiver will be delegated to the Director of the Bureau for Africa's Office of Emergency Operations. In addition, the Director of AFR/OEO will have the authority to redelegate the exercise of this source-origin waiver to the Directors of USAID Missions on an individual, case by case basis. AFR/OEO will maintain a current record of any such waivers, as well as provide copies for official Agency records.

C. Training Plan

The training to be financed by the project is all short-term, and technical in its substance. Trained Africans are a significant, if incidental, output of the project. Technicians are required in order to implement the locust/grasshopper control strategy.

Training will be provided at three distinct levels, i.e., at the policy/managerial, technician, and field levels. All will be carried out in Africa. Specifically tailored syllabi are being designed for each of these levels. Further, the content of the course work draws heavily upon work done by other donors, e.g., the French locust/grasshopper research organization PRIFAS. Where possible, the training programs will be presented as a collaborative donor effort under the sponsorship of the FAO.

Based upon the three training programs being developed, special training sessions will be provided to those countries having such training elements in their Country Plans. Care will be exerted to assure that these training programs do not duplicate or interfere with those of some of the other donors active in the training area, e.g., Germany, France, and the Netherlands.

Special note should be made that the managerial/policy training will occur in the form of FAO sponsored conferences, rather than as a designated 'training' program.

D. Illustrative Campaign Implementation Scheduling

1. January through March: Except for desert locust control activities along the Red Sea coastal areas of Sudan, Ethiopia, and Somalia, and possible brown locust problems in the Southern Africa Region, this is a relatively quiet period in the campaign--at least operationally. The most important activity in the Sahel is program planning.

This is the period when the Country Plans are completed. Similarly, USAID field missions must prepare their Action Plans. In the donor capitals, preliminary resource allocations are made for the new campaign season, and procurement actions are taken for the pre-positioning of commodities and services. This is also the best time for carrying out technical training activities.

2. April through June: Depending upon the onset of the rainy season, the initial hatching season for locusts and grasshoppers begins in the southern Sahel, Sudan, and Ethiopia. It is a period during which ground control measures are taken by farmers to protect seedling crops, and control operations must be initiated in non-croplands by national plant protection services or extension units.

In 1987, A.I.D. will initiate programmatic environmental assessment programs during this time period, including baseline studies on beneficial and non-target organisms. A research activity using satellite data to provide GIS maps for locust/grasshopper survey and identification will be started in 1987. In 1988, the major pilot testing program for nosema locustae will be initiated.

This time period is also when locust/grasshoppers survey and assessment activities should get underway, particularly in the southern parts of the Sahel, including the testing of newly developed reporting/response systems.

3. July through September: Campaign operations will be at their highest in the Sahel, Sudan, and Ethiopia during this period. Depending upon the success of Phase I ground operations, it may be necessary to initiate emergency aerial spraying operations. In many places aerial spraying will be part of the Country Plan. Environmental assessment operations will also have to be carried out during this time, to determine the campaign-related changes that have occurred since the baseline data was obtained. With operations at their peak, demands will be high upon A.I.D. Mission staff in severely affected African countries, as well as upon AFR/OEO and OFDA staff resources. It will be particularly important to assure that FODAG/Rome is fully staffed to address coordination requirements. Procurement waiver authorizations will also peak during this period.

4. October through December: The Sahel element of the grasshopper campaign will terminate early in the period. Desert locust activities will continue in the Sahel, Sudan, and along the Red Sea coast. Red and Brown locust problems will begin in Southern Africa, particularly the Republic of South Africa and Botswana. Assessment tasks will come to the forefront. This is a period of campaign and project evaluation, with a need for donor coordination in order to incorporate lessons learned into the planning for the next campaign. In addition, host country/Donor Coordination Committee planning must get underway to develop the Country Plan for the following year. Finally, egg pod surveys, residue studies, and environmental assessment will occur during this period.

The rather unpredictable nature of the locust/grasshopper problem makes it extremely difficult to pin events down to specific dates. The summary descriptions provided above are, as they appear, merely indicative. The following listing of key implementation dates may be helpful in understanding the timing relationships.

March 1987	Prepare A.I.D. Regulation 16 Waivers, as required, to pre-position pesticides.
April 1987	Initiate contractor monitoring activity for economic and programmatic evaluation.
April 1987	Assure that technical and management staff are in place to help USAID Mission carry out their approved Action Plans.

April 1987	Initiate the contracting process for Programmatic Environmental Assessment. The Assessment should be completed by December, 1987.
April 1987	Initiate the contracting process for the Pesticide Testing Program. This yearly activity will be completed by December of all three campaign years in the two northern hemisphere ecological zones, and by June in Southern Africa.
April 1987	Initiate in-country training for African locust/grasshopper campaign staff.
May 1987 to July 1987	Assist Sahel USAIDs implement Phase I campaign operations.
June 1987	FAO-sponsored donor meeting for East and Southern Africa 1987 control campaign.
August 1987	Initiate Phase II control campaign operations in the Sahel.
August 1987	Initiate biological control pilot program in Burkina Faso.
October 1987	Complete final activities of 1987 control program in the Sahel.
October to November 1987	Carry out formal project evaluation.
December 1987	FAO-sponsored meeting of donors and affected African countries to evaluate the 1987 locust/grasshopper control campaign, as well as plan for the 1988 campaign in the Sahel.
January to February 1988	Preparation of 1988 Country Plans by the Donor Coordinating Committees and African host countries.
February 1988	Review by AID/W of USAID Action Plans, and assignment of 1988 campaign resources.
March 1988	Send A.I.D. assessment teams to the field to review unresolved Action Plan requests.

*Repeat the yearly cycle, with the exception of the specific one time items.

IV. Monitoring Plan

A. Special Monitoring Problems

Project Management responsibility is assigned to AFR/OEO, with the assistance of Africa Bureau technical support staff, e.g., AFR/TR, AFR/PD, etc. However, special monitoring relationships will be required because the locust/grasshopper problem is of major concern to three of the Bureau for Africa's geographic offices. This is a problem often faced by regional projects, and one with which the Bureau has had considerable experience.

Uniquely, however, this project is receiving major amounts of pre-project assistance from OFDA. In addition, coordination with OFDA will be required every time that a U.S. Ambassador declares a locust/grasshopper disaster.

A third special monitoring problem relates to the operational buy-in activities that are planned with the Bureau for Science and Technology, the U.S. Department of Agriculture, and the Environmental Protection Agency. Obviously, the Department of State also plays a role in the implementation of project operations. Inter-Bureau and inter-Agency coordination makes special demands.

Finally, the project is part of an international program of support to Africa. Coordination with other donors, the FAO (directly and through FODAG), and the various affected African countries adds a further dimension to the monitoring problem.

B. Monitoring Mechanisms

Within AFR/OEO, the Operations Branch is responsible for the management of the project. In addition to the Branch Chief, there are two full-time analysts, an entomologist and a chemical engineer, working on the locust/grasshopper problem.

Formal intra-Bureau coordination, particularly with regard to the assignment of resources among the various claimants, is being handled through AFR/OEO-chaired meetings at which USAID Mission requests for assistance are vetted. These meetings have provided an opportunity for Country Desk Officers, technical experts from AFT/TR and the Bureau for Science and Technology, OFDA, and AFR/OEO to work together to allocate resources. They have worked well in the allocation of pre-project financing from the OFDA, as well as in the reciprocal reservation of less time-sensitive activity elements for project financing. Individual Country Status Reports maintained by AFR/OEO provide an action agenda for the meetings. Subsequent cables to the field, indicating the disposition of the individual USAID requests, provide a formal record of the decisions reached.

Intra-Agency coordination has been facilitated by regular meetings held in the OFDA Operations Center. These are chaired by OFDA, and attended regularly by a variety of Africa Bureau offices, the Bureau for Science and Technology, the Department of State, the Department of Commerce, and the Department of Agriculture, among others. They are very successful, primarily because of the OFDA role in developing a daily agenda and an action assignment record. As OFDA's participation in the locust/grasshopper problem declines, it may be necessary to amend the format and venue of these meetings.

For the most part, inter-Agency coordination has been related to two types of activities. The first is involvement in campaign operations, where USDA experience in logistics and the management of aerial spray operations has been of critical importance. The second area of interaction has been in the design of specific operational activities, which will be funded by the project. The Operations Branch of AFR/OEO is charged with maintaining the quality of these relationships.

As implementation of the various experimental elements of the project gets under way, inter-Agency relationships will assume an even greater level of importance. Pilot activities in biological control mechanisms, the use of satellite imagery, and further pesticide testing will require important contributions from the USDA and Environmental Protection Agency, among others.

V. A. Summary Technical Analysis

1. Overview

The Technical Analysis (Annex F of this PP), was prepared by a pest management specialist with extensive African experience. The project was judged sound in its identification of issues, problem definition, strategy development, resource allocations, and overall implementation plan. Specific project activities were rated in terms of probable success within the project's life, and their likely sustainability. Lower success ratings applied to issues of technical complexity, or those requiring continuation beyond the proposed duration of the activity, vis a vis those involving funding levels. Most of the project's activities can be continued beyond the life of the project by other donors, or be adapted to other pest problems.

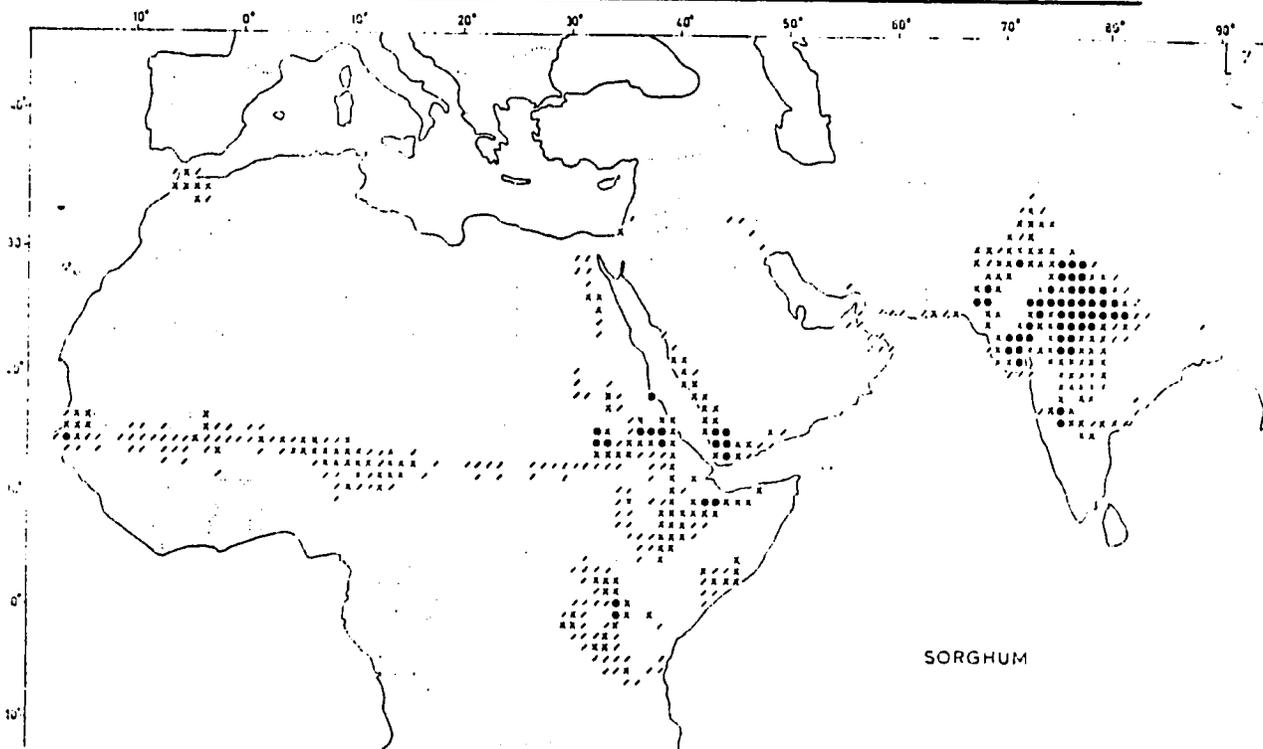
2. Assessment of the Problem

This Project Paper's description of the problem of locusts and grasshoppers, as cited elsewhere in this PP and presented in the PID and Africa Bureau Locust/Grasshopper Strategy paper, provides a correct perception of the historic significance of the major pest species. Its analysis of the present problem is also as reasonably correct as predictive analysis can provide.

The following FAO illustrations graphically summarize the vulnerability of millet and sorghum to losses due to the desert locust, Schistocerca gregarian.

Illustration No. V A-1

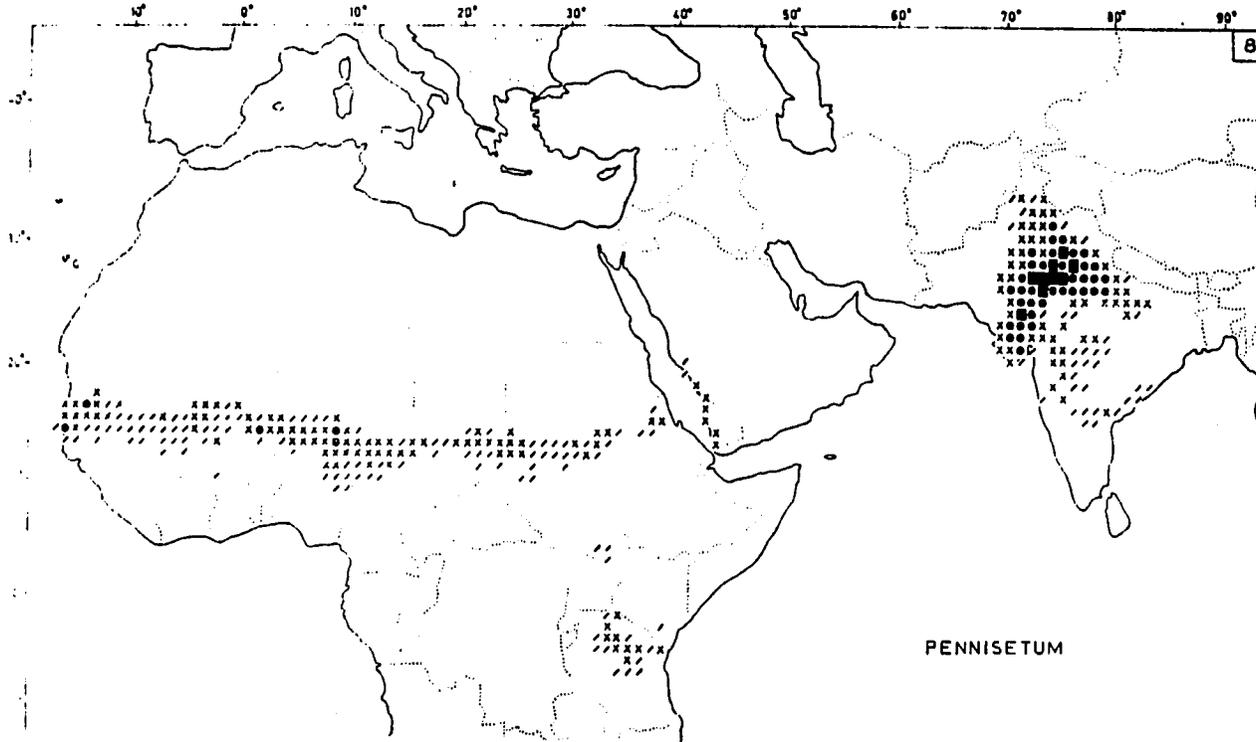
Sorghum Areas Vulnerable to Schistocerca gregarian



Source: FAO

Illustration V A-2

Millet Areas at Risk to *Schistocerca gregaria*

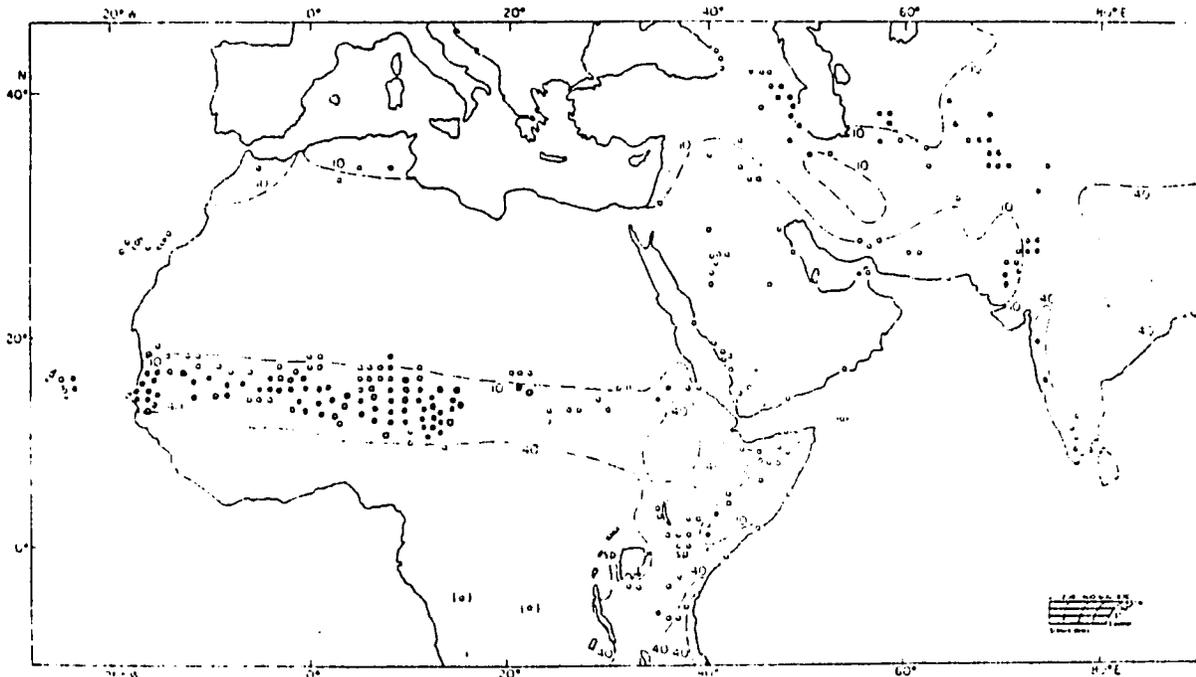


Source: FAO

The major pest species for project control is the Senegalese grasshopper, *Oedaleus senegalensis*. Illustration V A-3 shows it is densely distributed across the Sahel and East Africa.

Illustration V A-3

Areas of Major *O. senegalensis* Concentration



Source: FAO

An immediate project objective is to protect the rainfed millet crop until grasshopper levels fall within the response capability of national plant protection services. However, the economic importance of O. senegalensis, i.e., the extent to which this grasshopper poses a famine threat, is not as clear as that of the major locust species. The project, appropriately, proposes to fill that void through crop loss assessment studies.

African migrating locusts were feared to be multiplying at alarming rates in Chad and Sudan last year, but control efforts were sufficient to prevent major outbreaks. Thus, they should not pose a problem in the immediate future.

3. Identification of the Issues:

The U.S. delegation to the December 1986 FAO-sponsored meeting of technical experts in Rome posed an exhaustive list of issues papers with respect to controlling the problems of locust and grasshopper species that pose famine threats. These were accompanied by U.S. position papers, prepared through the use of in-house expertise and the resources of such other U.S. agencies such as the EPA and the USDA. A listing of these issues is contained in the Addendum to Annex F, the Technical Analysis. The position papers themselves constitute a separate document that can be obtained from AFR/OEO. This list of issues accurately reflects the major obstacles encountered during the 1986 emergency control campaign.

In addition, other related issues, such as the lack of supervision of aerial spray contractors, were raised at the Rome meeting. Many of these came to light as a result of the joint FAO/A.I.D./French/Dutch teams that evaluated the the 1986 emergency control campaign, or were identified in the course of discussion during the technical sessions.

4. Development of Coordinated Strategy.

A.I.D.'s position papers became the focal point of the Rome technical meeting discussions between the participating FAO, donor, and host country officials. The U.S. positions on all major issues were incorporated without significant change into the final document of the Rome meeting.

Subsequent to the Rome meeting, the Africa bureau finalized its Locust/Grasshopper Strategy Paper of February, 1987. It was subsequently distributed throughout AID/W and transmitted to the various concerned field missions and interested donors.

5. Allocation of Resources

Initiation of proposed project activities in time to have a significant effect on the 1987 locust/grasshopper control campaign is only possible due to close collaboration between

OFDA, AFR/SWA, and AFR/OEO. If the OFDA had not been able to provide interim funding for startup activities, such as training or short-term technical assistance, an insurmountable gap would have developed prior to project authorization, and severely curtailed U.S. participation in the joint donor effort.

In 1986, the U.S. contributed approximately 9 million dollars to a total donor effort of nearly 40 million (roughly one fourth). The proposed project has adopted no fixed proportion of the total campaign to finance, but the U.S. will continue to refrain from assuming too dominant a role.

In the PID review, a question was raised as to whether funding of this project might impact negatively upon the support needed for other pest problems, e.g., rodents or raghuva caterpillars. These other pest problems are certainly real, and in some localities may cause more crop loss than grasshoppers. Priority is given to locust and grasshoppers because (a) they are migratory and (b) control mechanisms have been identified. In the case of some other pests, control methodologies are not yet developed (i.e. Raghuva), or the pests would be more appropriately addressed as one component of a long-term development project.

6. Implementation

Although simple in concept, implementation of the proposed project will be difficult due to the dynamic nature of the pest problem it addresses, and the limited (three year) duration of most activities. The overall implementation plan is feasible, but special attention must be placed on finding means to reduce the lead time in defining the relationship of this project to others within each mission's portfolio, and in recruiting the technical assistance needed in the field. One method might be to fill most positions through a RSSA with the USDA, or through the Bureau of Science and Technology's contract with the International Consortium of Crop Protection (CICP).

Most of the field agent training will only be done in the second and third year of project implementation. During the first year it will be necessary to draft and field test didactic materials.

Full advantage must be taken of the donor coordination infrastructure established within each country during the 1986 emergency control campaign. The use of the Donor Coordination Committees will facilitate startup of new activities and help to ensure that some activities will be continued after project completion, albeit possibly with other donor funding.

Since the project is of short duration it is essential that evaluation be well planned and results be immediately used for influencing management decisions regarding the reprogramming of remaining activities.

A global qualitative analysis of proposed activities is presented as Table V A-1, Qualitative Analysis of Proposed Activities. Specific activities varied from fair to high in terms of probable success within the project's three year life, as well as in terms of sustainability. The latter consideration is evaluated upon the probability that the results obtained within the life of the project will either develop a definitive solution, or be impressive enough to prompt the host country or other donors to continue them. Further, it is anticipated that some methodologies developed during project implementation will be adapted for use against other pest problems.

It should be noted that a low probability of success for certain activities is more closely related to the technical complexity and duration of the activity than to the funding level.

7. Conclusion

The proposed project is technically sound and should meet its basic objective by the PACD. The methodologies developed may be applicable to the resolution of other pest problems. Further, since the project proposes a novel means of bridging the gap between declared disasters and long term development needs, it warrants careful evaluation as a potential mechanism for treating other types of short term problems.

Table V.A-1

QUALITATIVE ANALYSIS OF PROPOSED ACTIVITIES

ACTIVITY	How Essential?	Preportion of Total Funding	Probable Success	Difficulty (Startup)	Difficulty (Execution)	Definitive Solution	Replicable after PACD
Obtain agreement of FAO, other donors and host governments on campaign objectives and tools	Obligatory	1%	High	Moderate	Low	No (Annual Activity)	Yes
Pest Survey and Assessment	Obligatory	10%	Moderate	Moderate	Moderate	No (Deriobic)	Maybe
Establish functional Early Warning System	Very	3%	Fair	High	High	Yes	Yes
(Assist in) Development of country plans	Very	2%	High	Low	Low	No (Annual Activity)	Yes (Mission buy-in)
Develop USAID Action Plan	Very	2%	High	Low	Low	No (Annual)	Yes (By ADO)
Coordinate thru FAO with other donors re: subscription to country plans	Need to have	1%	Moderate	Low	Moderate	No (continuous)	No
Develop & Implement training programs	very	13%	Moderate	High	Moderate	No	Maybe
Ground Control Operation	Very	19%	Fair	Moderate	High	No	Yes
Aerial Control Operation	Moderate	29%	Moderate	Moderate	Low	No	No
Institutional Support	Very	6%	Fair	Fair	Fair	Yes	N.A.
Environmental Studies	Obligatory	10%	High	High	High	No	Maybe
Research in Biologicals	Need to Have	2%	Fair	High	Moderate	Maybe	Yes
Damage Assessment	Very	2%	Moderate	Moderate	Moderate	No (Continuous)	Yes

V. B. Economic Analysis

1. Background

The African Emergency Locust/Grasshopper Assistance project is the continuation of an on-going activity. It represents the formalization of a decision, already being implemented, to assist certain African countries to provide a public good, i.e., it enables these countries to provide their citizens with a service akin to national defense, light houses, or police and fire protection. Once the choice is made to provide such services, the remaining options are related to balancing the level of services desired against the resources available to finance them, or to selecting the method of providing them, e.g., force account, contracting, etc. Consequently, this economic analysis focusses upon two aspects of the locust/grasshopper infestation conundrum: (a) what are the alternative actions that might be taken instead of providing locust/grasshopper control programs; and (b), if such programs are to be provided, at what point will the amount of resources available for investment in efficient and effective locust/grasshopper control programs satisfy the desire for these services--if ever.

Before addressing these two points of principal investigation, it may be useful and revealing to examine the best data available at present (from FEWS)* concerning the efficiency of investments made to resolve the problem of locust/grasshopper infestations during 1986, when a major emergency control campaign was implemented. In summary, about 3.8 million hectares were treated at a cost of \$41.7 million dollars. The value of the production in the affected area was valued at \$78 million, but \$31.9 million of this production was lost anyway. Thus, in gross terms, an investment of \$41.7 million saved production worth \$46.1 million, and the program had a benefit/cost ratio of 1.1 to 1. On the surface, this might justly be considered less than a dramatic success.

When examined a little more closely, the FEWS conclusions become a bit suspect. The FEWS analysis assumes that only the production treated was at risk, i.e., FEWS assumes that, if left unchecked, the pests would not have placed any additional production at risk. At best, this is an heroic assumption; at worst, it points out dramatically the problem of attributing value to prophylaxis. An assumption that additional production was at risk equal to only ten percent of the amount actually treated would change the benefit/cost ratio to 1.3-1; similarly,

*FEWS Special Report, 1986 Grasshopper & Locust Infestations, March 1987, Africa Bureau, U.S. Agency for International Development

a not unlikely increase of twenty percent would make the ratio 1.5-1. An assumption that an additional ten percent of total production was at risk would increase the benefit to cost ratio to a very substantial 2.35-1.

Similar arguments could be made about the assumption made in the FEWS analysis that the value of a metric ton of production is \$131. Although grain prices might often follow the pattern suggested in the data caveat to the FEWS report, production from the peanut basin in Senegal (one of the protected, if not always treated, areas) may have been worth considerably more--especially as peanuts are a foreign exchange earning crop. Also, the price of imported grains, if it had been necessary to supplement food supplies, would have been higher than the amount provisionally attributed--the FEWS analysis appears not to have included transport costs.

Two additional observations about the existing data are worthy of mention. The FEWS analysis attributes no value to intangibles, e.g., the ability of farmers and herders, and their families, to survive on the land, rather than migrate in an unplanned or non-traditional manner and enter a dependency status. Finally, there is a hint in the data that ground control measures may be very efficient, while aerial activities are not. This may indeed be true, but aerial interventions are only undertaken when it is judged that the pest has escaped the control of ground activities, i.e., the lack of threat definitions and indexed benefit attribution values does as much to confuse the analytical process as it does to invalidate any conclusions reached by such a process.

In spite of the criticisms cited above, the FEWS analysis has performed a major service; it has made us aware that a serious, professional effort must be made during the life of the project to develop reliable data against which the various interventions and activities of the project can be evaluated, and from which economic judgements can be made. For example, at what level of infestation should intervention begin, of what type, how intensively, where in order to protect what, etc.? The selection of a contractor to develop and implement a system for answering some of these questions will be an early implementation action of the project.

2. Alternative Investment Options

The alternatives to the control program/strategy recommended by this project, and loosely agreed upon among the international donors and the affected African host countries, are on a continuum. No or minimal control action is on one end, and very significant action is on the other. To some extent, these represent intensities or types of implementation modalities, rather than distinct investment alternatives. The nature of the problem circumscribes the availability of true options.

For example, the application of the continuum model assumes, not unreasonably, that it would be neither feasible nor possible to allow the locusts and grasshoppers to take over the land and either move the residents to non-pest prone areas, or let the farmers and herders abandon agriculture for work in steel mills, automobile factories, or some other form of industrial activity. A representative sample of possible points on this continuum will be examined to help define the range of implications they might engender.

(a) No, or Minimal, Investment in Locust/Grasshopper Control: Several factors mitigate against this, admittedly, 'straw man' of an option.

-- The public, through the press and private voluntary organizations, is sensitive to the plight of disaster-prone Africa and its peoples. They would never countenance such an action by their governments to a legitimate emergency, as the locust/grasshopper situation certainly is. Further, such an action would fly in the face of established policy to respond to human suffering and distress due to natural disaster. No alternative along these lines would be acceptable, for the same basic reasons.

Beyond public opinion, there is a sound economic reason for treating the problem. Left alone, the pests might very well expand their infestation to nearly two-thirds of the continents of Africa and Asia. This has happened in the past, in the 'good old days.' The simile argument, then, is that friends help to man (person?) the 'bucket brigade' so that the conflagration will not spread.

-- (b) Provide a Feeding Program to Compensate for Locust/Grasshopper Losses: This might be done, but it poses a number of serious problems. Food assistance is expensive, particularly when compared to host country produced foodstuffs. Food assistance also has a tendency to provide a disincentive to domestic production. Finally, locust/grasshopper problems occur at the same time that domestic food production opportunities are at their greatest, e.g., production during the 1986 emergency control campaign was near an all-time high. Put another way, the relationship between national production and the disaster that befalls the unlucky small producer, who is completely wiped out by pest infestations, may be negligible. Feeding programs may keep this farmer or herder, and his family, from suffering a nutritional disaster, but it cannot prevent the economic loss to the individual--or to society as a whole because a previous producer is now a dependent.

(c) Provide Assistance Through the FAO or Another Proxy Activity Agent: During the 1986 emergency control campaign, several attempts were made to use intermediaries to speed the delivery of assistance. The most significant of these resulted in the creation of the Emergency Center for Locust Operations (ECLO). At its best, ECLO was judged to be a useful action agent. However, the FAO's comparative advantage is in providing a forum for technical and international donor exchange on the locust/grasshopper infestation problem, and in coordinating the programs that are developed as a result of these conferences.

The capital intensive nature of the locust/grasshopper control process mitigates against the use of Private Voluntary Organizations (PVO) as A.I.D. proxy agents. Very few, if any, PVOs have the capacity to manage activities that require close interaction with governments over areas encompassing several countries.

The use of other donor government implementation agents raises the problems inherent in the various joint financing/parallel financing arguments, procurement source, competition, etc. In essence, they do not provide an adequate alternative to direct involvement. National pest protection systems would provide an ideal mechanism through which to transfer resources, except that they are generally incapable of carrying out the task.

(d) Limit the use of locust/grasshopper control programs to infestations occurring in crop lands: This approach is a favorite of the Europeans. In a sense, it is an economist's dream; it is a strategy that limits pest control to those who can afford to pay for it, or where the national economic good is put at risk. Intuitively, the equity issue immediately reduces the attractiveness of this option. In addition, it ignores the plight of herders--who also provide a significant input into the gross domestic product of most of the affected countries. At the December 1986 meetings in Rome, it was agreed that the policy of limiting locust/grasshopper control to crop lands was an inadequate implementation concept.

(e) The recommended locust/grasshopper control program, plus the long-term institutional development of national plant protection services: This approach has been considered and rejected for two inseparable reasons. First, the process of trying to carry out

the institutional development of national plant protection services has been attempted many times by many donors. Given their destitute financial situations, the host countries just can't afford the recurrent costs consequently generated. Thus, such activities are of low priority in most USAID Country Development Strategy Statements. Where it is a high priority, this project does nothing that can be construed as being detrimental to the USAID effort.

Secondly, this is an AFR/OEO regional project; by definition it is an activity designed to meet the medium-term rehabilitation and recovery activities resulting from an emergency situation. At best, it will attempt to identify activities that may make sense in the long-term.

3. Where Will Available Investments Meet Service Requirements

In reality, the subject question is rhetorical; the conditions of a locust/grasshopper market do not exist. What exists is a market in which a potpourri of African host country requirements for foreign economic development assistance compete for priority, with political, social (including public opinion), and developmental implications that eliminate any lingering hope, even among the most optimistic and resolute of free enterprisers, that it is a free market situation.

The scarcity of pest prevention programs, then, makes it rational to postulate that pest prevention is not conceived as a very high priority problem by either the donors or the African host countries: witness the closeout of A.I.D.'s unsuccessful Integrated Pest Management and Regional Crop Protection programs, and the abandonment of OICMA and OCLALAV. Indeed, the latter two programs provide some insight into the nature of this problem.

OICMA and OCLALAV were created as regional organizations to fight grasshoppers and desert locusts when infestations occurred. This appears to have made sense, given the magnitude of the expense accruing to individual countries trying to maintain such a capability. To wit, a fire-fighting capacity was created. Unfortunately, even the cost of maintaining fire-fighters became too costly--even though the concept may (arguably) have been in the right direction. Consequently, the international donor community is playing this role, i.e., become the fire-fighter for African locust/grasshopper conflagrations.

Following this logic, there will never be a market point where the costs of locust/grasshopper control will achieve equilibrium with the marginal costs of additional pest control services, i.e., they are not in the same marketplace. Rather, the

resources are in a marketplace where external development assistance requirements compete for them, and donors give to locust/grasshopper control only to the extent that this appears to be a better investment. One hypothesis to explain the priority assigned to locust/grasshopper control might be that the pests impede a higher priority investment, e.g., agriculture production, or are a preferred investment to food aid.

Significantly, however, when the current crisis is subdued locust/grasshopper control will revert to an unfunded priority. Poof, it will disappear until a crisis again arises!

The data to support this theory is circumstantial, not empirical; it only fits the available facts. Thus, two propositions become actionable: (a) continue to treat the current locust/grasshopper infestation as a fire-fighting action, with costs being kept as low as possible, consistent with getting control re-established and better management capacities put in place; and (b) developing systems for attaining better data with which to measure economic costs and benefits of various project activities in the future. This latter task is a specified element of this project.

V. C. Social Soundness Analysis

The project is Africa-wide in nature, and it will affect almost all rural farmers and herders, and their families, in the arid and semi-arid areas of Africa south of the Sahara. However, the nature of the problem and the traditional treatment solutions are very familiar, i.e., only the magnitude of the problem and the extent of the donor response are unusual. For most individuals, the locust and grasshopper problem is just another in a long series of crises.

1. Socio-Cultural Context

The project will affect those primarily agricultural and pasture areas of Africa which are most susceptible to the threat of production losses due to locusts and grasshoppers. However, the producers in these regions recognize locusts/grasshoppers as only one of a variety of pests that destroy as much as twenty percent of a farmers production in a normal year. These same producers also expect to lose another twenty percent of their crop through post-harvest losses. They lead a perilous existence in a very marginal production area of Africa, one in which they have learned to exist through appropriate coping strategies, e.g., crop diversification, alternative employment opportunities, migration, extended family relationships, etc.

The effect of abnormally heavy locust/grasshopper infestation strains to the breaking point existing coping strategies. In this context, the effects of abnormally high production losses cannot be measured in terms of national production levels. They must be measured in terms of the destruction of entire social systems. Famine and starvation may not ensue, but the dependency relationships that may be established may totally destroy the existing social fabric.

While a significant portion of the project's implementation activities will occur in rural areas, the majority of the human interaction will occur in host country capitals between governmental personnel and expatriate planners and technicians.

2. Beneficiaries

The principal beneficiaries will be rural farmers and herders in the pest affected countries. Indirect beneficiaries will include farm families, the general populace (prevention of famine) and local implementation staff (training and skill development). No special population group will be targetted for special treatment.

3. Participation

Host country participation will occur at two levels. Given the vast area to be monitored, initial identification of the areas of pest infestation will draw heavily upon the reporting of rural farmers and herders. Further, the project must continue to recognize that the primary responsibility for resolution of the pest problem rests with the rural producers. Once the problem exceeds their capability, a second level of participation becomes involved--the host country governmental bureaucracy. It is with this group that primary participation in activity design and implementation occurs, particularly vis a vis the Donor (Country) Coordinating Committee and preparation of the Country Plan.

Participation at the Donor Coordinating Committee level takes on a special importance because of the need for the donors to coordinate their operational and research interventions. The negotiation of such inter-donor cooperation will be an important project management responsibility.

4. Socio-Cultural Feasibility

The areas of Africa where the project will be implemented have gone through the process with some regularity. The differences this time are only the magnitude of the problem and the amount of the resources provided by the donors. Given this experience, particularly with the project-like conditions that existed during the 1986 emergency control campaign, there appear to be no socio-cultural feasibility issues.

5. Impact

The project will address an emergency situation, and its primary function will be to restore pre-crisis conditions. Institutional development is not a primary objective of the project, so the generation of organizational and physical structures requiring recurrent cost financing should be minimal. Project success can be measured in terms of increased pest management and control capacity among host country participants.

V. D. Environmental Analysis

1. Conclusions

A Categorical Exclusion for the Technical Assistance, Research, and Training elements of the project, in accordance with A.I.D. Regulation 16, Section 216.2(c)(2)(i) and (ii), was approved by Bessie L. Boyd, Bureau for Africa Environmental Officer on January 30, 1987. A copy appears on the following page.

An Environmental Assessment was recommended for the pesticide procurement and related activities element of the project. Since a Environmental Assessment has not been completed, and a precise description of how and where pesticides will be used in the project cannot be provided at this time, pesticides and pesticide-related equipment and services will not be procured or used in the project unless approved by the Administrator through a waiver of A.I.D. Regulation 16.

2. Assessment of How Environmental Concerns are Addressed

The Project Paper treats environmental concerns in a way that evidences serious thought and sensitivity to the problems inherent in pest control programs. In fact, a specific four element program addressing this issue is described in the PP. This program has been reviewed and approved by the A.I.D. Administrator (a copy of the approved Action Memorandum is provided at Annex E).

The four elements of this environmental program constitute a reasonable effort to achieve project objectives supportive of environmental concerns.

- The Programmatic Environmental Assessment will provide guidance for the implementation of the project, particularly in regard to where the greatest dangers lie, and how they may best be treated.
- The use of international fora and training programs in Africa to sensitize other donors and the affected African countries to environmental issues has already been shown effective by the Rome Meeting agreement to ban certain pesticides from the 1987 and future year control campaigns.
- The Pesticide Testing program appears to be a well designed and conceptualized endeavor. It is an activity that can serve the project and its environmental concerns well by identifying those products which can do the control function in the least hazardous manner.
- The assistance to the Desert Locust Control Organization of East Africa provides an opportunity to institutionalize environmental concerns in a regional organization.

V. E. Other Emergency Assistance

1. The Problem

Numerous references have been made throughout this PP to the assertion that most African countries are emergency prone. No effort will be devoted to trying to prove this belief: those familiar with Africa do not consider it moot. Instead attention will be devoted to trying to determine: why this situation is so; if anything can be done about it; and, if so, what resources are available.

In fact, Africa is not ill-favored by some sort of anti-deistic election, or somehow comparatively devoid of natural resources. Africa is simply, at present, very underdeveloped. Thus, it suffers from the multiplicity of problems that accompany this condition. One of these, of course, is the lack by African governments of funds to meet current operational essentials, let alone identify and treat problems that just may develop into emergencies. Most African countries do not have the ability to answer the knock of opportunity.

Foreign economic assistance is the means through which those more fortunate attempt to equalize the situation. A.I.D. is a major contributor to this economic transfer of resources, and implements it through project and program assistance.

Further, A.I.D. recognizes that additional problems, unanticipated problems, can often occur on a world-wide basis, and it responds to them with assistance provided through the Office of U.S. Foreign Disaster Assistance (OFDA). This entity meets the requirements of this special need with incomparable skill. However, the OFDA recognizes that it can remain viable--keep from being overwhelmed by its clientele--only if it sets some limits on the extent of its largesse.

The problem that this project element attempts to address is how to handle emergencies (circumstances not otherwise being treated as priority development problems, and which arise rapidly): (a) before they become disasters and qualify for OFDA help; and (b) the medium-term recovery and rehabilitation problems that exist between the time OFDA resources cease to flow and A.I.D. project and program resources begin to flow. Roughly, this is a not insignificant eighteen month period.

2. Why the Interregnum?

The answer to this question is an imponderable. However, it can be said with some certainty that it is not mandated either by policy or legislation. Neither is there a lack of authority to waive time-consuming requirements in order to meet emergency situations. Some believe that the answer has to do with the

lack of definition of what constitutes an emergency, vis a vis a disaster, and who has the authority to declare it. Others are certain that it is because of loyal employee adherence to 'conventional wisdom,' while it is, probably, 'a mystery of the sea.'

The point is, something can be done about it if there is a will. The 'Other Emergency Assistance' element of this PP tests this will; the relief of the 'problem' is the purpose of that element of the project. It proposes a way to provide A.I.D. resources to emergency situations quickly.

3. Access the 'Other Emergency Assistance' Project Element

The access process is simple in concept, if, perhaps, less so in operation. Turn the crank, and out comes a

- Definition of the emergency situation in sufficient detail that FAA Section 611 (a) criteria are satisfied concerning the planning and engineering of proposed responses to that problem.
- Strategy for providing A.I.D. inputs to redress the emergency, including relationships to Country Development Strategy Statements and Bureau for Africa development policy.
- Study of the likely economic and financial implications of the proposed response strategy, including the economics of alternative responses.
- List of legislative and policy requirements that must either be met or waived, e.g., procurement waivers, FAA Section 110 (a), etc.
- Funding allocated through whatever means is appropriate.
- Memorandum Project Paper amendment for approval by the Assistant Administrator, without the need to resort to formal project reauthorization, or to prepare a revised Project Identification Document.

All categories of A.I.D. Development Assistance appropriated funding earmarks are to be eligible under this project element.

VI. Conditions and Covenants

It is difficult to require conditions precedent to disbursement, or covenants for subsequent implementation, as part of a project that provides assistance in meeting circumstances generated by an emergency, and which involve humanitarian considerations. This is further complicated by the regional nature of the project. Nevertheless, Missions should attempt to negotiate the conditions cited below, in the absence of overriding humanitarian concerns, prior to obligating project funds. The presence of such overriding humanitarian concerns should be reported to A.I.D. Washington before obligations are made that exclude compliance with these covenants and conditions.

- 1. African countries receiving assistance from this project must have prepared Country Plans with the assistance of a Donor Coordinating Committee, and forwarded this approved Plan to Rome for issuance of an international appeal for assistance by the FAO.
- 2. The resources provided by A.I.D. through this project are part of a larger international locust and grasshopper control campaign. Therefore, any country receiving assistance under this project must be an eligible participant in the international campaign, and be the recipient of at least twenty percent of its campaign assistance from other than U.S. sources.
- 3. No assistance will be provided in the form of pesticides unless the conditions of A.I.D. Regulation 16 have been met or waived. Further, no equipment or services supplied by A.I.D. may be used in support of a program which uses pesticides considered ecologically unacceptable, as determined by current pesticide guidance (see State 077790 dated 3/17/87).
- 4. African countries who receive assistance under this project must enable project-financed commodities and services to be provided duty and tax free, as well as provide reasonable assistance in expediting the import of these commodities and services.
- 5. African recipient countries must assist A.I.D., as may be reasonably requested, to effect evaluations of locust/grasshopper control campaign operations, as well as carry out pesticide testing and programmatic environmental assessment activities.

These conditions of assistance will be included as special provisions of the project agreements reached with the African host countries, to the extent that they are not included elsewhere in the standard provisions of such agreements.

VII. Evaluation Arrangements/Plan

A. Evaluation Concept

As noted elsewhere in the document, two things are significant about the evaluation of this project: (1) it is a critical implementation tool, as it will enable the lessons learned in each year's locust/grasshopper control campaign to be incorporated in the subsequent effort; and (2) the basis for measuring success will be determined by the degree to which locust/grasshopper control is established, not by such traditional measures as institutional development. In this same vein, the emphasis of the evaluation process will be upon operational planning and implementation, and the managerial and administrative effectiveness with which they were carried out.

There are also two special evaluation elements of the project. The first is the need to identify longer-term activities that might be appropriate to implement through USAID regular program activities. Thus, the evaluation process will need to review substantively the extent to which the locust/grasshopper control elements put in place by virtue of the various campaigns should be institutionalized, and suggest what initiatives, if any, might be appropriate for attaining this goal. Similarly, the need to control other pest species should be addressed.

The second relates to the lack of analytical data upon which to assess the economic value of the project. To overcome this problem, it will be necessary to develop techniques for measuring crop losses, and evaluating the value of crops put at risk. As assessments of this type must be carried out on a regular basis throughout the control campaign, it will be necessary to include such services as a longer-term element of a project contract for evaluation.

B. Evaluation Scheduling

Planning for the 1987 locust/grasshopper control campaign is well under way, and conclusions reached as a result of examining the 1986 emergency control effort have played a significant role in determining its direction. These conclusions have come from three empirical sources: (1) FAO-led Assessment Teams, to which the U.S., the French, and the Netherlands contributed members; (2) ecological assessment work A.I.D. financed in Senegal, and (3) egg pod surveys carried out in various affected African countries. The information developed from these sources, plus a series of issues papers based upon the experiences of A.I.D.-financed experts provided during the 1986 emergency campaign, was then used to negotiate the 1987 control campaign strategy agreed upon at the FAO-sponsored meeting in Rome in December of 1986.

The 1986 experience indicates that the period following the end of the Sahel element of the campaign, i.e., October and November, is the best time to carry out project assessments. Such timing also appears to provide an opportunity to involve the entire international community and the host countries, themselves, in the evaluation process.

Two other activities must also be considered in reviewing the schedule for project evaluation. First, A.I.D. will implement a Programmatic Environmental Assessment as a major element of its project strategy. This activity will develop valuable baseline data for use in evaluating control technologies. Secondly, A.I.D. is financing a series of pesticide testing programs in three representative ecological zones. The results of these tests will also help to influence the selection of control programs.

C. Key Evaluation Dates

July 1987	AID/W internal administrative assessment to assure that project implementation is on target.
October 1987	Joint donor evaluation of the 1987 campaign, led by the FAO
November 1987	Formal project evaluation, with emphasis on economic and future task monitoring.
December 1987	A.I.D./EPA/USDA evaluation of first year environmental concerns and testing.

Repetition of the cycle cited above, as adjusted for time sequencing.

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Annex A
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DESIGN CONSISTED OF THE FOLLOWING.

ORIGIN OFFICE AF/O-02
INFO AAAP-02 AFIA-03 AFSA-03 AFFW-04 AFOW-03 AFDP-06 FFA-01
AFPD-04 AFIR-05 IVA-01 OFDA-02 GC-01 GCAF-01 AAXA-01
GCCM-02 STAG-02 LAST-01 FFP-09 AFDA-02 FVPP-01 ES-01
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NSCE-00 COME-00 EPAE-04 AGRE-00 RP-10 /051 R

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APPROVED BY: AID/AA: AFR: ARLOVE
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AID/AFR/TR, BBOYD (DRAFT) AID/OFDA, RTHIBEAULT (DRAFT)
AID/AFR/OP, SGROGGMAN (PHONE) AID/GC/AFR, ANEWTON (DRAFT)
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AMEMBASSY ABIDJAN
AMEMBASSY ROME
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AMEMBASSY YAOUNDE
AMEMBASSY HARARE

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AIDAC LOCUST PARIS FOR CLUB/SLOCUM, ROME FOR FODAG, FOR RE

E.O. 12356: N/A
TAGS: N/A

SUBJECT: APPROVAL OF THE PID FOR THE AFRICAN EMERGENCY
LOCUST/GRASSHOPPER EMERGENCY PROJECT (698-0517/625-0517)

REF: FRIEDLINE LETTER OF FEBRUARY 12, 1987 TO USAIDS

1. ON FEBRUARY 17, 1987, THE EXECUTIVE COMMITTEE FOR
PROJECT REVIEW (ECPR) OF THE AFRICA BUREAU APPROVED THE
SUBJECT PID FOR INTENSIVE REVIEW. THE ECPR WAS CHAIRED
BY DAA/AFR RAY LOVE, AND INCLUDED REPRESENTATIVES FROM
AFR/PD, AFR/OEO, AFR/OP, AFR/TR, AFR/SWA, AFR/EA, OFDA,
GC/AFR, AND USAID MALI. COPIES OF THE PID HAVE BEEN
PROVIDED TO MOST ADDRESSEES UNDER COVER OF REFERENCED
LETTER. IN ADDITION, ACTING ASSISTANT ADMINISTRATOR FOR
AFRICA LOVE APPROVED THE AFRICA BUREAU'S
LOCUST/GRASSHOPPER STRATEGY PAPER--WHICH ALSO WAS
INCLUDED WITH REFERENCED LETTER. THE STRATEGY PAPER
PROVIDES THE CONCEPTUAL BASE FOR THE PROJECT.

2. GUIDANCE PROVIDED BY THE ECPR FOR FINAL PROJECT

-- (A) PROGRAM COORDINATION: WHILE THERE IS STRONG
SUPPORT FOR THE PROJECT'S DECENTRALIZED METHOD OF

PROGRAM OPERATION, I.E., COUNTRY PLANS AND ACTION PLANS,
THE PP MUST ADDRESS THE NEED FOR MECHANISMS TO ASSURE
PROMPT FOLLOW-UP ON MISSION REQUESTS FOR ASSISTANCE, AS
WELL AS MECHANISMS TO ASSURE DONOR COORDINATION. THE PP
WILL ALSO ESTABLISH A PROCESS TO ASSIGN RESPONSIBILITY
FOR FUNDING APPROVED ACTIVITIES THAT MIGHT BE FINANCED
FROM MULTIPLE SOURCES, E.G., FROM AFR/OEO OR OFDA.

-- (B) EVALUATION PLAN: THE PROJECT'S EVALUATION PLAN
MUST PROVIDE A PROCESS FOR IDENTIFYING PROJECT RELATED
RESEARCH REQUIREMENTS. THIS INCLUDES COORDINATING THESE
REQUIREMENTS WITH THE BUREAU FOR SCIENCE AND TECHNOLOGY
AND OTHER ELEMENTS OF THE BUREAU FOR AFRICA, EVEN BEYOND
THE LIFE OF THE PROJECT. THE EVALUATION PLAN SHOULD
ALSO DISCUSS OPPORTUNITIES FOR BUY-INS TO ON-GOING
PROJECTS, PARTICULARLY THOSE OF THE BUREAU FOR SCIENCE
AND TECHNOLOGY, IN ORDER TO SIMPLIFY AND SPEED THE
DELIVERY OF PROJECT RESOURCES. ONE ELEMENT OF THE
EVALUATION PLAN WILL EXAMINE THE RELATIVE
ADVANTAGES/DISADVANTAGES OF CONTROLLING LOCUSTS ON A
SHORT TERM BASIS VERSUS A LONGER TERM INSTITUTIONAL
DEVELOPMENT APPROACH SUCH AS ONE USED IN THE SAHEL FOR
SUPPORTING PEST CONTROL SERVICES.

-- (C) FINANCIAL PLAN: RECOGNIZING THE PROJECT'S NEED
FOR FLEXIBILITY IN ADDRESSING A PROBLEM THAT VARIES
CONSIDERABLY IN GEOGRAPHIC LOCATION AND DEGREE OF
INTENSITY BETWEEN CAMPAIGN YEARS, THE PROJECT PAPER IS
TO ADDRESS THE 1987 CAMPAIGN'S NEED FOR FUNDING WITH A
HIGH DEGREE OF SPECIFICITY, I.E., AS MUCH AS CURRENT
PROGRAMMING PERMITS, AND INCLUDE A PROCESS TO BE USED
FOR DETERMINING RESOURCE NEEDS AND ALLOCATIONS FOR FYS
1988 AND 1989 AS WE DO NOT YET HAVE SPECIFIC INFORMATION
FOR THOSE YEARS.

-- (D) ECONOMIC ANALYSIS: THE PROJECT'S "LEAST COST"
METHOD OF ECONOMIC ANALYSIS IS APPROVED. IN ADDITION,
THE EVALUATION PLAN IS TO INCLUDE A RESEARCH PROCESS
THROUGH WHICH CROP DAMAGE ASSESSMENT AND OTHER DATA CAN
BE AMASSED TO PERMIT ORDERLY BENEFIT/COST ANALYSES OF
PROJECT ACCOMPLISHMENTS ON AN EX POST FACTO BASIS, AND
PRIOR TO PROCEEDING WITH SUCCEEDING YEAR ACTIVITIES.

-- (E) ADDRESSING OTHER EMERGENCIES: THE UNFUNDED
ELEMENT OF THE PROJECT, WHICH AUTHORIZES AN ENABLING
MECHANISM FOR AFR/OEO TO ADDRESS FUTURE UNIDENTIFIED
EMERGENCY-RELATED REHABILITATION AND RECOVERY ACTIVITIES
IN AFRICA, IS BEING REVIEWED BY THE OFFICE OF THE
GENERAL COUNSEL, AND MAY BE ILLEGAL UNDER FAA SECTION

611 (A). IF DETERMINATION NEGATIVE, WE WILL EXPLORE
OTHER WAYS TO ACHIEVE THE DESIRED OBJECTIVE.

-- (F) PESTICIDE PROCUREMENT/ENVIRONMENT ISSUES: ONE
OF THE MAJOR INPUTS TO THE PROJECT'S CONTROL CAMPAIGN
WILL INVOLVE THE PROCUREMENT OF PESTICIDES, WITH THE
IMMEDIATE REQUIREMENT TO PROCURE AND PRE-POSITION
PESTICIDES IN THE SAHELIAN COUNTRIES. WAIVERS OF
REGULATION 16 WILL BE REQUIRED TO INITIATE THIS
PROCUREMENT. AFR/OEO HAS DEVELOPED A STRATEGY,
INCLUDING A PROGRAMMATIC ENVIRONMENTAL ASSESSMENT AND A
PESTICIDE TESTING PROGRAM, TRAINING PROGRAMS AND
COORDINATION WITH HOST COUNTRIES AND OTHER DONORS, THAT
PROVIDES AN ADEQUATE BASIS FOR OBTAINING SUCH WAIVERS.
THE ACTIVITIES WHICH WILL IMPLEMENT THIS STRATEGY SHOULD

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HELP TO MITIGATE ANY NEGATIVE IMPACTS THAT PESTICIDE USAGE MIGHT GENERATE, AS WELL AS DEMONSTRATE TO THE U.S. AND INTERNATIONAL ENVIRONMENTAL INTEREST GROUP COMMUNITIES THAT A.I.D. IS GENUINELY CONCERNED ABOUT ENVIRONMENTAL ISSUES AND IS ADDRESSING THEM IN A FORTHRIGHT MANNER.

3. AS NOTED ABOVE, A COPY OF WHAT IS NOW THE APPROVED STRATEGY PAPER AND PID HAVE BEEN AIRPOUCHED TO MOST ADDRESSEE POSTS. IT WOULD BE APPRECIATED IF INTERESTED POSTS, BASED UPON A REVIEW OF THESE DOCUMENTS AND THIS MESSAGE, WOULD CABLE COMMENTS CONTRIBUTING TO THE DESIGN OF THE PROJECT PAPER. INCLUDE IN YOUR COMMENTS INFORMATION ON LOCAL CURRENCY AVAILABILITIES WHICH COULD BE AVAILABLE FOR USE UNDER THIS PROJECT. THESE CABLES SHOULD BE ADDRESSED TO AFR/DEO, AND BE SCHEDULED TO ARRIVE IN AID/W MLT FEBRUARY 27. PP REVIEW WILL BE HELD IN ATO/V.

4. UNTIL PP AUTHORIZED AND FUNDS AVAILABLE, OFDA WILL CONTINUE TO ADDRESS THOSE PRIORITY REQUIREMENTS IN SUPPORT OF MISSIONS' PARTICIPATION IN GRASSHOPPER/LOCUST CAMPAIGNS.

5. FOR SAHEL: SEPTEL WILL FOLLOW RE: (A) 121 (D) REQUIREMENT, WHICH AT THIS POINT IS NOT DEEMED APPLICABLE; (B) SUGGESTIONS ON BEST MODE OF OBLIGATING PROJECT FUNDS. SHULTZ

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Project: African Emergency Locust/Grasshopper Assistance--698-0517 and 625-0517

<u>NARRATIVE SUMMARY</u>	<u>OBJECTIVELY VERIFIABLE INDIC.</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTIONS</u>
<u>Program/Sector Goal:</u> Improved nutritional status of Africans by reduction of locust/grasshopper plague-induced famine and related economic/social suffering.	<u>Measures of Goal Achievement:</u> Reductions in food imports. Fewer cases of malnutrition. Lower market food prices due to increased availabilities of locally produced foods.	Government agricultural, import, and health records will show that food losses to locusts/grasshopper pests are normal, that food imports are reduced, that health status is improving, and domestic food prices are falling.	<u>Assumptions for Achieving Goal Targets:</u> That an inverse ratio exists between imported food and the availability of domestically produced food. That increased availability of domestic food production will increase consumption levels, and food prices will drop
<u>Project Purpose:</u> To treat the recovery and rehabilitation aspects of problems created by locusts and grasshopper pests and help to establish improved management and control mechanisms.	<u>Conditions Indicating Achiev.</u> Pest levels back to normal. Better early warning systems in place. African technicians trained in current control methods. No anticipation of up-coming emergency infestations.	Host country, FAO, and PRIFAS reporting. Visual observation. Implementation of training programs and observation of on-the-job work by trainees. Completion of early warning research and field testing.	<u>Assumptions for Achieving:</u> <u>Outputs:</u> Technical capability of PRIFAS and organizational experts to evaluate and report situation. Trainees will be available and able to benefit from program. Research will produce useful results. <u>Other donors will participate</u>
<u>Outputs:</u> Research Technologies. Trained Africans. Improved Pest Management. Controlled Pest Situation. Better Early Warning Sys. Pest Threat Elimination.	<u>Magnitude of Outputs:</u> Viral diseases available to treat 50% of normal infestations. 300 Sahelians formally trained, and an additional 1500 trained informally. Operating systems for pest management and warning.	Existence of viral material. Training Activity Reports. Pest status reports prepared systematically and correctly.	Applied research will be able to adapt existing viruses to work on African pest species. Trainees will be available & able to learn new techniques. <u>Other donors will cooperate in developing workable systems.</u>
<u>Inputs:</u> Technical Assistance Equipment Chemicals Research Funding Institutional Support Training Funding	<u>Implementation Target:</u> Pest Management & Control. Pest Control Pest Control Early Warning & Technologies. Pest Management & Control Trained Africans	Technicians contracted. Deliveries to the project. Deliveries to the project. Research Contracts Signed Bilateral Agreements signed. Training programs held.	<u>Assumptions for Providing Inputs:</u> French speakers. USDA will let AID tie in to research programs. Training design agreement is reached with other donors.

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only:
B.1. applies to all projects funded with Development Assistance loans, and
B.3. applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1986 Continuing Resolution Sec. 524; FAA Sec. 634A.

Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project.

Congressional Notification

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes.
(b) Yes.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

Not Applicable.

4. FAA Sec. 611(b); FY 1986 Continuing Resolution Sec. 501. If for water or water-related land resource construction, has project met the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See AID Handbook 3 for new guidelines.) Not Applicable.
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? Not Applicable.
6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. Yes. This is a regional project.
7. FAA Sec. 601(a). Information and conclusions whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. Not Applicable.

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8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). This project will neither encourage nor discourage private U.S. trade and investment except to the extent that the project requires U.S. goods and services for implementation.
9. FAA Sec. 612(b), 636(h); FY 1986 Continuing Resolution Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars. Host countries are paying local costs wherever possible.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? No.
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes.
12. FY 1986 Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? Not Applicable.

13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16. Does the project or program take into consideration the problem of the destruction of tropical forests?
- A program to address Regulation 16 has been developed which provides the basis for justifying needed pesticide waivers in FY 1987. Further, it will assure outstanding environmental issues are resolved prior to the initiation of the remaining two years of the program.
14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?
- Not Applicable. (A.I.D. will manage all project funds.)
15. FY 1986 Continuing Resolution Sec. 533. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution?
- No.
16. ISDCA of 1985 Sec. 310. For development assistance projects, how much of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?
- Where feasible, contracts will be awarded to these groups under the project.

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B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance
Project Criteria

- a. FAA Sec. 102(a), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status, (e) utilize and encourage regional cooperation by developing countries?

The rural poor will benefit from the pest control measures promoted under the project. Such measures will help to ensure a continuous supply of local food production to meet domestic food needs rather than continued reliance on foreign food imports. Appropriate U.S. institutions, both public and private, will assist local institutions in the development of ecologically acceptable control measures. Finally, the program is designed to facilitate both regional and international coordination in addressing the pest problem.



- b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used? Yes.
- c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? Not Applicable.
- d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed country)? Not Applicable.
- e. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth? Yes.

f. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

By helping to control locusts and grasshoppers, small subsistence farmers and their families will be the primary beneficiaries of this project.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

The program addresses a major emergency facing several African countries and is designed to utilize locally-based institutions and resources to the maximum extent possible.

2. Development Assistance Project
Criteria (Loans Only)

- a. FAA Sec. 122(b). Information an conclusion on capacity of the country to repay the loan, at a reasonable rate of interest. Not Applicable.
- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan? Not Applicable.

3. Economic Support Fund Project
Criteria

- a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of part I of the FAA? Not Applicable.
- b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities? Not Applicable.
- c. ISDCA of 1985 Sec. 207. Will ESF funds be used to finance the construction of, or the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified Not Applicable.

that such country is a party to the Treaty on the Non-Proliferation of Nuclear Weapons or the Treaty for the Prohibition of Nuclear Weapons in Latin America (the "Treaty of Tlatelolco"), cooperates fully with the IAEA, and pursues nonproliferation policies consistent with those of the United States?

- d: FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

Not Applicable.

5C(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes.
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?? Yes.
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? Yes.
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) Not Applicable.

5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries which receive direct economic assistance under the FAA and which are otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one of these areas? Do these countries permit United States firms to compete for construction or engineering services financed from assistance programs of these countries? Not Applicable.
6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates? No.
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? Yes.

8. International Air Transportation Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? Yes.
9. FY 1986 Continuing Resolution Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes.

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used? Not Applicable.
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? Not Applicable.
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)? Not Applicable.

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C. Other Restrictions

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter? Not Applicable.
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? Not Applicable.
3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes.
4. Will arrangements preclude use of financing:
 - a. FAA Sec. 104(f); FY 1986 Continuing Resolution Sec. 526. (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo (1) Yes.
(2) Yes.
(3) Yes.
(4) Yes.

2)

sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion?

- b. FAA Sec. 488. To reimburse persons, in the form of cash payments, whose illicit drug crops are eradicated? Yes.
- c. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? Yes.
- d. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes.
- e. FAA Sec. 662. For CIA activities? Yes.
- f. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? Yes.

- g. FY 1986 Continuing Resolution, Sec. 503. Yes.
To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel?
- h. FY 1986 Continuing Resolution, Sec. 505. Yes.
To pay U.N. assessments, arrearages or dues?
- i. FY 1986 Continuing Resolution, Sec. 506. Yes.
To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?
- j. FY 1986 Continuing Resolution, Sec. 510. Yes.
To finance the export of nuclear equipment, fuel, or technology?
- k. FY 1986 Continuing Resolution, Sec. 511. Yes.
For the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?
- l. FY 1986 Continuing Resolution, Sec. 516. Yes.
To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
 AGENCY FOR INTERNATIONAL DEVELOPMENT
 WASHINGTON, D C 20523

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/OEO, Fred Fischer 

SUBJECT: Africa Emergency Locust/Grasshopper Assistance Project
 (698-0517 and 625-0517) - justification for a procurement
 source and origin waiver and a waiver of the provisions
 of 636(i) of the Foreign Assistance Act

PROBLEM: You are requested to approve a blanket source and origin
 waiver from Geographic Code 000 (U.S. only) to Geographic Code 935
 (special free world) for the purchase of pesticides, survey and
 control equipment for the subject project. Also, you are
 requested to approve a blanket waiver of the provisions of Section
 636(i) of the Foreign Assistance Act of 1961, as amended, for
 motor vehicles and spare parts financed by A.I.D. for the subject
 project.

FACTS:

- A. Cooperating Country: Africa Regional
- B. Project: Africa Emergency
Locust/Grasshopper Assistance
- C. Nature of Funding: Grant
- D. Source of Funding: Agriculture, Rural Development
and Nutrition; and Sahel
Development Program
- E. Description of Goods: Pesticides Propoxur, Malathion,
Fenitrothion, Decis, Carbaryl,
and Diazinon; survey and control
equipment; as well as other
resources required for ground
survey and control, e.g., leased
vehicles and aircraft, radios,
and sprayers.
- F. Approximate Value: \$5,000,000
- G. Probable Source: Code 935 Special Free World
(particularly France for
Francophone countries or EEC
countries, or in other instances
Japan)
- H. Probable Origin Code 935 Special Free World

DISCUSSION: A procurement source and origin waiver to Code 935 is requested to permit the purchase of pesticides, communications equipment, survey and control equipment, and other related resources required for ground survey and control of the locust/grasshopper threat for the life of this project.

The locust/grasshopper threat is potentially greater in 1987 than it was in 1986. We are actively engaged in gearing up for this year's campaign against the Senegalese grasshopper, the desert locust, the migratory locust, the brown locust and the red locust. Ground surveys to identify and demarcate the affected areas have begun. Often, when a specific threat is identified, control measures involving ground and/or aerial application of pesticides must begin as soon as the threat is identified. In many instances, the emergency nature of this project makes it impossible to procure and transport from the U.S. appropriate equipment or vehicles in time. Also, it is often impossible to obtain replacement parts for U.S. equipment or vehicles or to maintain this equipment in the affected African countries.

The destructive capability of these pests is awesome. Up to 80,000 MT of cereals per day can be devoured by large swarms of locusts. Where the rural population is faced with a continuous struggle to achieve food self-sufficiency, an uncontrolled outbreak of pests could mean a major setback in the transition from dependency to self-reliance. We continue to face a potential disaster, for should these outbreaks go uncontrolled, these pests could move to neighboring countries and could be carried by the winds as far east as India and Pakistan. Locust and grasshopper control measures involving ground and aerial application of pesticides must be under way immediately. Given the evolutionary nature of locust/grasshopper infestations, it is anticipated that the threat will continue for the next two or three years, the life of this project. This project will build upon existing control mechanisms, the 1986 control campaign experience, and technological advances to treat Africa's current locust/grasshopper problem and control it through sound management practices.

Except for emergency procurement of pesticides and aerial spraying, procurement transactions for the 1986 campaign did not exceed the procurement authority delegated to field missions. Thus, we do not anticipate that any single procurement transaction through this project will exceed \$100,000. Further, it is anticipated that almost all of the equipment will be procured from non-U.S. sources to assure a match with the host country circumstances. Approximately \$3.5 million is expected to be used under this waiver to procure non-U.S. equipment since \$3.8 million of such equipment is required for the project. Most pesticides will be procured

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from U.S. sources. However, in emergency situations, it may be necessary to procure up to \$1.5 million of pesticides over the project life from non-U.S. sources to assure timely delivery. Unless A.I.D. agrees otherwise in writing, pesticides will be procured in accordance with A.I.D. Regulation 16.

AUTHORITY: Handbook 1B, chapter 5B4a(1) and 5B4a(7) set forth the authority and the specific criteria for this procurement source and origin waiver to Code 935. It is anticipated there will be emergency requirements for which non-A.I.D. funds are not available, and the requirement can be met in time only from suppliers in a country or area not included in the Geographic Codes of 000 or 941. Under A.I.D. Delegation of Authority No. 405, you are authorized to approve procurement waivers up to \$5,000,000. The estimated cost of this procurement does not exceed your authority.

Handbook 1B, chapter 4C2d(1)(c) sets forth the authority and the specific criteria for waiving Section 636(i). It is anticipated there will be emergency circumstances where U.S. vehicles are not available in the required time. It is further believed that the emergency requirements will make individual transaction waivers infeasible. Blanket waivers are, therefore, required to insure that project objectives are met.

RECOMMENDATION: For the reasons discussed above, it is recommended that you approve the Project Authorization to:

(1) Approve a blanket source and origin waiver from A.I.D. Geographic Code 000 to Code 935 to procure non-U.S. pesticides; survey and control equipment; and other resources needed to control the current pest threat;

(2) Certify that the exclusion of procurement from Free World countries other than the cooperating country and countries included in Code 941 would seriously impede attainment of U.S. foreign policy objectives and objectives of the foreign assistance program; and

(3) Determine that special circumstances exist which justify a blanket waiver of provisions of Section 636(i) of the Foreign Assistance Act of 1961, as amended.

Clearances: GC/AFR:BBryant (phone) Date 3/28/87
 M/SER/OP:SDean (phone) Date 4/1/87
 AFR/TR/PRO:BBoyd (phone) Date 4/1/87

ANNEX E

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Department of State

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TELEGRAM

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ORIGIN AID-00

SHOULD ALWAYS BE APPLIED AS A SPRAY IN A MINIMUM OF 1 GAL. OF WATER PER ACRE FOR AERIAL APPLICATION AND A MINIMUM OF 5 GALS. OF WATER PER ACRE FOR GROUND APPLICATION.

INFO TELE-01 C-00 /031 AS

ORIGIN OFFICE AFTR-05

3. FOR DUST AND/OR BAIT FORMULATIONS CARBARYL AND BENIDOCARB BOTH HAVE A U.S. SOURCE-ORIGIN. SPECIAL ATTENTION SHOULD BE PAID TO COMPARATIVE COST FIGURES FOR THESE TWO CHEMICALS.

INFO AFEA-03 AFCV-03 FPA-02 AFEO-02 AFPO-04 OFDA-02 AAXA-01
STAG-02 SAST-01 AFDA-02 ES-01 A410-01 RELO-01
/030 A4 317

4. THE U.S. CANNOT REPEAT CANNOT, AS A MATTER OF LONGSTANDING POLICY, PARTICIPATE IN PROGRAMS USING ANY OF THE FOLLOWING PESTICIDES: (A) LINDANE; (B) BHC; (C) DDT; (D) DIELDRIN

INFO LOG-00 INR-10 AF-00 CIAE-00 EB-00 DOCE-00 IO-13
NSCE-00 COME-00 EPAE-04 AGRE-00 RP-10 /051 R

DRAFTED BY: AID/AFR/TR/PRO: BLBOYD:RSBE:7360Y

APPROVED BY: AID/AFR/TR/PRO:DREILLY

AID/AFR/OEO:DKPESLINS (INFO) AID/ST/AGR:CCOLLIER (DRAFT)

AID/OFDA:GHUDEH (DRAFT)

A/AID:NCOHEN (INFO)

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FM SECSTATE WASHDC

TO AMEMBASSYROME IMMEDIATE

INFO AMEMBASSY NAIROBI IMMEDIATE

AMEMBASSY ABIDJAH

5. AID/V FOR CY 1987 (PRIOR TO COMPLETION OF FULL SCALE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT) HAS NO OBJECTION TO USAID MISSIONS COLLABORATING WITH OTHER DONORS IN PROGRAMS WHERE THE OTHER DONORS SUPPLY ANY OF THE FOLLOWING: (A) PROPOXUR; (B) FENITROTHION; (C) SYNTHETIC PYRETHROIDS (DECIS, PYDRIN, ALPHACYPERMETHRIN AND KARATE).

UNCLAS STATE 077790

6. FUTURE U.S. PURCHASE OF PESTICIDES MENTIONED IN PARAGRAPH 5 CAN ONLY BE CONSIDERED IF SOURCE-ORIGIN/COST COMPARATIVENESS CRITERIA DISCUSSED IN PARAGRAPH 1 ABOVE CANNOT BE MET.

AIDAC LOCUST, NAIROBI FOR REDSO/ESA, ABIDJAH FOR REDSO/WCA

E.O. 12356: N/A

7. ALL DISCUSSIONS OF ENVIRONMENTAL CONCERNS RELATED TO SPECIFIC PESTICIDES IN REFTEL A 1926 ARE STILL CONSIDERED APPROPRIATE WITH THE FOLLOWING EXCEPTION:

SUBJECT: LOCUST CONTROL BY CAMPAIGN PESTICIDE GUIDANCE

- DIAZINON, BASED ON RECENT DISCUSSIONS WITH U.S.

AIDAC CONT. ROME FOR FODAG DR. BRADER (INFO)

REF: STATE 305225 (1986)

E.P.A. AND CIBA GEIGY, THE MANUFACTURER, IS CONSIDERED TO BE ACCEPTABLE. SIMILAR TO OTHER ORGANOPHOSPHATES (E.G., FENITROTHION) CARE SHOULD BE TAKEN WHEN USED AROUND HIGH POPULATIONS OF BIRDS.

1. THE FOLLOWING STATEMENT, CONTAINED IN THE "AFRICA BUREAU LOCUST/GRASSHOPPER STRATEGY PAPER" IS CONSIDERED APPLICABLE TO U.S. PURCHASE OF GRASSHOPPER/LOCUST PESTICIDES FOR AFRICA: "SUBJECT TO THE AVAILABILITY AND COST COMPETITIVENESS OF U.S. CHEMICALS/PESTICIDES, U.S. SOURCE-ORIGIN CRITERIA WILL BE APPLIED TO ALL A.I.D.-FINANCED CHEMICAL/PESTICIDES PROCUREMENTS."

8. FOR GROUND APPLICATIONS USING MANUALLY OPERATED BACKPACK SPRAYERS THE FOLLOWING FORMULATIONS OF CARBARYL AND DIAZINON WOULD BE ACCEPTABLE: (A) CARBARYL 35S WETTABLE POWDER; AND (B) DIAZINON 50V. SHULTZ

2. BASED ON THE ABOVE, AS OF THIS DATE THE FOLLOWING THREE LIQUID FORMULATIONS HAVE FIRST CONSIDERATION FOR PURCHASE WITH U.S. FUNDS:

- A. CARBARYL FROM UNION CARBIDE IS AVAILABLE AS CONCENTRATED LIQUID (4-OIL). THE OIL FORMULATION WILL BE SUPPLIED UNDILUTED FOR PROLONGED STORAGE STABILITY. KEROSENE OR DIESEL OIL DILUENT CAN BE PROVIDED WITH SEVIN 4-OIL AT NO EXTRA CHARGE. MISSIONS WILL DETERMINE

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2.

QUANTITY OF DILUENT NEEDED BASED ON SPRAY EQUIPMENT- EQUAL PARTS DILUENT AND SEVIN 4-OIL FOR MICROHAIR EQUIPMENT AND ONE PART DILUENT FOR 4 PARTS SEVIN 4-OIL IF CONVENTIONAL SPRAY EQUIPMENT USED.

- B. MALATHION (ULV 35 PERCENT FORMULATION ONLY) FOR ULTRA LOW VOLUME BACKPACK SPRAYERS, TRUCK MOUNTED MIST BLOWER OR AERIAL DISPERSAL, USING APPROPRIATE BOOMS AND NOZZLES.

- C. DIAZINON AGS00. PURITY: 48.0 PERCENT ACTIVE INGREDIENT; STABILITY: STABLE AT LEAST THREE YEARS; USE RATES: EXPERIENCE WITH DIAZINON IN AFRICAN LOCUST CONTROL PROGRAMS SUGGESTS THE FOLLOWING USE:

- UNLESS OTHERWISE STATED, D.Z.M. DIAZINON AGS00

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ACTION MEMORANDUM FOR THE ADMINISTRATOR

FROM AA/AFR, Alexander R. Love (Acting)
OPDA, Julia V. Taft

SUBJECT: 1987 Locust Control Campaign: Pesticide Procurement
and Related Environmental Issues

PROBLEM: To establish a comprehensive program of pesticide testing and environmental assessments, primarily in Africa, but also affecting the ANE region, which will:

- a. Implement effectively the Agency's commitment to the use of environmentally safe pesticides in its locust/ grasshopper control activities; and
- b. Provide a framework, based upon a programmatic environmental assessment, for future locust and grasshopper control activities.

DISCUSSION: One of our major inputs to this year's locust/grasshopper control campaign will be the procurement of pesticides, with the immediate requirement to procure and preposition pesticides in the Sahelian countries. As was the case last year, we will require waivers of the requirements of A.I.D. Regulation 16 to initiate this procurement. This year, however, we are able to undertake a number of new activities in the area of pesticide testing and environmental review, which were not possible last year because of the requirement for a rapid response to the emergency. These initiatives, conceptualized by the Africa Bureau's new Office of Emergency Operations (AFR/OEO), include:

1. The preparation of a programmatic environmental assessment, to: a) determine the potential overall environmental impact of the Agency's current and projected locust control programs; and b) review alternatives and identify actions to mitigate any adverse ecological effects these programs might generate. Integrated Pest Management methods will be included in the study. The assessment will be a joint undertaking of the Africa and ANE Bureaus and S&T, covering all of Africa, as well as parts of the Near East and South Asia, as appropriate. Funding will come from AFR/OEO's Africa Emergency Locust/Grasshopper Assistance Project, and we expect this assessment to commence late in the Spring of 1987. If funding and information are available, this programmatic assessment will also include control activities conducted by other donors.

2. A major program of pesticide product testing, which will involve scientific examination of the efficacy and potential environmental impact of eight major pesticides. This program will be implemented in three separate ecological zones of sub-Saharan Africa. Testing procedures are being developed in conjunction with the USDA, EPA, the U.S. insecticide industry and other expert groups. The testing will be funded by AFR/OEO, and get under way within 60 days.
3. A program of institutional support for the Desert Locust Control Organization for East Africa (DLCO/EA), to facilitate that regional organization's collaboration with others on pesticide and equipment testing, pesticide disposal, and environmental assessments in seven member countries of East Africa.
4. A specific United States Government emphasis on pesticide safety and environmental concerns will be continued:
 - a. in all the international fora in which donor and host country officials meet to plan strategy and coordinate actions in the 1987 campaign; and
 - b. in the locust control training programs and workshops, which OPDA and AFR/OEO are currently developing and will soon begin conducting throughout Africa.

We believe that these four initiatives constitute one of the most comprehensive and ambitious efforts yet undertaken by AID in the area of pesticides and their potential affects on the environment. (Their estimated funding will be approximately \$3.0 million, or roughly 20 percent of the total funds for AFR/OEO's regional locust/grasshopper control project).

In our view, this total effort offers a very effective program to implement the Agency's commitment to assuring the environmental safety of the pesticides that it procures. Nevertheless, waivers of the specific requirements regarding pesticides contained in A.I.D. Regulation 16, will still be required in 1987, and perhaps even in 1988. The volatile nature of locusts/grasshoppers, and their unpredictable movement, in all likelihood will prevent environmental review of specific control activities at specific sites before use, as required by the regulation.

However, the program outlined in this memorandum will provide important technical information to guide A.I.D. (and host country) decision makers concerning pesticide use during the present crisis. In addition to helping assure that pesticide usage is conducted in a manner as safe and environmentally sound as possible under the circumstances, the program will move the process of complying with A.I.D. Regulation 16 significantly closer to fulfillment.

RECOMMENDATION: With your approval, we will move ahead with the four-part program described above, and so inform the environmental community, the U.S. insecticide industry, and concerned members of Congress and their staffs. We shall also shortly be preparing Regulation 16 waivers for pesticide procurement in 1987.

APPROVE: _____

DISAPPROVE: _____

DATE: _____

Clearances:

A/AID:NCohen (draft)	Date: 2/12/87
S&T/AG:CCollier (draft)	Date: 2/11/87
AFR/TR:BBoyd (draft)	Date: 2/11/87
ANE/PD:SLintner (draft)	Date: 2/12/87
GC/CP:STisa (draft)	Date: 2/12/87
GC:HFry _____	Date: _____
OPDA: GHuden (draft)	Date: 2/11/87

Drafted:AFR/OEO:PCFischer:sb/x79323:2/10/87:1399b

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A PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

The programmatic environmental assessment, which is the subject of this contract, will describe the potential environmental impact of current and projected control programs and recommend mitigative measures to reduce the potentially adverse ecological effects of these programs.

In general the programmatic environmental assessment will be used to:

- . examine prior and on-going pest control operations to identify operational and strategic techniques less detrimental to the natural ecology of the program area.
- . determine the extent of the non-target environment that will be adversely affected by the on-going pest control program, and make recommendations for reducing or eliminating such effects where practical.
- . evaluate the monitoring, forecasting, and early warning systems used to predict and respond to locust outbreaks, to determine the reliability of the information, the adequacy of the transfer of this information, the adequacy of the transfer of this information, and the response to the information.
- . identify the range of pesticides and other chemicals commonly used to fight the pests in the program area, evaluate available analytical data concerning the ecological effects of these chemicals, and make recommendations for any changes in chemical use or analysis that might be warranted.
- . survey the chemical storage and handling practices commonly found in the program area and recommend such improvements as may be justified.
- . examine the present spectrum of chemical application techniques and equipment available and used in the program area and make recommendations for improved pest control campaign operations.

- 2 -

The programmatic environmental assessment will be used as an analytical tool for evaluating and adjusting campaign strategic and operational policy in short, medium, and long-term time frames. The assessment will include three major sections: an executive summary, the main text of the assessment, and appended documents or other technical information.

The assessment will recommend appropriate minimal standards for evaluating and monitoring the CY88 and CY89 programs and will outline specific actions needed to be undertaken. It is anticipated that monitoring of use will be accomplished by randomized, unannounced visits to ongoing control operations with personal observations of aerial applicators, crop protection spray teams, and pesticide mixer/loaders. The assessment should also provide specific recommendations for how much post spray assessment should be required for various types of control procedures, who will do it, and how the assessments will be done

A proposed outline of the programmatic environmental assessment is attached as Table 1.

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TABLE 1. DETAILED OUTLINE FOR PROGRAMMATIC
ENVIRONMENTAL ASSESSMENT

A. Executive Summary

B. Main Report

1. Summary
 2. Purpose of the Environmental Assessment and Need for Action
 3. Overview of the Locust and Grasshopper Problem
 - a. Biology of Locusts and Grasshoppers
 - b. Magnitude of the Threat to Natural Environment, Agriculture and Human Populations
 - c. Economic Impacts of Locust and Grasshopper Outbreaks
 - d. Status of Survey, Forecasting, Early Warning and Reporting Systems
 - e. Development of Control Methods
 - f. Review of the Pesticides Used, Amounts, and Methods of Application in Control Programs by Country and Species
 4. Alternatives Including the Current Practice
 - a. Overview
 - b. Short-Term vs Medium-Term vs Long-Term Alternatives
 - c. Current Practice - Emergency Control of Locusts and Grasshoppers Through Application of Selected Pesticides
 - d. Alternative A - No Action
 - e. Alternative B - Conditional No Action
 - f. Alternative C - Provision of Food Assistance vs Pest Control
 - g. Alternative D - Improved Forecasting and Early Control
 - h. Alternative E - Integrated Pest Management
 - i. Alternative F - Biological Control
 - j. Alternative G - Multiple Intervention Strategy
-

-
- k. Comparative Technical, Economic and Institutional Analysis of Alternatives
 - i. Short-Term
 - ii. Medium-Term
 - iii. Long-Term
5. Description of the Affected Environment
- a. Primary Control Program Areas
 - i. West Africa
 - 1). Climate
 - 2). Terrestrial Ecosystems
 - . Soils
 - . Plant Life
 - . Animal Life
 - 3). Aquatic Ecosystems
 - . Sediments
 - . Plant Life
 - . Animal Life
 - 4). Rare and Endangered Species and Their Critical Habitat
 - 5). Agricultural Systems
 - 6). Human Settlement Patterns
 - 7). Human Health Standards
 - 8). Human Exposure to Pesticides
 - 9). Pesticide Use for Agricultural and Public Health Purposes
 - ii. East Africa
 - iii. Southern Africa
 - b. Potential Secondary Control Areas
 - i. North Africa
 - ii. Arabian Peninsula
 - iii. South Asia
6. Review of the Procedures Proposed for the Selection, Application, Management and Monitoring of Insecticides Used
- a. Policies Concerning Locust and Grasshopper Control Programs
 - i. International Donors
-

-
- ii. Regional Organizations
 - iii. Affected Countries
 - b. Use of Forecasting and Survey Information in the Planning and Management of Control Programs
 - c. Use of the Early Warning System in the Planning of Control Programs
 - d. Selection of Areas for Treatment
 - i. Early Treatment of:
 - 1). Known Breeding Areas Identified by Surveys (Desert Locust)
 - 2). Populations in Non-Cultivated Areas With Successful Breeding Potential
 - 3). Populations in Lands at the Margins of Agricultural Cultivation with Successful Breeding Potential
 - 4). Populations in Cultivated Areas with Successful Breeding Potential
 - ii. Treatment Following Large Scale Outbreaks of:
 - 1). Desert Locust Swarms While in Flight
 - 2). Moving Locust Bands with Aerial and Ground Application
 - 3). Populations in Non-Cultivated Areas With Aerial and Ground Application
 - 4). Populations in Lands at at the Margins of Agricultural Cultivation With Aerial and Ground Application
 - 5). Populations in Cultivated Areas with Aerial and Ground Application
 - e. Selection of Pesticides
 - i. Review of the Types of Insecticides Proposed for Use in Control Programs
 - 1). International Registration Status
 - 2). U.S. Environmental Protection Agency Registration Status
 - ii. The basis for selection of pesticides proposed for control programs
 - iii. The extent to which the proposed control program is part of an integrated pest management program
 - f. Application of Pesticides
-

-
- g. Evaluation of Effectiveness of Pesticides and Potential Environmental Impacts
 - i. Review of potential acute and long-term toxicological hazards, either human or environmental, associated with the proposed control program
 - ii. The effectiveness of the proposed pesticides for the control of locusts and grasshoppers
 - iii. Compatability of the pesticides proposed for use with target and non-target ecosystems
 - iv. The availability and effectiveness of nonchemical control methods
 - h. Management of Pesticides
 - i. Prepositioning and Storage of Pesticides
 - ii. Distribution of Insecticides
 - iii. Health Monitoring of Personnel
 - iv. Emergency Preparations
 - v. Disposal of Pesticide Containers
 - i. Training of Applicators
 - i. Ground Application
 - ii. Aerial Application
 - iii. Personnel in Storage and Transport Facilities
 - j. Monitoring of Pesticides
 - k. Donor Coordination
7. Environmental Consequences
- a. Primary Control Program Areas
 - i. West Africa
 - 1). Terrestrial Ecosystems
 - . Soils
 - . Plant Life
 - . Animal Life
 - 2). Aquatic Ecosystems
 - . Sediments
 - . Plant Life
 - . Animal Life
 - 3). Rare and Endangered Species and Their Critical Habitat
 - 4). Agricultural Systems
 - 5). Human Settlement Patterns
-
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- 6). Human Health Standards
 - 7). Human Exposure to Pesticides
 - 8). Interaction with Pesticides Used for Agricultural and Public Health Purposes
 - ii. East Africa
 - iii. Southern Africa
 - b. Potential Secondary Control Program Areas
 - i. North Africa
 - ii. Arabian Peninsula
 - iii. South Asia
8. Proposed Mitigation Actions
- a. Policies Concerning Locust and Grasshopper Control Programs
 - b. Use of Forecasting and Survey Information in the Planning and Management of Control Programs
 - c. Use of the Early Warning System in the Planning of Control Programs
 - d. Selection of Areas for Treatment
 - e. Selection of Pesticides and Quality Control of Pesticide Formulations
 - f. Procedures for Application of Pesticides
 - g. Procedures for Identification of Appropriate Application Equipment
 - h. Evaluation of Effectiveness of Pesticides
 - i. Potential Environmental Impacts
 - j. Importation of Pesticides
 - k. Transportation of Pesticides
 - l. Storage of Pesticides
 - m. Disposal of Pesticides and Containers
 - n. Training of Applicators
 - o. Monitoring of Pesticide Residues
 - p. Monitoring of Pesticide Effects
 - q. Monitoring of Pesticide Exposure
 - r. Donor Coordination
 - s. Identification of Short and Long Term Institutional Development Needs
 - t. Identification of Short and Long Term Training Needs
 - u. Identification of Short and Long Term Research Needs
-

C. Appendices

1. List of Preparers
 2. Bibliography
 3. List of Persons Contacted
 4. Record of Scoping Sessions
 5. Conversion Table for Weights and Measures
 6. Other Appendices
-

ANNEX F TECHNICAL ANALYSIS

1. The Problem. Grasshoppers and locusts existed in the world's grasslands long before the advent of Modern Man. Even then they caused problems on those occasions when the destruction of native grasses was so severe that the herds of game on which man fed moved beyond the range of the hunters' camp. In a world with low human population density, the solutions to pest problems were simple: either move camp, or eat the pest as an alternate source of food.

In "modern times" locusts and grasshoppers haven't changed much. Although different species now exist than those found on fossil rock, their geographic distribution and the areas liable to infestation are much the same. The areas of potential infestation include the earth's major natural grasslands on all continents, as well as the major desert areas. (Figure 1) Forest lands harbor some grasshopper species, but usually none that can build to significant densities.

Figure No. 1

AREAS OF THE WORLD LIABLE TO INFESTATION BY LOCUSTS AND GRASSHOPPERS



While early man was not too severely affected by locusts and grasshoppers, the situation changed when man became a grower of crops. Sedentary agriculture developed along major river basins where the nutrients of the soil were replenished at fixed, known intervals by flooding and subsequent recession of river waters. Other agrarian cultures developed upon the steppes and prairies where soil fertility seemed limitless. In both cases, however, agricultural success was dependent upon "the rains". If pest problems occurred, immediate solutions had to be sought or the yield of a whole season could be jeopardized. However, the control options were usually limited to mechanical means or religious ritual.

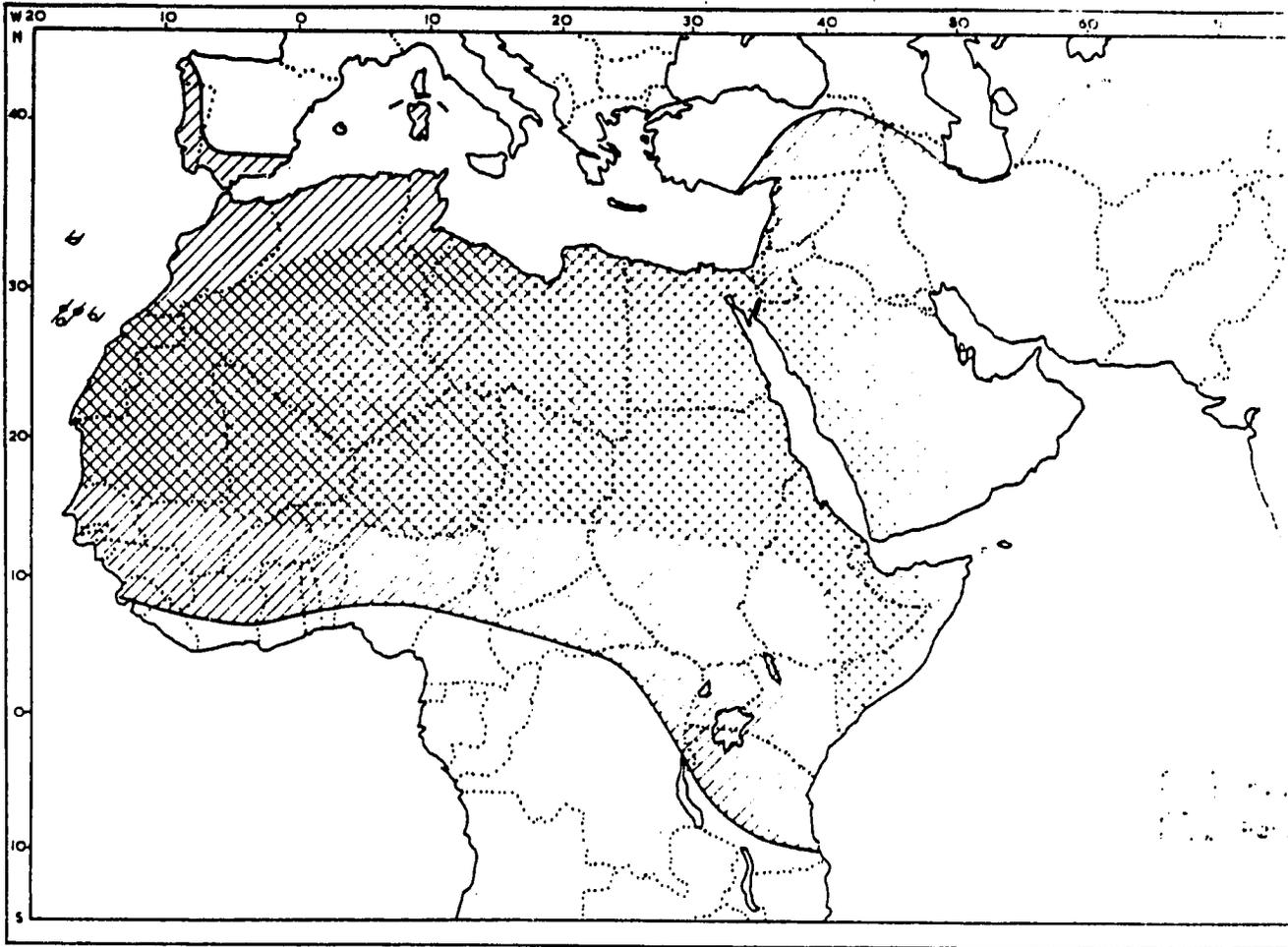
The mechanical means included the use of flails to destroy nymphs and the scaring of roosting adults. The religious methods centered upon the invoking of intervention on the part of the Gods. It is probably not by happenstance that the infestation of desert locust is mentioned in the old testament of the Bible, and in the Koran. Carved images of locusts are also found on sixty dynasty (2420-2270 B.C.) tombs at Saggara. Even today, special "locust chasers" still exist in Eastern Chad and Sudan who impale desert locusts on the tips of their lances and then ride for hours with the tip of the lance pointed upward to prevent the swarms of desert locusts from descending upon crop land.

The severity of the locust and grasshopper threat depends upon the species involved, and the vulnerability of the crop. It is important to note that several of the most important locust species are found on the African continent. In fact, the probability of severe loss of food crops to locusts is higher in Africa than in any other place, except India.

In terms of geographic distribution and total loss of field crops, the most important species in the world is the Desert Locust, Schistocera gregaria. Over 20% of the total land surface of the world is subject to infestation, affecting the food supply of one-tenth of the world's population. Figure 2 shows the maximum area liable to invasion during plagues and the smaller area where desert locusts have been found during recessions.

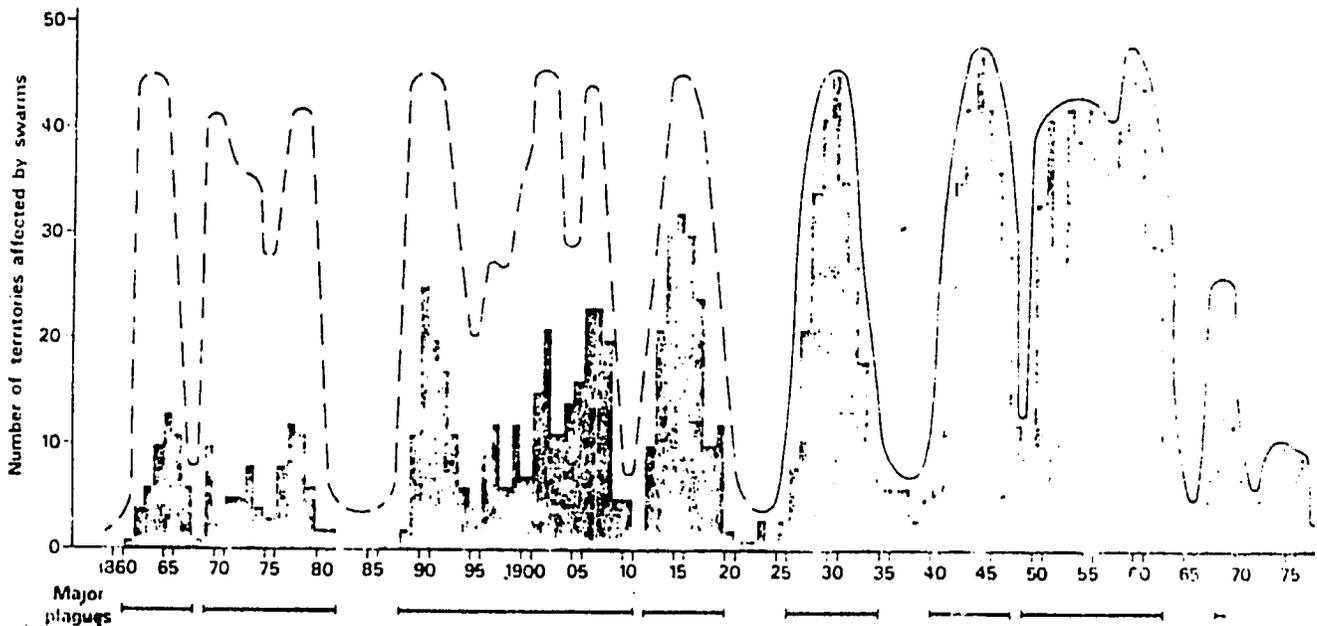
It is important to note that the recession area in Africa stretches from Mauritania all the way to Somalia on the borderline between true Saharan and Sahelian Ecosystems. African countries liable to be invaded include: Algeria, Benin, Burundi, Burkina-Faso, Camerouns, Cape Verde Islands, Central African Republic, Chad, the Congo, Ethiopia, Gambia, Ghana, Guinea-Bissau, Guinea-Conakry, Ivory Coast, Kenya, Libya, Mali, Mauritania, Morocco, Nigeria, Niger, Rwanda, Tanzania, Togo, and Uganda.

Figure No. 2



The sites of infestation and the severity of the attacks are difficult to predict. COPR graphs cited by Ashall and Chaney show the fluctuation in number of countries invaded from 1860-1977. (Figure 3)

Figure No. 3



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It is interesting to note that the last major plague of desert locust occurred from 1940-1963, a span of 23 years. This occurred despite the advent and application of persistent chemical pesticides such as DDT.

Besides geographic range, the other important factor to consider in defining the problem of desert locust is crop vulnerability. Since crops are usually limited to fixed times of the year, when adequate moisture is available, it is only when locust presence coincides with a susceptible stage of crop growth that severe damage can occur. A useful way of showing the damage which locusts can do to each kind of crop in a given area is to combine the information we have about the yearly frequency of occurrence of locusts at that site with the crop production figures for the area. The crop vulnerability indices for Africa, the Arabian peninsula, and Indian subcontinent are presented for the three staples maize, sorghum, and millet (Bullen, 1969). (Figures 4, 5, and 6) Note that for each of these crops, the degree of vulnerability is greater for India and Pakistan than for the African countries.

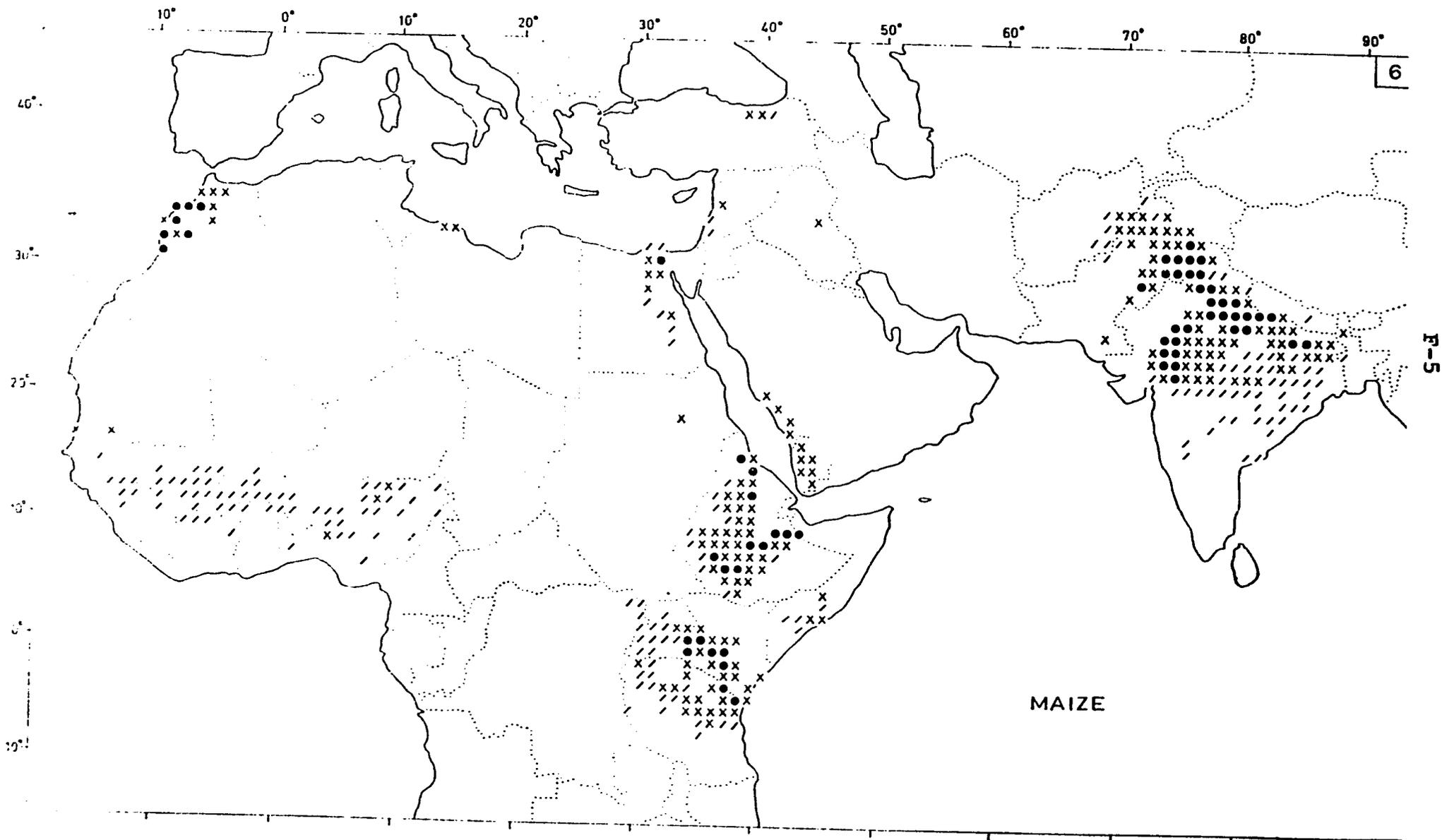
Depending upon the duration and severity of the attack, crop losses to desert locust have varied from slight to total loss. Economic loss varies from isolated incidences, where the farmer loses a seasonal crop, to loss of the food supply of an entire village, or region. Since the desert locust is polyphagous, it may destroy cash crops as well as food crops, thus robbing the farmer of any chance to purchase his food needs.

The response of modern man to the desert locust problem has been as sporadic as the fluctuations in pest populations. Initial technical inputs were provided in the colonial era. The British were, therefore, most active in Egypt, Sudan and East Africa. A review of the scientific literature shows significant studies on locust identification, biology, and chemical control in the late forties and fifties by Uvarov, Joyce, Rainey, and Popov. In the sixties, emphasis was on the ecology of the species and the testing of control alternatives. Regional control organizations were established. It was during this period that the U.S. government supported insect control units in North Africa, Afganistan, etc. Several of today's current consultants, e.g. George Cavin, Dick Dyer, and Jerry Rann did their early field work under these projects.

With independence, regional organizations such as OCLALAV (West Africa), and DLCO (East Africa) were established to coordinate control efforts and to continue the appropriate research. Most of the regional organizations, however, were staffed with expatriates and, therefore, highly dependent upon donor support. Operating expenses, however, were to be borne by the

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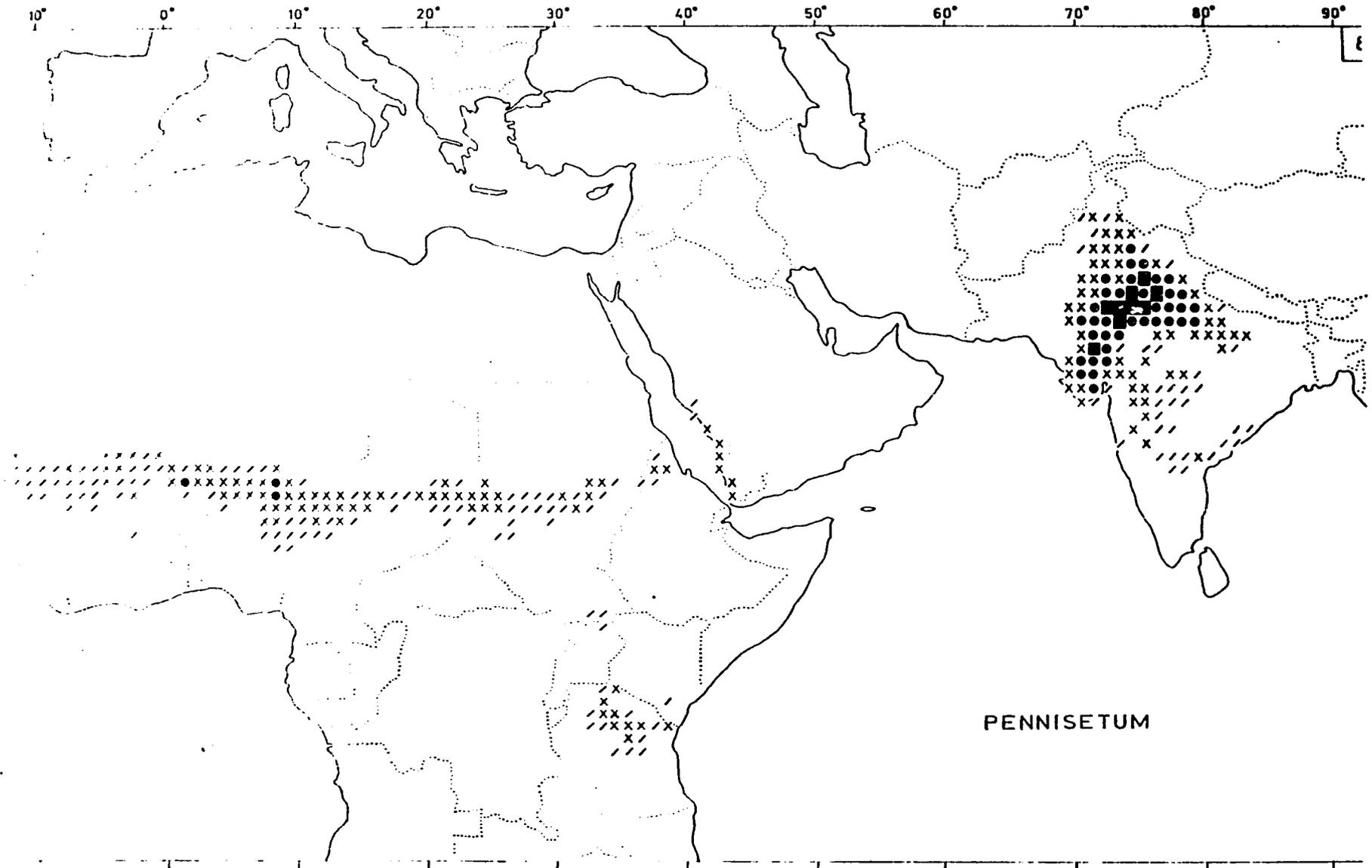
Figure No. 4



MAP 6.—Maize CVI per degree-square.

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Figure No..5

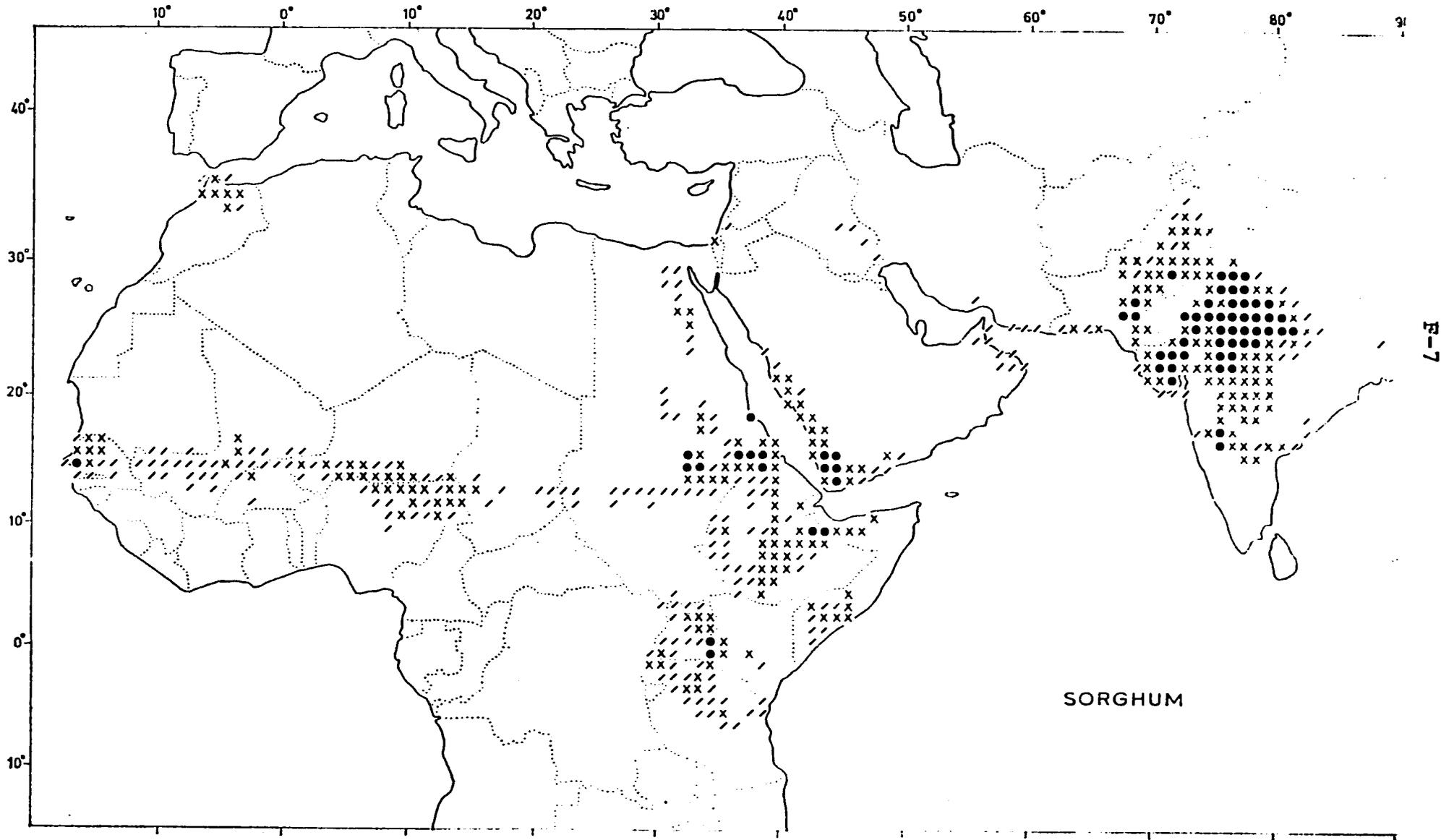


MAP 8.—Pennisetum CVI per degree-square.

F-6

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Figure No. 6



MAP 7.—Sorghum CVI per degree-square.

F-7

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member states. As recently as 1980 Ashall and Chaney published an article citing the struggle to bring locusts effectively under control through international cooperation on a grand scale, and "the success of an equally well conceived and executed program of scientific research and development".

Unfortunately, as the massive outbreak of desert locust was brought under control, interest waned on the part of both donors and national governments to maintain an adequate plague prevention system. At present, OCLALAV is moribund, and the DLCO has administrative problems. Most of the "expatriate" scientists have either retired, or found that their home agencies want them to be administrators rather than researchers. The most important problem for effective Desert Locust Control is how to provide the forecasting necessary for national crop protection agents to know where to look for nascent populations.

The most important species of locust in subsaharan Africa is the African Migratory Locust, Locusta migratoria. Past famine in countries such as the Gambia and Guinea-Bissau was often linked to massive outbreaks, e.g. during the last plague (1928-41). Even today, fear of the loss due to African Migratory Locust is very great. In one village in Southern Chad, the villagers mistakenly identified a building population of sedentary grasshoppers as locusts and began to pack up and abandon their village. Figure 7 shows the extent of the area invaded during the last plague and indicates the area of potential outbreak.

Considerable research was done on the African Migratory Locust in the fifties and sixties. Gregarious bands were occasionally found in the Lake Chad Basin, the Niger delta of Mali, and in Eastern Sudan. Most of the research was coordinated by OICMA. Unfortunately, after many years without a crisis, and rare payment of assessments by member states, OICMA went bankrupt in 1986. It is in the process of divesting all its property and commodities.

The third major orthopteran pest in Africa is the Senegalese grasshopper, Oedaleus senegalensis. Although technically a grasshopper rather than a locust, it has several generations per year and occasionally demonstrates gregarious behavior. O. senegalensis may affect all the Sahelian countries, including the Cape Verde Islands, but it also extends beyond the Sahel to parts of North Africa and Southwest Asia. Within the Sahel, the species is found within the dry tropical belt south of the Sahara delimited by the 200 mm and 1,000 mm isohyets. (Fig 8).

Figure No. 7

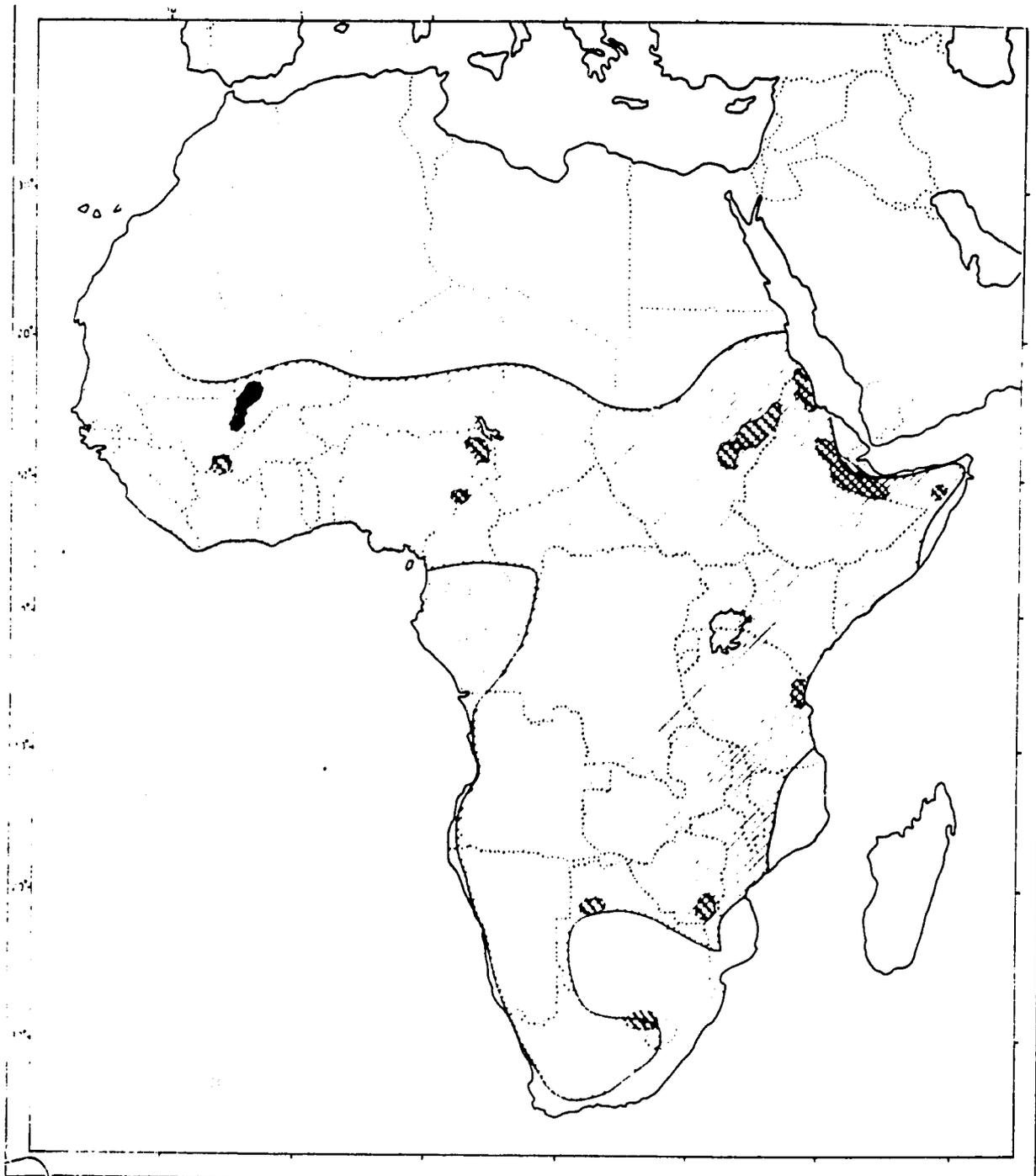


Figure No.8

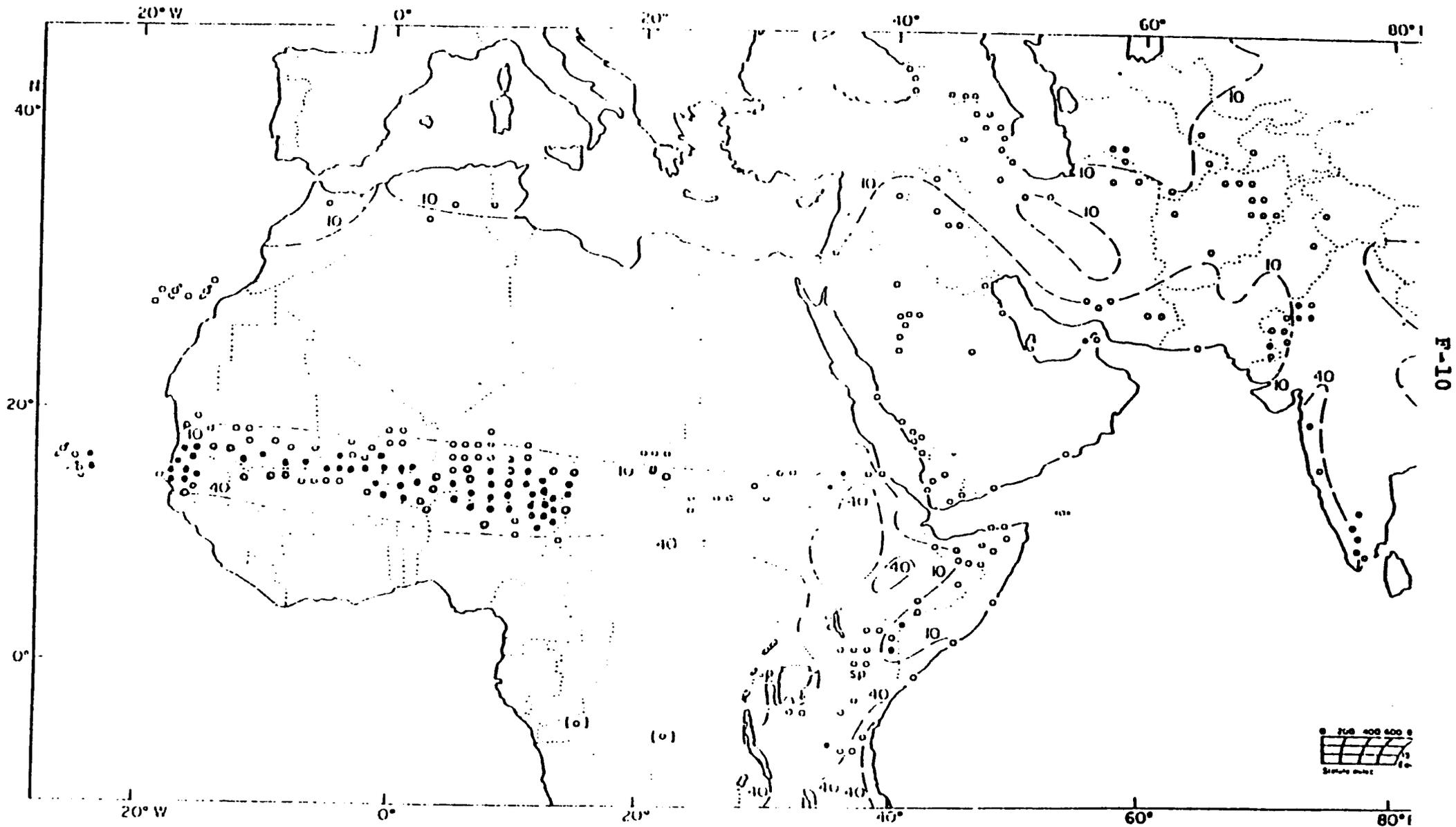
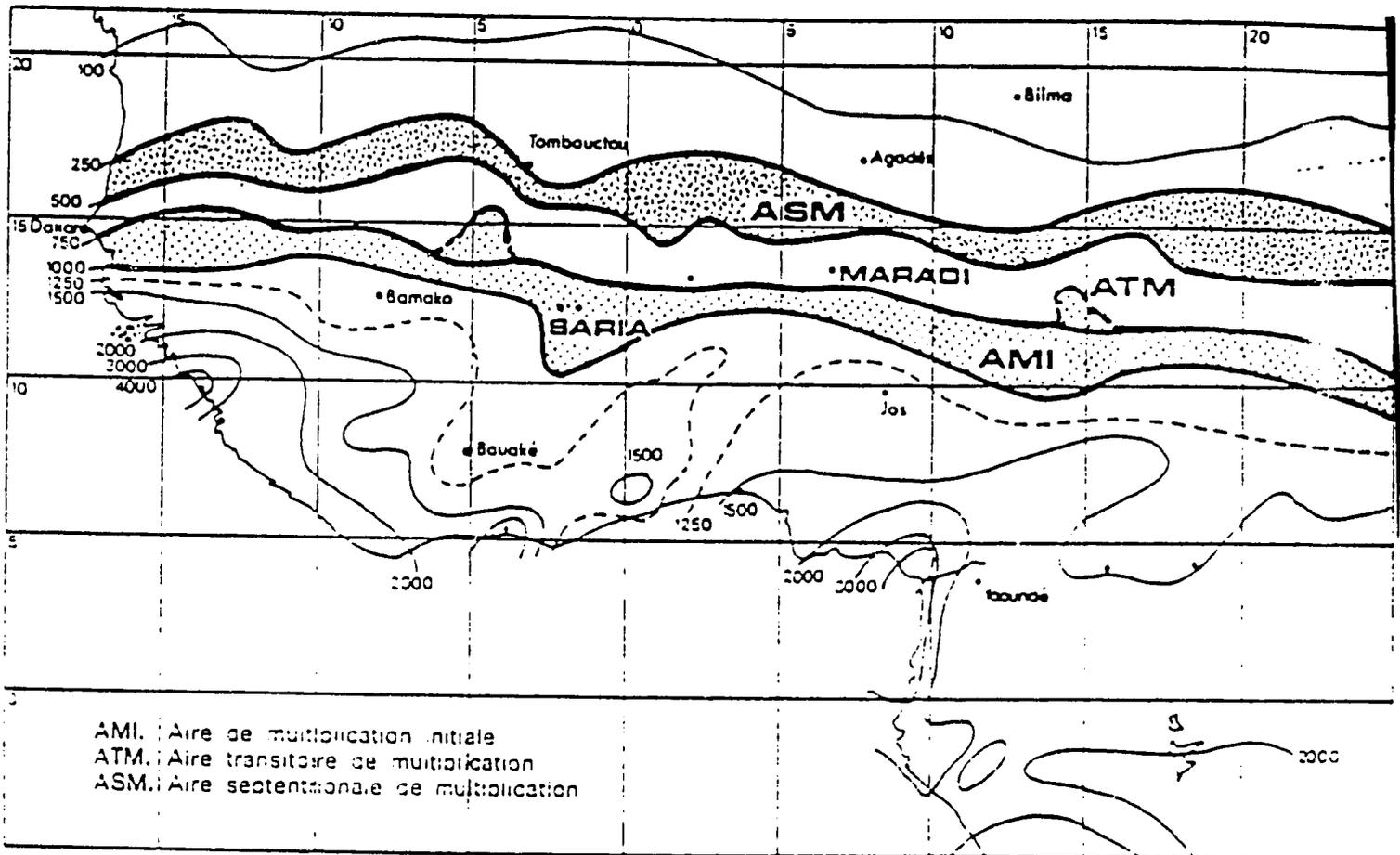


Fig. 1. Distribution area of *Oculeus senegalensis*. O, Locality of occurrence; ●, recorded gregarization; sp, species undetermined; (O), dubious

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The population fluctuates greatly both in geographic location and in time. PRIFAS has identified the areas of probable production of 1st, 2nd, and 3rd generations (Fig. 9)

Figure No. 9



Second and third generation adults follow the intertropical convergence zone (ITCZ) southward in September and early October and consequently lay significant numbers of eggs in the zone labelled AMI. These diapausing eggs survive the 5-6 month dry season and hatch with the first rains. The resulting nymphs feed upon emergent vegetation, including young millet plants, until they mature. The resultant winged adults emigrate with the advancing ITCZ, reaching the intermediate ATM zone at about the time of the first rains. The resultant second generation, and the remaining first generation adults may then advance further north into the ASM where a third generation is formed. The third generation adults and leftover second generation move southward with the ITCZ. If millet has not yet been harvested it is the preferred food of Oedaleus. Although there are few accurate assessments of damage by O.

senegalensis, it is often rated as the most serious pest of millet. Damage occurs in both the seedling and in the milky stage of grain formation.

Crop loss estimates due to O. senegalensis in 1986 varied from 0.5% (Burkina Faso) to 18% (Chad). The most widespread and serious outbreaks on record are those of 1974 and 1986. It is interesting to note that it was due to the pest damage seen during the A.I.D. Administrator's visit to the Sahel in 1974 that the USAID Regional Food Crop Protection and CILSS/IPM projects were developed, and funded. It is due to the 1986 outbreaks of O. senegalensis that the present project is being proposed.

Two additional major locust pests are the red locust and the brown locust. The red locust forms gregarious swarms in seasonally-flooded grasslands in Tanzania, Zambia, and Mozambique. In the last major plague (1930-1944), these swarms attacked major areas of eastern, central, and southern Africa. (Figure 10)

The International Red Locust Control Organization (IRLCO) monitored the breeding grounds of this species and destroyed escaping swarms for many years, preventing any new major plagues. This organization still exists, but it has financial and managerial difficulties.

The brown locust breeds mainly in the Karoo region of the Republic of South Africa, but has occasionally escaped into neighboring countries. In 1986, this species invaded Botswana, requiring a major control effort.

Thus, each of these locust and major grasshopper species has a long history as a pest, and there is a fund of technical information and experience on which we can draw. Unfortunately, most of the regional organizations formerly responsible for control have been allowed by their member countries to deteriorate. This has allowed the current situation to reach an emergency status. In turn, this has required the affected countries, the U.S., and other donors, through the FAO, to propose new concepts for grasshopper and locust control.

The pest problems haven't changed, only man's attempts to resolve them. The purpose of this technical analysis is to determine the feasibility of the proposed actions.

2. Development of a Strategy, and Conformance by the PP.

Review of the 1986 grasshopper control campaign was undertaken by certain USAID missions and by joint donor evaluation teams. Problem areas and conflicts and divergent points of view were identified. Prior to participation at the joint donors meeting

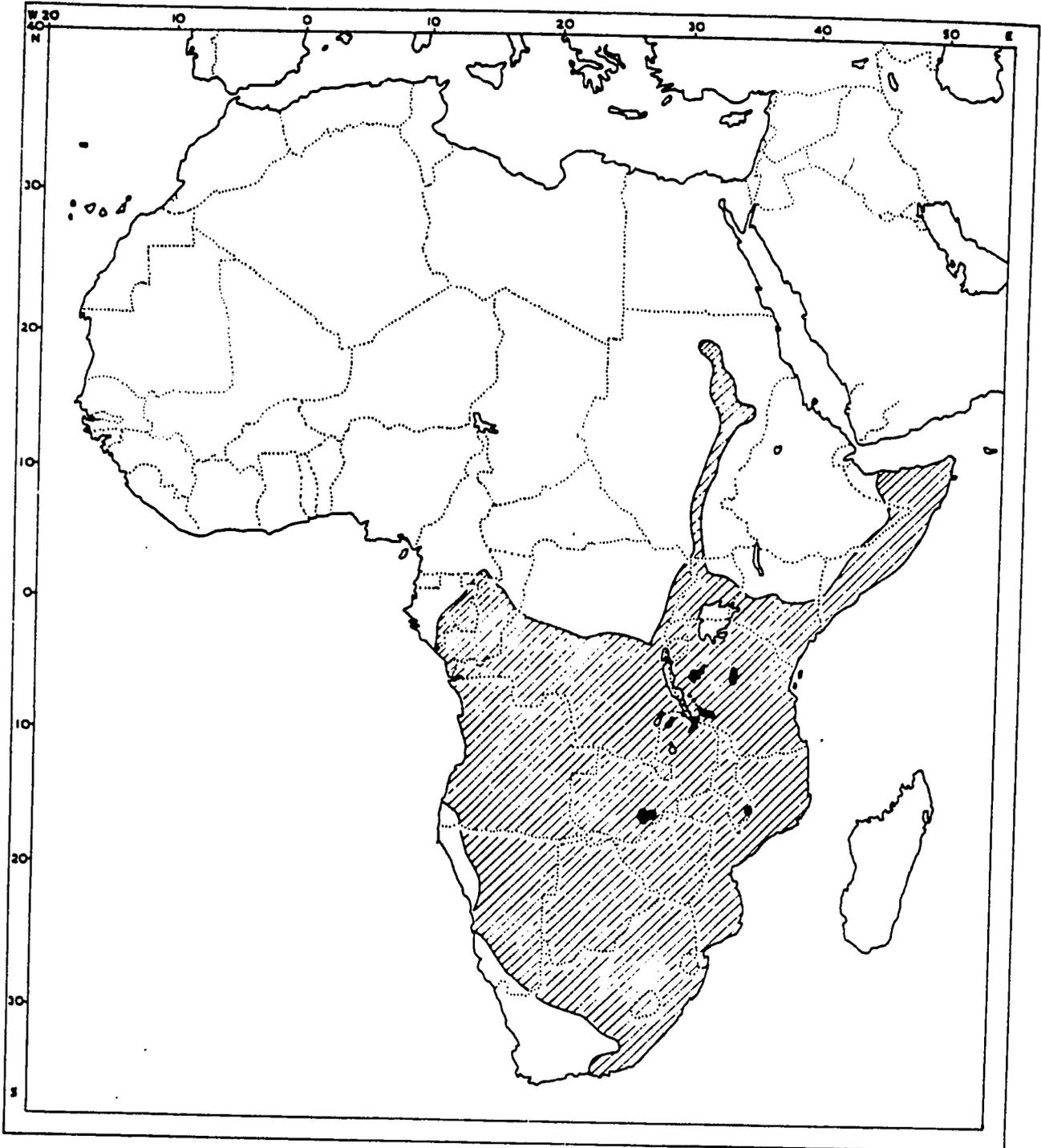


Figure 10

Map showing the maximum area invaded by swarms of the Red Locust during the last plague (1930-1944), and its outbreak areas.

at FAO (Rome) on December 18 and 19, 1986, the Africa Bureau developed a draft strategy paper and a set of 48 issue papers. (These are available from AFR/OEO.)

The papers were developed by a group of in-house pest management specialists, with the assistance of USEPA and USDA specialists who participated in the 1986 campaign. They prepared solid technical analyses of the issues.

Among the technical issues dealt with in these papers are:

the proper timing and techniques for carrying out grasshopper and locust surveys;

goals for locust, O. senegalensis, and sedentary grasshopper control, and tentative economic thresholds appropriate to those goals;

the need for a coordinated network to bring together survey data, weather and vegetation data, operational models, and technical experts in order to provide accurate assessment of the current situation and the best possible forecasts;

a strategy for appropriate control of locusts, O. senegalensis, and sedentary grasshoppers in three major land-use types, i.e., croplands, rangelands, and wilderness/unutilized land;

guidelines for the use of appropriate pesticides;

an outline of appropriate application technology according to the development of the pest, the area for treatment, and the time available;

a discussion of possible alternatives to chemical control for further research; and

an initial statement of environmental concerns.

The positions taken in these papers were reviewed and approved by the U.S. delegation attending the FAO meeting in Rome, and were then presented at a technical meeting involving most of the world's most renowned experts on the subject of locusts and grasshoppers in Africa.

In all major instances, the positions taken by the U.S. were incorporated into the reports of the technical meeting, and accepted by the donors and the representatives of the African national governments (a copy of the report of the FAO-chaired meeting is also available from AFR/OEO).

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The control strategy adopted at this meeting centered upon two phases, corresponding to the two principal periods of crop vulnerability, and exploiting the differences in pest biology at these two points. Phase I, when crops are at the seedling stage, and pests tend to be in highly concentrated foci as newly hatched hoppers, emphasizes maximum participation of the farmers in controlling pests in and around their fields. Additional control would be provided by ground teams in pastures and unutilized land. Phase II, when crops are at the milky-grain stage, and pests are present as highly mobile swarms of adults capable of rapidly consuming a crop, requires the use of more sophisticated methods for rapid control over large areas. This calls for teams with truck-mounted ground-sprayers, helicopters, and airplanes.

Additional technical papers evaluated current data on pesticide efficacy and application techniques, and recommended further research and guidelines for desired characteristics of pesticide formulations, specifications for application equipment, and standard contracts for private aero-applicators. A paper on logistics dealt with technical issues of movement of supplies and of communication and coordination.

The meeting also produced a review of the 1986 campaign, with an analysis of technical, logistical, and other problems, and plans for the 1987 campaign.

3. Allocation of Resources

Initiation of proposed project activities in time to have a significant effect on the 1987 locust/grasshopper control campaign is only possible due to close collaboration between OFDA, AFR/SWA, and AFR/OEO. If the OFDA had not been able to provide interim funding for startup activities, such as training or short-term technical assistance, an insurmountable gap would have developed prior to project authorization. This would have severely curtailed U.S. participation in the joint donor effort.

In 1986, the U.S. contributed approximately 9 million dollars to a total donor effort of nearly 40 million (roughly one fourth). The proposed project has adopted no fixed proportion of the total campaign to finance, but the U.S. will continue to refrain from assuming too dominant a role.

In the PID review, a question was raised as to whether funding of this project might impact negatively upon the support needed for other pest problems that are certainly real, and in some localities may cause more crop loss than grasshoppers. Priority is given to locust and grasshoppers because (a) they are migratory and (b) control mechanisms have been identified. In the case of some other pests, control methodologies are yet

to be developed (i.e. Raghuva), or the pests would be more appropriately addressed as one component of a long-term development project.

4. Implementation

Although simple in concept, implementation of the proposed project will be difficult due to the dynamic nature of the pest problem it addresses, and the limited (three year) duration of most of the proposed project activities. The overall implementation plan is feasible, but special attention must be placed on finding means to reduce the lead time in defining the relationship of this project to others within each mission's portfolio, and in recruiting the technical assistance needed in the field. One method might be to fill most positions through a RSSA with the USDA, or through the Bureau of Science and Technology's contract with the International Consortium of Crop Protection (CICP).

Most of the proposed field agent training will only be done in the second and third year of project implementation. During the first year it will be necessary to draft and field test didactic materials.

Full advantage must be taken of the donor coordination infrastructure established within each country during the 1986 emergency control campaign. The use of the Donor Coordination Committees will facilitate startup of new activities and help to ensure that some activities will be continued after project completion, albeit possibly with other donor funding.

Since the project is of short duration, it is essential that evaluation be well planned and results be immediately used for influencing management decisions regarding the reprogramming of remaining activities.

A global qualitative analysis of proposed activities is presented in the Summary Technical Analysis of the Project Paper. Specific activities varied from fair to high in terms of probable success within the project's three year life, as well as in terms of sustainability. The latter consideration is evaluated upon the probability that the results obtained within the life of the project will either develop a definitive solution, or be impressive enough to prompt the host country or other donors to continue them. Further, it is anticipated that some methodologies developed during project implementation will be adapted for use against other pest problems.

It should be noted that a low probability of success for certain activities is more closely related to the technical complexity and duration of the activity than to the funding level.

5. Conclusion

The proposed project is technically sound and should meet its basic objective by the PACD. The methodologies developed may be applicable to the resolution of other pest problems. Furthermore, since the project proposes a novel means of bridging the gap between declared disasters and long term development needs, it warrants careful evaluation as a potential mechanism for treating other types of short term problems.

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

MAR 11 1987

ACTION MEMORANDUM FOR THE DEPUTY ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/SWA, Phyllis L. Dichter-----

SUBJECT: FAA 121(d) Determination for the African Emergency
Locust/Grasshopper Assistance Project, 625-0517.

Purpose: To make a finding that the Determination set forth in Section 121(d) of the Foreign Assistance Act of 1961, as amended, is not required for the African Emergency Locust/Grasshopper Assistance Project (AELGAP).

Discussion: The AELGAP is a new \$15 million project that will receive funding from various A.I.D. sources including the Sahel Development Program. These funds, including a comparatively small SDP contribution of \$1 million, will be co-mingled and allotted to AID/W (AFR/OEO). These funds will finance the procurement of a variety of U.S. technical services, training, and commodities related to the locust/grasshopper problem within a flexible, internationally formulated program.

Recommendation: Since these funds will be disbursed by AFR/OEO and will be used primarily for U.S. procurement, I recommend that you approve a finding that the determination set out in FAA Section 121(d) does not apply for this project.

APPROVED: *Phyllis L. Dichter*

DISAPPROVED: _____

DATE: 3/12/87

Clearance:

GC/AFR:BBryant: *BB*

AFR:WCSaulters: #7571U

ANNEX H

METHODS OF IMPLEMENTATION AND FINANCING
(\$000)

<u>Method of Implementation</u>	<u>Method of Financing</u>	<u>1987 Estimate</u>	<u>1988 Estimate</u>	<u>1989 Estimate</u>	<u>Total Estimate</u>
Technical Assistance	Mission Direct Contracts	150	300	150	600
Technical Assistance	Grants/Letters of Credit	350	600	350	1,300
Chemicals/Pesticides	Direct Contracts	1,000	1,750	1,000	3,750
Equipment/Leases	Mission Direct Contracts	800	1,400	800	3,000
Research	RSSAs	550	959	550	2050
Research	Direct Contracts	500	875	500	1,875
Training	Mission Direct Contracts	350	600	350	1,300
Institutional Support	Grants	<u>300</u>	<u>525</u>	<u>300</u>	<u>1,125</u>
Annual Totals		4,000	7,000	4,000	15,000

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