REPORT

Cairo,
Egypt,
4-7 June
1990

FAO commission for controlling the desert locust in the Near East

Seventeeth session

Food and Agriculture Organization
of the United Nations

Report of the

Seventeenth Session of the

FAO Commission for Controlling the Desert Locust in the Near East

held in

Cairo (Arab Republic of Egypt)

from 4 to 7 June 1990

Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Rome, 1990

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Introduction

At the invitation of the Director-General of FAO, the Seventeenth Session of the Commission was held in Cairo and was opened by the Deputy Minister for Pest Control, Mr. Mohamed Abdul Hamid Khalifa, on behalf of Mr. Yousef Wali, Deputy Prime Minister and Minister of Agriculture and Land Reform, who welcomed the participants and mentioned the efforts of the Food and Agriculture Organization of the United Nations in the field of Desert Locust control and its action towards assisting the countries concerned and coordinating their activities in locust control. He emphasized the importance of regional and international cooperation in this respect and praised the efficient results achieved by FAO and affected countries during the three past years. He insisted on the necessity of keeping this level of preparedness in order to maintain the present relatively calm situation prevailing in all the invasion area. Egypt is ready to provide the Region with Desert Locust specialists when the necessity arises. He stressed the importance of the Near-East Commission and the necessity of its strengthening.

On behalf of the Director-General, the FAO Representative in Egypt, Mr. Yahya Salah, welcomed the delegates and thanked the Government of Egypt for convening the Session in Cairo. He also congratulated the Member Countries for their efforts in controlling locusts during the recent past years, thus avoiding the serious threat of the plague by destroying a large number of locust swarms which invaded the Region and returning to a recession period which will hopefully extend as long as countries continue their efforts in locust survey and control. He mentioned the locust infestations which appeared in March 1990 in Oman and the resulting swarms, stressing the necessity of their control to avoid further developments and the movement of swarms to neighbouring countries and regions. The Agenda and its items were of a particular importance and especially the preventive control project which aims at the prevention of sudden locust upsurges.

Agenda

1. Opening of the Session
2. Election of the Chairman and Vice-Chairman of the Commission
3. Adoption of the Agenda
4. Election of the Drafting Committee
5. The Desert Locust Situation 1989-90 and forecast to December 1990
6. Control measures undertaken 1989-90
7. Desert Locust survey and control potential available in Member Countries
8. Implementation of the Recommendations of the Sixteenth Session of the Executive Committee
9. Assistance to member countries of the Commission

10. Consideration of the Report of the Executive Committee

11. Contributions to Trust Fund 9409

12. Election of the Chairman and Vice-Chairman of the Executive Committee

13. Any other business:

(i) strengthening of the Commission
(ii) transfer of the seat of the Commission from Jeddah to Cairo
(iii) Desert Locust Preventive Control Project

14. Date and place of next Session

15 Adoption of the Report

Quorum

The Session was attended by nine Member Countries and an observer from the Desert Locust Control Organization for Eastern Africa (DLCO-EA).

Officers of the Session

Chairman
Mamdouh Mahmoud Zuhair, Head of the Egyptian delegation

Vice-Chairman
Salem Bamufleh, Head of the Saudi Arabian delegation

Drafting Committee
FAO Secretariat and Egypt

Participants in the Session

Egypt

Mr. Mamdouh Mahmoud Zuhair, Director-General of Locust Control and Agricultural Aviation, Cairo

Mr. Abdallah Jah El Rasul, Director of Locust Control, Cairo

Mr. Ali Zeineddin Shahin, Director of Public Relations, Cairo

Mr. Abdul Azim M. El Jammal, Director of Research Unit, Locust Research Station, Cairo

Mr. Mahmoud Fehmi Harb, Director of Research Unit, Locust Research Station, Cairo

Kingdom of Saudi Arabia

Mr. Salem Bamufleh, Director-General of Locust Research Station, Jeddah

Mr. Fahd El Baridi, Chief Pest Research Section, Riyadh

Mr. Mashal El Fahtani, Office of the Minister, Foreign Relations

Sudan

Mr. Abdalla Ali Abdallah, Chief of Locust Control Division, Khartoum

Yemen Republic

Mr. Naser Mua'afa, Advisor, Ministry of Agriculture and Water Resources, Sana'a

Iraq

Mr. Wael Abdelwahab, Director of Plant Protection Department

Syria

Mr. Mohamed Rafaat Laham, Director-General of Plant Protection, Damascus

Kuwait

Mr. Yusef Mohamed Tarakme, Plant Protection Supervisor, Directorate of Agriculture and Fisheries, P.O. Box 21622, Kuwait

United Arab Emirates

Mr. Abdallah Mohamed Abdallah Ahmed, Ministry of Agriculture and Fisheries, P.O. Box 17, Fujeira

Oman

Mr. Ahmed Mohamed Zaher Hanani, Director of Agricultural Affairs and Responsible of Information Unit, Ministry of Agriculture and Fisheries, Muscat

Observer

Mr. Abdul Moneim Karrar, Director of Operations, Desert Locust Control Organization for Eastern Africa (DLCO-EA), P.O. Box 4255, Addis Ababa

Secretariat

Mr. Abderrahmane Hafraoui, FAO Rome

Mr. Ahmed Khasawneh, P.O. Box 327, Jeddah

SUMMARY OF DISCUSSIONS

1. The Desert Locust Situation from 1 November 1989 to 31 May 1990 and Forecast

1.1 Saudi Arabia

The situation remained calm in all the regions of Saudi Arabia from 1 November 1989 to 31 May 1990. Only a very small number of scattered solitary individuals of both adults and hoppers were reported in the south-east of Qunfidah and there was no increase in their numbers.

Scattered and irregular rains fell in southern and northern Tihamas, in the interior and northern and eastern Provinces as a result of successive depressions in Sudan and the Mediterranean Sea. Survey teams continued their work in strategic areas and in those receiving rains, but no locusts were observed.

1.2 Yemen Arab Republic

During survey operations organized during November 1989 a few solitary adults were observed in Maarab and El Jauf and others between Zahra and Wadi Moor in the Tihama of Yemen. The existence of these individuals in these regions continued in December 1989, January, February, March and April 1990. Vegetation was green in the Tihama following the occurrence of rains. On 25 May there were still a few solitary individuals in the Tihama, but it is probable that the locust situation remained calm during that period. On 20 May 1990 a small swarm of fledglings came from the south-east and scattered in Bayman - Maarab - Al Jauf regions and a few individuals reached Zhamar and Sana'a. On 25 May solitary scattered adults were encountered in northern Tihama at Abas, Maydi and Wadi Jizan where they were controlled.

1.3 Sudan

The situation remained calm during November and December 1989 in the interior of Sudan. However, individuals appeared on the Red Sea coast in November 1989, scattered over 100 ha in Halayeb at a density of 60 per hectare. The situation was again calm during January and until March 1990 and no locusts were observed.

1.4 Oman

No locusts were reported since early November 1989, but on 20 March 1990 groups of locusts of various stages were observed in the north-eastern regions at 2210N-5937E, 2214N-5938E and 2220N-5945E at densities of around 50 per square metre in many wadis over 10 km^2. These populations were controlled with 850 l of Sumithion emulsion by ground teams using various types of sprayers; control was concluded on 18 March 1990. During survey operations undertaken in March in the eastern region, groups of mature adults and third-fourth instar hoppers were observed in Mantarib (2226N-5848E) and on 16 March in Sumayil (2319N-5801E); the density was high and locusts were egglaying with gregarious features. On 19 March a dense population of mature egglaying adults was observed in the north of Batina in Sohar region of Wadi Habibi (2419N-5642E). Solitary mature locusts were further observed at

various densities south of Batina in Wadi Abyad over 50 km² and in Rastaq over 7.5 km² at a density of 10 per square metre: adults were egglaying. The infestation was controlled by aircraft using Malathion 96% ULV at a rate of 1 l per hectare. The infestation remained till end April when hoppers reached the fledgling stage. Dense flying adults appeared at the south of Jabal Akhdar where ecological conditions were suitable for breeding due to heavy rains which fell in the area on 13 March and 11 April which caused the flooding of wadis. At the end of April groups of hoppers were observed on dry vegetation in south Batina, and a number of mature adults south of Jabal Akhdar. Other adults were seen on 28 May over 15 km² in Jebel Hatta and Bureimi regions and in Hadar (El Ghab province) at a density of 6-10 per square metre.

The northern and southern parts of Batina area were also populated by solitary and gregarious adults of various densities from Seeb (2341N-5811E) to north Bureimi covering the zones of Ramis, Suhar, Rastaq, Ibri, Jabal Akhdar. The area controlled by ground and aerial teams during March/April reached 1,750 hectares.

On 12 May 1990 breeding of late instar hoppers (IV-V and fledglings) was observed in Baraka over 100 km² at a density of 5 per square metre. A number of hoppers were also observed in Sohar and were controlled by ground teams. In Baraka region, control was done by aircraft using Malathion 96%. At the time of writing this report, Batina region was dry, but eastern Batina received rains early May. The total area controlled was 29,692 ha out of which 4,271 ha by ground teams and 25,421 ha by aircraft using 17,235 l of various insecticides. Control operations were still in progress in Hatta, Bureimi and Um Khasem.

1.5 United Arab Emirates

On 24 May 1990 hoppers of various instars and solitary adults were observed at a density of 2 per square metre in areas neighbouring the Sultanate of Oman in Mazid (El Ain) and eastern coast of Fujeira where they were controlled.

1.6 Other Countries of the Near East

Remained free of Desert Locust.

1.7 The Locust Situation in other Regions

A few solitary locusts were observed in south Morocco and Algeria and the situation was calm in Tunisia and Libya. In West Africa a few solitaries appeared in Niger, Mali and north Mauritania and conditions were favourable for breeding following the recent occurrence of rains.

In South-West Asia there were small numbers of solitaries on Mekran coast in Pakistan and the situation was calm in India.

In Eastern Africa, small groups appeared in north Somalia in November 1989, but scattered later in the season.

The Commission therefore requested FAO to provide regularly adequate information on the situation of the Desert Locust in the Red Sea coast of Eastern Africa.

1.8 Forecast

Saudi Arabia will probably remain free, but in the Yemen Arab Republic scattered adults may exist as a result of summer breeding in 1990 where numbers of locusts may reach the south-east of the country and Hadramut coming from Oman during the southern migrations trend. In Oman numbers of locusts may increase in the area which received rains in the spring breeding zones, to form swarms and then move north-east towards summer breeding areas in India and Pakistan, other swarms may move south towards Hadramut.

Locusts reported in the United Arab Emirates at Ain and Fujeira were controlled, but some populations may still persist.

The situation will remain calm in Sudan and Egypt and other Near-East countries.

2. Control Potential

The Commission reviewed the control potential available in the Region and considered the necessity of keeping this level and even support it in the Member Countries in order to face future upsurges. In Oman there was a lack of qualified personnel, equipment and pesticides (Appendix 3).

3. Implementation of Recommendations of the Sixteenth Session

In spite of the financial deficit of the Commission, FAO provided funds for implementing some programmed training and research activities.

4. Assistance suggested to Member Countries

4.1 In the light of the report of the Oman delegate on the locust situation, the control operations being undertaken in Batina region at the time of the Session, the efforts involved in the campaign and the need of the Sultanate for a locust control unit, the Commission recommended:

- to provide Oman the soonest possible with 2 experts for establishing a locust control unit and training the national staff for a period of 1-2 months;

- to provide Oman with 10T of Dursban pesticide out of the Jeddah reserve, to be transported at Oman's expense.

4.2 The Commission recommended to provide Dokki Research Station with the necessary means for research within the sources available at FAO for current recommended research and according to proposals presented by scientists.

4.3 Based on requests from some Member States to strengthen their technical units and train their staff, the Commission urged FAO to send the necessary expertise for this operation and, at the same time, to continue the organization of regional training courses.

5. Report of the Executive Committee

The Commission reviewed the report of the Executive Committee and approved it. It also approved the proposed budget for the period 1988-1992 and the expenses for the year 1988-89 and the period ending 30 May 1990 (Appendix 1, Annex 1).

6. Contributions to Trust Fund 9409 (Appendix 1, Annex 1)

Having reviewed the report of the Secretariat concerning arrears by some Member Countries, the Commission emphasized the need of settling the contributions in order to allow the implementation of Commission activities.

7. Election of the Chairman and Vice-Chairman of the Executive Committee

The delegate of Egypt was elected Chairman of the Executive Committee and the delegate of Saudi Arabia Vice-Chairman; delegates of Yemen, Sudan and Oman were elected members.

8. Any other business

The delegate of DLCO-EA offered the services of the organization aircraft to assist the Member countries in the field of locust survey and control at nominal price. While appreciating this offer, the Commission reiterated the importance of continuing the cooperation between the various regions.

a. The Commission asked FAO to support the Commission from the various resources available at its disposal and insisted on the recommendations on the subject issued by previous sessions.

b. The Commission took note of the intention of FAO to transfer the seat of the Commission from Jeddah to Cairo, due to the financial difficulties met by the Commission and to the facilities available at the FAO Regional Office for the Near East in Cairo which will facilitate the activities of the Commission. The Commission did not object this proposal and left the decision to FAO, Egypt and Saudi Arabia for follow-up.

c. The Commission thanked FAO for its continuous efforts to support the regions affected by Desert Locust infestations and more particularly the Sudan and Africa and recommended to pursue this support in order to keep the relative recession in infested areas.

d. The Commission studied the preventive control programme presented by the Secretariat (Appendix 2) and approved the principle of preventive control in the Region. It recommended FAO to submit a detailed project to countries concerned and to the regional organizations present in the Region for study and comment.

9. Date and Place of Next Session

The Matter is left to the decision of the Director-General. The Commission recommended that the Secretariat, in cooperation with the Chairman, consult the Member Countries for their basic approval concerning the place and date of the meeting to be organized in a member country.

APPENDIX 1

REPORT OF THE SEVENTEENTH SESSION OF THE EXECUTIVE COMMITTEE OF THE COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

held in Cairo from 4 to 7 June 1990

The quorum to hold the meeting was obtained.

Chairman: Salem S. Bamufleh, Head of the Saudi Arabian delegation.

Drafting Committee: FAO Secretariat and Egyptian delegation

Participants in the Session

Egypt

Mr. Mamdouh Mahmoud Zuhair, Director-General of Locust Control and Agricultural Aviation, Cairo

Mr. Abdallah Jah El Rasul, Director of Locust Control, Cairo

Mr. Ali Zeineddin Shahin, Director of Public Relations, Cairo

Mr. Abdul Azim M. El Jammal, Director of Research Unit, Locust Research Station, Cairo

Mr. Mahmoud Fehmi Harb, Director of Research Unit, Locust Research Station, Cairo

Kingdom of Saudi Arabia

Mr. Salem Bamufleh, Director-General of Locust Research Station, Jeddah

Mr. Fahd El Baridi, Chief Pest Research Section, Riyadh

Mr. Mashal El Fahtani, Office of the Minister, Foreign Relations

Sudan

Mr. Abdalla Ali Abdallah, Chief of Locust Control Division, Khartoum

Yemen Republic

Mr. Naser Mua'afa, Advisor, Ministry of Agriculture and Water Resources, Sana'a

Iraq

Mr. Wael Abdelwahab, Director of Plant Protection Department

Syria

Mr. Mohamed Rafaat Laham, Director-General of Plant Protection, Damascus

Kuwait

Mr. Yusef Mohamed Tarakme, Plant Protection Supervisor, Directorate of Agriculture and Fisheries, P.O. Box 21622, Kuwait

United Arab Emirates

Mr. Abdallah Mohamed Abdallah Ahmed, Ministry of Agriculture and Fisheries, P.O. Box 17, Fujeira

Oman

Mr. Ahmed Mohamed Zaher Hanani, Director of Agricultural Affairs and Responsible of Information Unit, Ministry of Agriculture and Fisheries, Muscat

Observer

Mr. Abdul Moneim Karrar, Director of Operations, Desert Locust Control Organization for Eastern Africa (DLCO-EA), P.O. Box 4255, Addis Ababa

Secretariat

Mr. Abderrahmane Hafraoui, FAO, Rome

Mr. Ahmed Khasawneh, FAO Regional Locust Officer, P.O. Box 327, Jeddah

Agenda

1. Opening of the Session
2. Adoption of the Agenda
3. Election of the Drafting Committee
4. Programme of work and budget 1990-1991 and 1989 accounts
5. Training
6. a. Research in the Region
   b. Research in other Regions
7. Any other business
8. Date and place of next Session
9. Adoption of the report

SUMMARY OF DISCUSSIONS

Programme of Work and Budget 1988-1992 and 1989/90 accounts (Appendix 1, Annex 1)

1. The Commission studied 1989 expenditures as of 3 May 1990 and approved them.

2. The Commission adopted the budget for the period 1988-1992.

3. The Commission reviewed the situation of contributions and expressed its concern about the arrears of some countries. It recommended that countries fulfill their obligations including the payment of arrears and requested the delegates to pursue the matter with their Governments.

4. The Commission asked FAO to provide assistance to Member Countries for training and research purposes from any available sources due to non-availability of necessary potentials at the Regional Commission and the financial difficulties it is facing at present.

Research

5. The Commission reviewed the research undertaken at Dokki and Jeddah research stations and also future research. Research activities are summarized below.

5.1 Dokki Locust Research Station

A summary of activities appears in Annex 2 to Appendix 1. The Commission gave its appreciation to current research and recommended its support in that station through the provision of all possible assistance from resources available in FAO. The Station should submit a full integrated programme of research to be evaluated by the Scientific Advisory Committee (SAC), in the field of research related to locust control in the Region. The Commission should inform the countries concerned in research about the mentioned programme in order to seek its implementation through bilateral cooperation. The Commission also emphasized the importance of exchange of technical information resulting from research between research stations and Member Countries and the coordination of research activities through the Secretary of the Commission.

5.2 Jeddah Locust Research Station

The Commission observed that research in Jeddah is a continuation of past research on insecticides both at the station and in the field. It encouraged the follow-up of such research due to its importance.

5.3 Research in other Regions

The Commission was informed about current research in Morocco and Algeria concerning field trials on pesticides and their environmental impact. In West Africa, studies are undertaken on the relation between gregarization and vegetation cover. In

Eastern Africa, experimental and applied research were continuing in the field of pesticide use and evaluation of application equipment.

6. Training

The Commission expressed its regret about the immobilization of training activities inside and outside the Region due to non availability of funds and recommended that training courses be reactivated. Training abroad should be given the necessary importance through the cooperation between the various regions.

The Commission recommended that in organizing regional training courses, trainers should be selected from the Region and those experienced and specialized in the field of locust control and research.

Early in the year Saudi Arabia organized five national training courses of one-week duration each on locust control in Jeddah, Medina, Tebuk, Hail and Qasim. Saudi experts and the regional locust officer assisted in the courses, which were attended by 120 participants.

The Commission was informed of the regional training course on locust control organized in August 1989 in Khartoum for a three-week duration, under the auspices of the Arabic Organization for Agricultural Development.

The Commission was informed of local courses on locust control organized in Kuwait for 50 persons including participants from Yemen and Egypt.

APPENDIX 1
Annex 1

INTERNATIONAL TRUST FUND 9409: CONTRIBUTIONS AND EXPENDITURES

Budget for 1988 - 1992

1. The 13th Session of the Commission, 16-18 May 1983, approved a budget for the five-year period 1983-87. The budget (shown in Section A) is reviewed at the annual sessions of the Commission. Savings under any of the Expenditure headings can be utilized to meet shortages under any other heading and, similarly, unspent surpluses at the end of any one calendar year are available to supplement allocations under the same headings or any other heading as may be required. The budget proposed for the period 1988-92 was endorsed at the 16th Session held in Doha in 1989.

Statement of Accounts for 1988

2. A statement of expenditures for the year 1989 is shown in Section B, and a breakdown of these expenditures is given in Section C.

3. The total expenditure in 1989 amounted to US$ 794.935 exceeding the yearly budget by US$ 544,935 due to the purchase of 50,040 litres of pesticides in line with the last Commission's recommendations to use any savings for the purchase of a regional pesticide stock.

APPENDIX 1
Annex 1
Section A

ANNUAL BUDGET FOR THE FIVE YEARS 1988-92

Receipts	US$
Yearly contributions of Governments	250,000
Cash Expenditure	
- Personnel Services (Short-term experts, local assistance)	50,000
- Travel (Delegates, teams, consultants)	20,000
- Contractual Services (Printing reports)	15,000
- Supplies and Materials (for field surveys, POL, vehicle maintenance)	20,000
- Equipment	60,000
- Training (Group training)	40,000
- General Operating Expenses	20,000
- Project servicing costs (5% on supplies and equipment, 13% on the other items)	22,850
- Reserve	2,150
GRAND TOTAL	250,000

Subject to the total commitment at any given time, not exceeding the total contribution pledged at that time, the Director-General shall have discretionary powers to vary the allocations between one expenditure heading and another as may be necessary to meet the changing locust situation. All such variations shall be reported and justified when submitting annual accounts to the Commission.

APPENDIX 1
Annex 1
Section B

INTERNATIONAL TRUST FUND 9409

Statement of Account (in US$)

RECEIPT	EXPENDITURE 1988	EXPENDITURE 1989	ESTIMATE 1990
Balance put forward	736,737	658,144	- 72,310
Contributions	124,825 [1;3]	64,481 [1]	51,290 [2]
	861,562	722,625	- 21,020
EXPENDITURE			
10 Personnel services	58,567	79,340	2,000
20 Travel	33,543	17,886	6,884
30 Contractual services	7,975	5,305	1,500
40 General Operating Expenses	19,949	6,571	3,000
50 Supplies	29,024	500,055	
60 Equipment	9,877	137,393	
80 Fellowship and Training	23,835	2,061	
90 Project Servicing Costs (13%)	20,648	46,324	
TOTAL EXPENDITURE	203,418	794,935	13,348
UNALLOCATED BALANCE	658,144	- 72,310	0

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[1] Including interest
[2] Excluding interest
[3] Includes US$ 25,000 erroneously credited to Kuwait

APPENDIX 1
Annex 1
Section C

INTERNATIONAL COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND NO. 9409

		EXPENDITURES 1989	COMMITMENTS AND EXPENDITURES AS OF 3/5/90
10	PERSONNEL SERVICES		
	Consultants:		
	- Mr. Haddadin (Locust Consultant)	29,975	
	- Mr. Simary (travel)	19,540	
	- Mr. Ibrahim (travel)	28,012	
	Temporary Assist. Reg. Office Jeddah	667	
	Local Assist. Meeting Cairo		2,000
	Various	1,146	
		79,340	2,000
20	TRAVEL		
	- Mr. Khasawneh	8,309	
	- Delegates' travel 1988	5,436	
	- Delegates' travel Cairo 1990		6,884
	- HQ travel	3,562	
	- Commitments from 1988	579	
		17,886	6,884
30	CONTRACTUAL SERVICES		
	- Publications	5,305	1,500
40	GENERAL OPERATING EXPENSES		
	- Rental Regional Office, Jeddah and communications	6,571	
	- Meeting of the Commission, Cairo		3,000
50	SUPPLIES		
	- Various	384	
	- Fenitrothion ULV 96%, regional stock placed in Saudi Arabia	390,576	
	- Pesticides, Iraq	109,095	
		500,055	

60	EQUIPMENT		
	- 10 transceivers, PDY	16,450	
	- 10 transceivers HF SSB 125 Watts, Iraq	17,270	
	- Transceiver, Syria	46,537	
	- Spraying equipment, Syria	7,801	
	- Nozzle sprayers, Kuwait	8,368	
	- Exhaust Nozzle Sprayers, Twin Tanks, Syria	42,300	
	- Various (credit)	- 1,333	
		137,393	
80	TRAINING		
	- Training 1988:		
	Mr. El Mougi	831	
	Mr. Mohamed Mohmou	830	
	- Various	400	
		2,061	
90	PROJECT SERVICING COST (13%)	46,324	
TOTAL		794,935	13,384

APPENDIX 1
Annex 1
Section D

TRUST FUND NO. 9409.00 - MTF/INT/007/MUL

INTERNATIONAL COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

Status of Contributions as at 3 May 1990
(expressed in US Dollars)

Member Countries	Outstanding as at 30/6/89	Contribution due for 1/7/89-30/6/90	Received up to 3/5/1990	Outstanding 3/5/1990
Bahrain	8,750.00	8,750.00	8,750.00	8,750.00
Egypt	32,540.00	32,540.00	32,540.00	32,540.00
Iraq	172,500.00	28,750.00	0.00	201,250.00
Jordan	28,175.00	14,357.50	0.00	42,532.50
Kuwait	0.00	25,000.00	25,000.00	0.00
Lebanon	72,848.18	11,212.50	40.00	84,020.68
Oman	30,000.00	10,000.00	0.00	40,000.00
Qatar	75,000.00	12,500.00	0.00	87,500.00
Saudi Arabia	44,035.00	44,035.00	44,035.00	44,035.00
Sudan	197,258.54	18,667.50	0.00	215,926.04
Syria	146,850.00	156,687.50	0.00	163,537.50
United Arab Emir.	52,500.00	26,250.00	26,250.00	52,500.00
Yemen Arab Republic	800.00	800.00	800.00	800.00
Yemen, PDR of	0.00	450.00	0.00	450.00
	861,256.72	250,000.00	137,415.00[1]	973,841.72

[1] The funds received between 1/7/90 and 2/5/90 amounting to US$ 137,415 have to be reduced by US$ 25,000 as this amount was credited by mistake to the contributions of 1988. Consequently, the table B shows cash receipts in 1989 of US$ 61,244 which represents 1989 receipts of US$ 86,125 minus US$ 25,000. The receipts of 1990 amount to US$ 51,290.

APPENDIX 1
Annex 1
Section E

SCALE OF GOVERNMENT CONTRIBUTIONS TO THE INTERNATIONAL COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

(TRUST FUND NO. 9409)

COUNTRY	SCALE (US$)
Bahrain	8,750.00
Egypt	32,540.00
Iraq	28,750.50
Jordan	14,357.00
Kuwait	25,000.00
Lebanon	11,212.50
Oman	10,000.00
Qatar	12,500.00
Saudi Arabia	44,035.00
Sudan	18,667.50
Syria	16,687.50
United Arab Emirates	26,250.00
Yemen Arab Republic	800.00
Yemen, P.D.R. of	450.00
	250,000.00

APPENDIX 1
Annex 2

RESEARCH ORIENTATIONS AND SCIENTIFIC RESULTS AT DOKKI LOCUST RESEARCH STATION IN EGYPT

A. Modernization of field application techniques

1. The station undertook field trials of Sumicidin dust. The lethal dose was determined for locust control and this helped in reducing the risk of invading swarms.

2. Due to lack of fresh water in the Egyptian desert, the station focused on two directions:

2.1 Several types of ULV sprayers were assessed in order to determine their characteristics and flow rates suitable for locust control. This allowed the purchase of 58 spraying units for the Department.

2.2 Trials were undertaken based on mixing emulsion concentrates with sea water for locust control. Basudin, Sumithion and Kindo toxic effect proved to increase against V instar hoppers in a respective proportion of 10 - 26 - 23% compared to fresh water, provided the mixture is frequently shaked, more particularly for Sumithion and Kindo.

2.3 Alternative pesticides

The station is studying the subject on a permanent basis against Desert Locust hoppers, trying the following pesticides: Sumialpha, Ficam, Marshal, Kindo, Sumithion. Several experiments on the effectiveness of these pesticides aim at studying:

- the topical application and the residual effect of some pesticides following ULV spraying against V instar hoppers and adults of clover grasshopper;
- the field evaluation of some insecticides in ULV spraying of grasshoppers in Wadi El Jadid;
- the joint effect of mixed formulations of some insecticides and growth regulators (Phenoxcarb) against Desert Locust hoppers;
- the effect of some insecticides in poisoned baits against grasshoppers (laboratory experiments).

B. Recent studies to avoid the gregarization of locust hoppers and swarm formation

Due to the upsruge of swarms in large numbers and the necessity of combatting them with large quantities of insecticides over vast areas, attention was given to act on hoppers cohesion before swarm formation in the following ways:

1. Use of growth regulators and moulting inhibitors

1.1 Dimilin was assessed both in the laboratory and in the field against IV instar Desert Locust hoppers. Wheat plots were sprayed with 2 rates: 100 ml and 200 ml/ha; hoppers were fed in the laboratory at 2-3-4 day intervals, and permanently over the IV instar duration (6 days). Hoppers were also fed 2-3 weeks after spraying. These rates were very efficient, resulting in the failure of fledgling, in particular the higher rate even 3 weeks after spraying.

1.2 Phenoxcarb was tried against V instar Desert Locust hoppers; this resulted in the failure of moulting and, in a large proportion, appearance of adults.

1.3 Anti-growth juvenile hormones were used against eggs, hoppers and adults. This stopped the growth of embryon and the premature appearance of adults following the control of III-IV instar hoppers. The use of the product "Perecocin" at the high rate of 100 microgrammes/gr of adult resulted in 100% kill of treated adults.

Three PhD theses will be submitted this year along the mentioned directions:

a. study of bio-chemical effects of some moulting inhibitors in the Desert Locust;

b. study of biological effects of some moulting inhibitors on locust eggs and hoppers;

c. study of some insecticide alternatives, mixed with some moulting inhibitors.

2. Use of plant products

2.1 Around 15 wild plants not accepted by locusts as food were identified in the Egyptian desert. Following several years of study at Dokki station, a number of fractions were isolated after the chromatographic isolation of the pure ingredient. Four of the fractions were found in two plants which caused 100% mortality against I and II instar Desert Locust hoppers.

2.2 The effect of these extracts on Desert Locust nutrition was studied. A number of these extracts stopped the nutrition of V instar hoppers and of adults.

2.3 Other products were obtained which enhance considerably the nutrition of locusts. All above-mentioned studies are coordinated with Arizona University of the USA. It is hoped they will reach results applicable in the field.

APPENDIX 2

PROPOSED REGIONAL DESERT LOCUST PREVENTIVE CONTROL PROGRAMME IN THE CENTRAL REGION

Countries concerned

The Sudan, Ethiopia, Somalia, Djibouti, the Yemen Arab Republic, the People's Democratic Republic of Yemen, Oman, the United Arab Emirates, Saudi Arabia and Egypt.

Justification

There is consensus on the justification for preventive control, particularly since the recent invasion has hit countries very hard in terms of the enormous expenditure involved in curative control, amounting to more than US$ 250 million in two and a half years in countries affected by the invasion. The strategy to be implemented has four basic aspects, as follows:

- The specificity of Desert Locust control compared with that of other pests.
- The regional integration required for the main locust control activities.
- Inter-State solidarity in joint surveys, circulation of information and supporting research.
- The responsibility of the States concerned to themselves and each other and their international commitment to Desert Locust control by creating autonomous national structures specifically for preventive control, and their regional and international coordination.

Two other characteristics need to be borne in mind if the programme is to be a success.

- The continuity of preventive control activities is a prerequisite. Any dereliction of the programme (particularly its financing) by the partners would lead to fresh locust outbreaks in the region.
- The interdependence of regions forming part of the Desert Locust habitat means that western, central and even eastern regions must work on a similar programme in each region.

The proposed programme is therefore intended to set up a permanent Desert Locust Preventive Control (DLPC) system, based on the present situation and taking advantage of the experience gained by the countries in three years of curative control, and the international community's growing awareness of the locust plague.

The principal components will be as follows:

- the strengthening of the meteorological observation network, since meteorology has a marked influence on Desert Locust behaviour;

- the creation, development or strengthening of a network of bases and support points, targeted on the zones to be kept under permanent surveillance;

- the setting up and equipping of survey and treatment teams, whose operation will be supported by the above-mentioned network;

- the basic and continuous advanced training of all DLPC agents;

- assistance to research, mainly to expand knowledge of the Desert Locust and to improve control techniques in the region;

- participation in meeting the operational costs of the national DLPC units;

- the establishment or strengthening of two regional coordination offices in Jeddah and Addis Ababa;

- the establishment of a programme coordinating unit in FAO;

- technical assistance for the national units and the regional offices when needed.

All programme costs are expected to be met by the pooled resources of various donors and the countries concerned. In this type of action, close collaboration among the units managing field operations, strict discipline and simultaneous reactions to unforeseen circumstances are prerequisites for success. At the same time, a policy of decentralization is dictated by the need to ensure that national institutions are capable of dealing with problems in their own country. This raises the question of financial coordination through a mechanism harmonizing resource availability at all levels (national, regional and international). The establishment of this mechanism - in agreement with donor countries and beneficiaries under the programme - will be one of the important functions of the project, with FAO assistance. Funds will be released in a closely coordinated way, through clearly identified accounts in the national DLPC units and the regional offices. Contributions from beneficiary countries should, if possible, be channelled through a joint fund. In this connection, management of all the accounts should be as transparent as possible. An audit will be conducted every year.

Responsibility for implementing this programme will fall mainly on the national DLPC units as regards management of the bases, surveys and treatment, and transmission of information to external structures. Some functions, principally data processing at regional level, organization of training, management of a stock of aircraft flying hours and the monitoring of research lines and the performance of the various DLPC units, will be entrusted to the two regional coordinating offices in Jeddah and Addis Ababa. It is proposed that a general project administration unit be established in FAO to work under the broad guidelines of a joint FAO/donor/country committee. Channels of

communication, exchange and control will have to be established both vertically between the ten national units, the two regional offices and the general coordination unit, and horizontally among the DLPC units themselves and between the two regional offices. No major difficulty is foreseen in the implementation of this programme by the national DLPC units, which will of course have to be formed, if they do not already exist. They will be self-managing, but will also require government commitment providing a contribution in kind (survey equipment) and meeting the operational costs of the programme; lastly, the people responsible for its execution must be very carefully chosen.

At regional level, negotiations will be needed among DLCO-EA member nations to set up a regional DLPC coordinating office in Addis Ababa. A cooperation agreement between the Addis Ababa and Jeddah offices will have to be drafted.

APPENDIX 3

LOCUST SURVEY AND CONTROL POTENTIALS AVAILABLE IN THE NEAR EAST COUNTRIES

Country	Personnel	Insecticides	Applic. Equip.	Vehicles	Aircraft	Radios
Saudi Arabia	1,000	500,000 litres	200 ENS	300	Hired when necessary	
Qatar	15	3,000 l Sumithion	4 TIFA sprayers 2 Micronair	15		
Jordan	15	60,000 l Sumithion ULV 10,000 l Sumithion EC	120 ENS 8 mounted ULV sprayers 50 hand ULV sprayers 100 conventional sprayers 3 motor dusters	23	1 fixed-wing 5 helicopters	
Yemen Rep.	5	28,000 l Fenitrothion 8,000 kg Carbaryl 4,000 kg Propoxur 45,225 l Dieldrin 31,000 kg BHC	25 ENS 10 ground Micronair 1 sprayer mounted on Suzuki 3 ground Micronair	30 Tutike 10 Suzuki 5 Tutike pick-up 1 lorry 1 Land Rover		
United Arab Emirates	9	16,400 l various insecticides	44 Exhaust H.S. 22 various sprayers and dusters	8 3 Jeep Saloon 3 Station pick-up	1 fixed-wing	
Kuwait	15 technicians 30 labourers	6,800 l Malathion 96 1,950 l Voltane 96 2,525 l Sumithion 96 800 l Lindane 96 2,500 l Diazinon 23 EC 1,250 l Sumithion 50 EC 500 l Dursban 48 EC	2 mounted Agrotec 5 conv. sprayers (700 l) 4 conv. sprayers (600 l) 1 Micronair 15 conv. spprayers (100 l) 2 mounted (600 l) sprayers 2 mounted (300 l) sprayers 3 dusters	1 lorry		
Egypt	300	30,000 l oil 10,000 l EC 120 T dust	40 ENS 20 conv. sprayers 20 dusters 2 Micronairs 250 knapsack sprayers	25 Land Rover 30 pick-up 2 Toyota 15 lorries 2 water trailers		25 radios
Bahrein	1 BSc 2 technicians 6 survey officers 12 labourers	1,500 l Decis 1,450 l Sumithion 1,000 l Lindane	1 motor sprayer 2 TIFA 18 various sprayers			

Country	Personnel	Insecticides	Applic. Equip.	Vehicles	Aircraft	Radios
Syria	60	30,000 l Sumithion 45,000 l Sumithion 28,000 l Dursban	27 ENS 254 large motor dusters 120 motor sprayers (1,500 l) 600 motor sprayers (600 l)	500 tractors for sprayers	8 fixed-wing with Micronair	
Sudan	776	oil and EC sufficient to treat 1 mill. ha	20 Micronairs on L.R. 1,080 knapsack motorized sprayers 283 wheel-engined sprayers 160 ENS 500 knapsack ordinary sprayers	150		58 fixed 68 mobile
Iraq	large number	large quantities oil and EC	22 TIFA 250 ENS attached on tractors		10 helicopters	