

REPORT OF THE

Held in Rome, Italy
18-22 October 1976

**SEVENTH SESSION OF THE COMMISSION
FOR CONTROLLING THE DESERT LOCUST
IN THE NEAR EAST**



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Meeting Report
No. AGP/1976/M/7

REPORT OF THE
SEVENTH SESSION OF THE COMMISSION
FOR CONTROLLING THE DESERT LOCUST
IN THE NEAR EAST

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Plant Production and Protection Division
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1976

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INTRODUCTION

The Sixth Session of the Commission for Controlling the Desert Locust in the Near East, held in Kuwait from 30 August to 2 September 1975, suggested considering the possibility of holding the next Session of the Commission in Khartoum in August/September 1976. Due to certain unavoidable circumstances, this was not made possible. Therefore, the Director General, in consultation with the Government of Sudan, decided to convene the Seventh Session of the Commission in Rome from 18 to 22 October 1976. He invited all the Member Nations of the Commission to be represented by delegates; and the Government of Turkey, the League of Arab States, the Arab Organization for Agricultural Development and the Desert Locust Control Organization for Eastern Africa (DLCO-EA) to be represented by observers.

The Session was opened by Dr. F. Albani, Director, Plant Production and Protection Division, who, on behalf of the Director General of FAO, welcomed all the participants to the Session. Dr. Albani briefly reviewed the importance of the Desert Locust programme and the extent of international cooperation achieved in this field of work. He stated that it was due to collective action taken by all the interested countries that the Desert Locust plagues had not been allowed to resurge. While congratulating the Member Countries of the Commission for this success, Dr. Albani pointed out that the Desert Locust problem still did very much exist and called for continual watchfulness on the part of all concerned. He informed the participants of the latest locust situation, and sounded a note of warning that the present situation demanded careful vigilance over potential breeding areas of the region; and emphasized the need to keep adequate resources in readiness for control operations.

In reply, the Chairman of the Commission thanked FAO for convening the Session in Rome and for the various facilities provided. He assured Dr. Albani that the Commission would continue to maintain regular surveillance and arrange to undertake immediate control operations whenever needed.

Officers of the Session

<u>Chairman</u> :	Mr. Abdel Moneim Hassan Mohamed Karrar (Sudan)
<u>Vice-Chairman</u> :	Mr. Mohamad Fouad Thabet (Qatar)

The drafting committee was constituted of the delegates of Egypt, Jordan and Sudan along with the FAO Secretariat. Mr. J. Roy, Dr. J.S. Gill and Mr. A. Khasawneh, staff members of FAO, acted as Technical Secretaries and Mr. Gurdas Singh as Consultant.

Acknowledgements

The delegates thanked the Chairman for the efficient conduct of the proceedings of the Session. They also wished to record their appreciation for the services of the FAO staff.

PARTICIPATION IN THE SESSION

The following delegates from Member Nations of the Food and Agriculture Organization of the United Nations, observers and members of the FAO staff participated in the Session and contributed to the discussions summarized in this report.

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Miss C. Telford
Miss J. Iver

Interpreters

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A. Salem
Mrs. A. El Borai
A. Ben Aneur
Mrs. A.G. Nafrawy

AGENDA

1. Opening of the Session (10.00 hours)
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 During 1975/76 - A Review of :
 - (i) significant developments over the past year, and forecast
 - (ii) locust survey and control activities carried out by member countries and plans for the future
6. Special Surveys Carried Out in Strategic Areas During 1975/76 and Future Plans
7. Anti-Locust Survey and Control Potential Available in Member Countries of the Commission
8. Assistance to Member Countries of the Commission
9. Programme of Work and Budget for 1977 and Accounts for 1975
10. Coordination of Desert Locust Research in the Region
11. Training and Fellowships
12. Election of the Chairman and Vice-Chairman of the Executive Committee for 1976/77
13. Any Other Business
 - (i) Satellite Project
 - (ii) Proposed Amendments to Commission's Rules
 - (iii) Locust Reporting
14. Date and Place of Next Session
15. Adoption of the Report

SUMMARY OF DISCUSSIONS

The Desert Locust Situation from September 1975 to September 1976

1. The Commission received from the FAO Secretariat a report on the locust situation. This was brought up-to-date by additional information supplied by delegates and observers.
2. In the Near East, the 1975 winter rains started with light to moderate showers but were widespread and heavy later on. Consequently the build-up of locust population was relatively slow to begin with but extensive subsequently : numerous small groups of mature and maturing adults were observed during December through February in several areas. A large scale influx of exotic swarms into Saudi Arabia was reported at the end of February against which aerial control operations were organized and the situation was brought under control by mid-April. However, no significant locust populations were reported in the summer of 1976; only scattered locusts had been observed in July-August. Likewise, the locust activity in the south-west of the Arabian Peninsula remained relatively quiet in the winter months; but, after the heavy rains during January-April, gregarious locust populations were observed and controlled. Bands of locust hoppers and groups of gregarious adults were reported from Oman, and Kuwait-Iraq border in April-May requiring control operations.
3. In Saudi Arabia, control was carried out against adults, fledglings and hoppers in the Tihamas in October and November 1975; and in December, groups of mature adults were reported from Quinfidah Tihama. Following frequent falls of rain, several egg fields, measuring between 4 to 20 square kilometers, were found over an area of 1000 Km² between Shaq-e-Shami and Habil in mid-December. Scattered and isolated adults were also reported from numerous localities both in the interior and on the Tihama between July and December. More groups of mature and maturing adults were observed during January in Quinfidah area while scattered adults persisted in the interior. At the end of February, a number of mature locust swarms were reported to have entered southern Tihama and 33 swarm movements were recorded in that area during March. Breeding took place in February - early March over a large area. Hoppers of different stages were observed over an area of 1300 Km² in March. Control operations started since December by ground teams were strengthened by obtaining an aircraft from DICO-EA. Aerial operations were carried out from 20 March to 12 April covering an area of about 2000 Km², using 27,000 litres of dieldrin 20% and malathion 97%. No gregarious locusts were observed during May, and only low density scattered locusts were found in southern Tihama and the interior at a number of places; no locusts were observed in the northern Tihama. Scattered locusts were reported during July-August on the foothills of Asir and Hijaz mountains, Taif and the Interior. The locust activity continued to be low during September and early October 1976 : there were no major rains over the breeding areas.
4. In Sudan, scattered adults were observed during September and October 1975, in the Nile Province, Butana and Kassala; in November in the Khartoum Province, and in December in Tokar Delta. In November, locusts were also observed along the Sudan-Ethiopian border. The locust activity increased during January to February especially in areas along the Ethiopian border and control operations, including aerial control with an aircraft from the national unit and another from DICO-EA, were adopted during this period. The control teams stayed in the area until April to carry out mopping up operations and to exercise vigilance on possible further movement of locusts from across the border. During May to July, very few locusts were observed in Sudan and locust activity was limited to scattered adults during September and early October. In Egypt, only a few scattered adults were observed in December 1975 and March 1976; otherwise the country remained free of locusts.

5. Scattered adults and hoppers were reported from Tihama of Yemen Arab Republic from July to September 1975. Control was carried out against isolated groups of mature adults, fledglings and hopper bands in November and December in the Highlands and the Tihama in November and December 1975. No significant locust activity was observed during January to May 1976. An immature swarm, reported settled around Sana'a on 10 June, seemed to have scattered over the Highlands : only scattered locusts were reported during July through early October 1976. In the People's Democratic Republic of Yemen, control was adopted in September and October 1975 against hoppers and fledglings. Because of dry conditions, the locust situation remained comparatively quiet during the winter and only scattered adults were observed from November 1975 through April 1976. There were good rains in March-April and breeding was observed in coastal areas, the foothills and Hadramout Valley. Several adult concentrations, hopper bands and small swarming populations were reported during May to July and control operations were carried out to bring the situation under control. The locust activity subsided during August to early October 1976.

6. Elsewhere, in the Eastern Arabian Peninsula, heavy rain fell in Kuwait, and the Sultanate of Oman from January to April; totals in millimeters for selected stations are given in the table below :

	January	February	March	April
Kuwait	40	99	19	62
Hail	118	11	65	-
Riyadh	5	22	78	-
Dhahran	17	64	183	-
Bahrain	11	-	-	51
Muscat	16	43	34	32
Masirah	2	3	29	6
Salalah	0	2	0	26

7. In spite of this widespread rainfall there did not appear to be an increase in locust numbers. However, numbers did increase in the Sultanate of Oman : scattered locusts were reported in February and March 1976, but by April hopper bands with fledglings were present south of the Hajjar mountains and swarms were seen at the end of the month in the extreme east of the country. Control was carried out against these populations using dieldrin and BHC; and further surveys in May and June indicated that only a few locusts remained. Locusts were also seen further south in Oman in June when there was a report of locusts on the Dhufar coast. On the Kuwait/Iraq border, control was carried out in May against hopper bands and the area was reported clear in June. In the United Arab Emirates, scattered locusts were reported during May and June 1976; also groups of fledglings and hoppers were observed in some locations during May, against which control operations were carried out using 2000 kgs. of BHC dust 12% and 350 litres of Dipterex 80%. The locust activity in Eastern Arabia during July to early October 1976 remained low.

Forecast

8. In Saudi Arabia only scattered locust populations were present along the coastal plains, Asir and Hijaz mountains. Ecological conditions in the above areas were not very favourable for further multiplication. In the wake of expected rains in the winter, the situation could, however, change rapidly and extensive breeding might occur in the Tihamas. In the Tihama of the Yemen Arab Republic and in the breeding areas of the People's Democratic Republic of Yemen, where good amounts of rainfall had been received in August, suitable breeding conditions were present and there was every possibility that the existing locust populations in those areas would give rise to considerable numbers in the coming months.

9. In view of extensive summer breeding in the Indo-Pakistan sub-continent, there was a possibility of westward migration in October/November and some swarms might reach as far as the Eastern Arabian Peninsula. At the same time, some locust populations including swarms might move from the western Red Sea area to the coastal areas of the Yemen Arab Republic and Saudi Arabia.

Locust Control and Survey Operations carried out during 1975/76

11. Locust breeding took place in Saudi Arabia, Sudan, the People's Democratic Republic of Yemen, the Yemen Arab Republic, and Oman; and control operations were carried out by respective national organizations. In all, about 6,000 square kilometers were infested with hoppers and adult locusts and were treated by using 275,725 litres of liquid insecticide, 56,040 kgs. of BHC dust and bait. Details are given in Appendix I.
12. All the member countries of the Commission kept their respective areas under regular watch. In particular, extensive surveys were undertaken in the potential breeding areas of Saudi Arabia, Sudan, the People's Democratic Republic of Yemen, the Yemen Arab Republic and Oman, followed by control operations (paragraph 11), thus safe-guarding the interest of other countries in the Near East and neighbouring areas.
13. The Commission appreciated the assistance provided by the DLCO-EA in making available a spray-aircraft with staff to supplement control operations in Saudi Arabia and provision of insecticide to the Yemen Arab Republic on a replacement basis and hoped that such cooperation would continue to be extended in future as well. The Director of DLCO assured the Commission of his continued support and assistance as and when requested by FAO. He further indicated that sufficient stocks of insecticides were available with his organization and these could be issued on loan or replacement basis to any member country of the Commission whenever required for emergency operations.

Special Surveys

14. In accordance with the recommendations made at the Sixth Session of the Commission (Report, paragraph 21), a special survey was conducted in Oman by the FAO Regional Locust Officer, Jeddah, who visited Batina coastal plains and Nazwa and Surami areas for ten days in December 1975. Only scattered locust populations with a maximum density of 50 specimens per sq. km. were observed. Again in March 1976, FAO arranged for Mr. M.H. Harb of Egypt to visit Oman for conducting more extensive survey of the important breeding areas of Oman. He undertook surveys in the Sultanate from 30 March to 10 May and visited important breeding areas of Sohar, Nakhl, Rumais, Ruwi, Al-Buraimi, Adam, Nizwa, Ibra, Alwafi and Salalah. Apart from scattered adults found in a number of areas visited, advanced stage hoppers and fledglings were also observed.
15. Mr. Harb during the surveys availed himself of the opportunity of imparting practical training to ten Plant Protection and Agriculture Extension Officers of the Government of the Sultanate of Oman, in Desert Locust survey and control.
16. The Commission noted that the Government of Pakistan had not sent its locust team in 1976 to survey breeding areas in the United Arab Emirates. Recognizing the valuable contribution made by the Pakistan locust mission in the past in survey and control of the Desert Locust in this important breeding area, the Commission requested FAO to approach the Government of Pakistan, in consultation with the Government of the United Arab Emirates, to consider the continuation of sending missions in future.

Future Plans

17. The Commission appreciated the survey and timely control operations undertaken by member countries, especially those infested with Desert Locust during 1975/76, thus saving agriculture from the depredation of swarms - which otherwise would have developed and invaded a number of countries. Nevertheless, the Commission emphasized the importance of the existing solitary populations as these could build up very quickly into serious proportions under favourable conditions; and recommended that regular surveillance should be maintained in all the important breeding areas; and, at the same time, adequate control potential should be kept in readiness.

18. The Commission recommended that, as in the past, the services of an experienced locust officer from within the member countries of the Commission should be made available for undertaking special surveys of the important breeding areas in Oman. During this period, the FAO Regional Officer with the help of the above Locust Officer should arrange a training course in arabic in locust control for field officers of the Governments of Oman, Qatar and the United Arab Emirates.

Anti-Locust Control Potentials Available in Member Countries

19. The Commission considered that the existing level of resources, as detailed in Appendix II, was adequate to meet present locust control needs under normal circumstances.

Assistance to Member Countries of the Commission

20. The Commission, having considered the strategic importance of the locust breeding areas in the People's Democratic Republic of Yemen and the Yemen Arab Republic and the need for providing continuity of anti-locust operations in the Southwest Arabian Peninsula, endorsed its earlier recommendations made at its Sixth Session (Report, paragraph 26) and agreed to allocate a sum of US\$20,000 per annum as operation costs in the People's Democratic Republic of Yemen and US\$20,000 for operational expenses in the Yemen Arab Republic.

21. The Commission noted with appreciation that as a follow-up of the recommendation made at its Fifth Session (Report, paragraph 40) the Government of Saudi Arabia had supplied the following quantities of insecticide and equipment to the Yemen Arab Republic for locust control :

3 Trucks 5 tons	7 Toyota Jeeps
50 Hand Dusting machines	20 Dusters and Sprayers
10 Exhaust Nozzle Sprayers	20 Tents
40 Tons BHC dust	2,500 Litres of BHC 15%
2,400 Litres Dieldrin	Cash US\$ 56,820

22. The Commission hoped that such assistance would also be forthcoming from other donor countries as well.

23. The Commission learnt with regret that the UNDP had only agreed to approve the Sub-Regional Project covering the People's Democratic Republic of Yemen and the Yemen Arab Republic on a yearly basis rather than for 5 years as previously envisaged. The Commission emphasized that the maintenance of this Sub-Regional Project is of vital importance not only to these two countries but to the whole of the Near East and to the adjoining regions and requested UNDP to ensure its continuity.

24. As requested by the Commission at its Sixth Session (Report, paragraph 27) FAO approached the Arab Fund for Economic and Social Development for obtaining additional funds for the Commission's activities but regretted to inform that there was no response. The Commission requested FAO that this matter should be followed up further with a view to obtaining funds to assist in the full implementation of the agreed programme of the Commission.

25. The Commission reiterated its earlier recommendation made at its Fifth Session (Report, paragraph 15.g) that a post of FAO Locust Officer should be established within the Country IPF of Oman to assist the Government in establishing an anti-locust service and to train local staff in survey and control techniques.

Programme of Work and Budget

Budget for 1977

26. The Commission took note of the five year budget, 1973-77 (Appendix III) approved by the Third Session of the Commission and examined by the FAO Finance Committee, as required under Article IV of the Agreement establishing the Commission. The Commission, taking into consideration the present locust situation in the region, did not envisage any change in the Programme of Work and Budget and adopted the budget for 1977 as approved at its Third Session.

Budget for 1978-1982

27. Article IV of the Agreement establishing the Commission requires the Commission to consider and adopt the programme of work and budget for the ensuing financial period and to transmit it to the Director General of FAO for submission to the Council of the Organization prior to implementation. This practice of approving the budget for one year at a time had proved unsatisfactory. The Commission at its Third Session (Report, paragraph 29) decided that the overall programme of work and budget should henceforth be planned over a five-year period. Accordingly, it adopted a budget from 1973-1977.

28. Having considered the wisdom and advantages in adopting a five-year budget, the Commission adopted the budget (Appendix III) for the ensuing five-year period 1978-1982 with the provision that it would be reviewed at the annual sessions of the Commission and that savings under any of the expenditure headings could be utilized to meet shortage under any other headings. Similarly, unspent surplus at the end of any one calendar year would be available to supplement allocations under the same headings or any other headings as might be required.

29. The Commission recognized that the implementation of the approved programme of work and budget would depend upon the actual and timely receipt of contributions from all concerned. The Commission, therefore, emphasized the need for paying the contributions promptly each year, as delayed payments could interfere with the implementation of the agreed programme. The present status of contributions from participating Governments is given in Appendix IV. The Commission noted that the agreed revised scale of contributions was shown on page 23 of the report of its Sixth Session and the scale shown on page 11 of the same report was erroneous. Accordingly, the Commission confirmed that the new scale of contributions as shown on page 23 of the said report was the correct scale and should be considered authentic for any future use.

Expenditure against the 1975 approved budget

30. The main items of expenditure in 1975, apart from training and equipment (dealt with below) were salaries and local operating costs at the International Locust Centre, Jeddah (\$33,543), costs of the Sixth Session of the Commission held in Kuwait, August-September 1975 (\$13,667), contributions to local operating and continuing control costs in the People's Democratic Republic of Yemen (\$19,565) and to special survey and control operations in Oman (\$2,520).

31. Against the approved budget, the expenditure under Code 10 - Personal Services, Code 20 - Travel, Code 40 - General Operating Expenses, and Code 67 - Equipment exceeded the provision; whereas that under Code 30 - Contractual Services, Code 55 - Supplies and Code 80 - Fellowships showed less expenditure than provided for. Funds were utilized according to the discretionary powers vested by the Commission in the Director General of FAO as deemed necessary to meet the changing locust situation, i.e. to cover extra needs for special survey travel of teams, per diem, and local assistance.

Equipment

32. Purchase in 1975 of expendable supplies included :

Insecticides (PDR Yemen)	\$ 8,379
Radio Supplies (Egypt)	8,299
Camping Equipment (PDR Yemen)	5,267
Exhaust Sprayers (Sudan)	2,043
Landrover Spares (Jeddah)	1,172

Non-expendable equipment included as major items :

Radio sets (PDR Yemen)	\$10,839
Landrovers (2) (Jeddah)	14,046
Mercedes Truck (")	9,352
Volkswagen (")	4,467
Radios (Sudan)	3,306
Exhaust Sprayers (Oman)	2,142

Research Fellowships (TF 9409)

33. Mr. Sammir I. Hamman (Egypt) and Mr. Ghaffer Karrar of Sudan obtained Ph.D. degrees in the United Kingdom in March 1976 and December 1975 respectively. These long-term fellowships were funded by TF. 9409 of the Commission.

Training Project (TF 9462)

34. From 1974, training grants were funded from Trust Fund 9462 of the Inter-regional Training Project in Crop Pest Control with Special Reference to Desert Locust Control and Research. A sum of \$125,000 was transferred in 1975 as in 1974 to this Fund from the Trust Fund 9409 to cover costs of trainees from member countries of the Commission, as discussed and approved by the Fifth Session of the Commission. Near East countries benefitted from training facilities as shown below :

<u>1974 Programme</u>	<u>Expenditure</u>	<u>Commitments</u>
<u>Individual Fellowships</u> (short-term)		
Metaweh (Egypt)	1,105	-
Sheet (Iraq)	5,211	2,209
Alwan (Iraq)	1,760	2,689
Khasawneh (Jordan)	3,015	10,085
Mawlawi (Lebanon)	3,572	-
Swaid (Saudi Arabia)	2,727	-
Asaad (Saudi Arabia)	619	-
Mahmoud (Syria)	2,708	-
Ibrahim, M.A.H. (Egypt)	5,295	2,800
Al Hamad (Jordan)	5,092	11,058
Ibrahim, S.I. (Egypt)	-	16,940
Al Alwani (Saudi Arabia)	-	14,700
	<u>31,104</u>	<u>60,481</u>
<u>Group Study Tour</u>		
Haddadin (Jordan)		
Audhali (PDR Yemen)		
Madini (Saudi Arabia)	6,751	-
<u>Training Course in Radio Maintenance</u> (Beirut 1974)		
9 participants from Egypt, Saudi Arabia, Sudan, Syria and Yemen Arab Republic	16,218	-
	<u>54,073</u>	<u>60,481</u>

1975 Programme

Training Course in Crop Pest and Desert
Locust Control (Jeddah 1975)

35 participants from Bahrain, Egypt,
Iraq, Jordan, Lebanon, PDR Yemen,
Saudi Arabia, Sudan, United Arab
Emirates, Yemen Arab Republic

31,564

-

Training Course in Aerial Survey and
Spraying Techniques (Nairobi 1975)

6 participants from Egypt, Iraq,
Jordan, Sudan.

9,559

-

\$ 41,123

\$

-

1976 Programme

Training Course in Crop Pest and Desert
Locust Control (Riyadh 1976)

22 participants from Bahrain, Egypt,
Iraq, Jordan, Kuwait, PDR Yemen,
Saudi Arabia, Sudan, United Arab
Emirates, Yemen Arab Republic

-

24,935

Training Course in Radio Maintenance
(Cairo 1976)

14 participants from Egypt, Iraq,
Jordan, Sudan, Syria, United Arab
Emirates, Yemen Arab Republic,
PDR Yemen

-

32,916

Exchange Visit

Jalloul (Lebanon)

-

2,849

-

60,700

\$ 95,196

\$ 121,181

35. Mr. Gharib Khamis visited India on an exchange visit for a period of 15 days in February 1976.

Accounts for the year ended 31 December 1975

36. The Commission examined the statement of accounts for the year ended 31 December 1975 (Appendix V) and approved it.

Coordination of Desert Locust Research in the Region

37. The Sixth Session of the Commission recommended the formulation of a Coordinated Plan of Research Work for the research stations at Jeddah, Khartoum and Cairo. It was also decided that the officers-in-charge of the three stations should meet, preferably at Khartoum, after visiting the other stations, to evolve a mutually agreed programme of work (Report, paragraph 20).

38. Accordingly, the Regional Locust Officer, Jeddah, and the Director of the Jeddah Research Station, Mr. Salim Hadramy, visited Cairo and Khartoum in May 1976, and, based on these discussions with the counterparts in Cairo and Khartoum, the following research programme has been prepared for consideration of the Commission. Because of delays in nomination of delegates by the Governments and the difficulties in arranging a mutually convenient date for all the three nominees, it was not possible to have a joint meeting at Khartoum.

Programme of Research Work

39. Jeddah Station

- (i) Rearing of Desert Locust strains resistant to specific insecticides; and undertaking of studies on the application of sub-lethal doses of specific insecticides, especially of malathion and dieldrin on Desert Locust hoppers and adults.
- (ii) Comparative toxicity studies, in the laboratory and in the field, on selected chemicals such as Difenoxyuron, Somithion, Volaton, using different stages of the Desert Locust as test animals.
- (iii) Persistence of spray deposits of aerial and ground applications of some insecticides under different climatical and ecological conditions.
- (iv) Study of insecticide residues using GLC (Gas-Liquid-Chromatography) technique.
- (v) Investigation of ecological conditions in relation to locust development in Southern Tihama.

40. Khartoum Station

A. Toxicological Studies

- (i) Bioassay experiments to study deterioration of insecticides under prolonged storage.
- (ii) The effect of sublethal doses on the behaviour of locust populations.
- (iii) Evaluation under field conditions of :
 - (a) persistence of exhaust sprayers deposits, effect of wind-velocity on droplet size and swath width.
 - (b) comparative toxicity of certain insecticides to the Desert Locust and their dosage rates for field application.

B. Field Survey - Mapping and Forecasting

- (i) Ecological surveys of the breeding areas as related to vegetation and rainfall to help in planning the strategy of control.
- (ii) Plotting of all the available previous locust reports for future reference and investigating the co-relation between convergence zones and breeding movements of the Desert Locust.
- (iii) Studying the seasonal distribution of Desert Locust population for forecasting future development and for determining areas to be surveyed.

41. Dokki Research Station

- (i) Mapping of potential locust habitats.

(ii) Ecological studies on locust population in a selected habitat, on some of the following aspects :

- (a) Fluctuations of locust populations and density influence on gregarization
- (b) Comparative study of survey methods
- (c) Study of parasites and predators

(iii) Toxicological studies on chemicals; supplementary to those to be conducted at Jeddah Research Station.

(iv) Development of the Desert Locust on a specific diet; and its susceptibility to some insecticides.

Insecticide Manufacturing

42. The Commission reiterated its earlier recommendations made at its Fifth and Sixth Sessions (Reports, paragraphs 34 and 30 respectively) concerning the possibility of establishing insecticide manufacturing or, at least, formulation plants for insecticide production to meet the growing need of the countries of the region or even for export and requested FAO to follow up this question with the interested Governments.

Monitoring of Locust Populations using Satellite Techniques

43. The Commission noted with satisfaction that the Satellite Project had obtained valuable information in its initial experimental stage and there was a need to continue the Project. Referring to its earlier recommendations made at the Sixth Session (Report, paragraph 23.b), the Commission agreed to allocate \$10,000 from the survey component of its budget as a contribution to the Project.

Amendments to the Agreement for the establishment of a Commission for Controlling the Desert Locust in the Near East 1/

44. The Commission noted Resolutions 10/73 and 26/75 adopted by the FAO Conference at its Seventeenth and Eighteenth Sessions respectively; and accordingly adopted unanimously the following amended text of Articles I (2), VI (3) and X of the Agreement for the Establishment of the Commission.

ARTICLE I

Membership

The Commission may, by a two-thirds majority of its membership, Members, admit to membership such other Nations, States, situated in the Region that are Members of the United Nations, any of its Specialized Agencies or the International Atomic Energy Agency as have submitted an application for membership of the Commission and a declaration made in a formal instrument that they accept this Agreement as in force at the time of admission.

1/ Words underlined are added; words in square brackets are deleted.

ARTICLE VI

Observers and Consultants

[Nations] States which, while not Members of the Commission, nor Members or Associate Members of the Organization, are Members of the United Nations, any of its Specialized Agencies or the International Atomic Energy Agency may, upon request and subject to the concurrence of the Executive Committee and to the provisions relating to the granting of observer status to nations adopted by the Conference of the Organization, be invited to attend sessions of the Commission in an observer capacity.

ARTICLE X

Rules of Procedure

The Commission may, by a two-thirds majority of its membership, adopt and amend its own Rules of Procedure which shall be consistent with the General Rules of the Organization. The Rules of Procedure of the Commission and any amendments thereto shall come into force upon approval by the Director-General of the Organization, and as from the date of such approval. [Subject to confirmation by the Council of the Organization].

DATE AND PLACE OF NEXT SESSION

45. The delegates expressed their warmest appreciation for the invitation extended by the Representative of Qatar to convene the next Session of the Commission in Doha during the first half of 1977; and requested the Director General to decide a suitable date for the Session in consultation with the Government of Qatar.

Appendix I

Anti-Locust Measures Undertaken by Various Countries
from October 1975 - September 1976

LOCALITY	MONTH AND YEAR	TYPE OF INFESTATION (SWARMS, SCATTERED ADULTS, HOPPERS)	INFESTED AREA	INSECTICIDE USED				METHOD OF APPLICATION (AIR OR GROUND)
				BHC DUST IN KGS	MALATHION	LIQUID IN LITRES	OTHERS IN LIT/KGS	
<u>Kuwait</u>	May 1976	Hoppers	-					BHC dusting
Kuwait/Iraqi border	April/May 1976	Adults, hoppers	-	800	-	1,000	533	Ground
<u>Oman</u>								
<u>Saudi Arabia</u>								
Jizan	Nov. 1975							
Quinfida	Dec. 1975							
Wadi Habil	Jan. 1976	Adults, hoppers						
Ayyar	Feb. 1976	swarms	4,000 Km ²	33,000	4,500	15,000	-	Ground and air
Gomaga	Mar. 1976							
Shega	Apr. 1976							
<u>Sudan</u>								
Tokar Delta	Dec. 1975	Adults, hoppers	37,950/ha	8,440	9,000	-	148,920	Ground and air
(Areas along Ethiopian border)	Jan. 1976			6,500	9,000	5,000	82,360	
	Feb. 1976			2,000	-	-	350	Ground
United Arab Emirates	May/June 76	Hoppers, fledglings						
<u>Yemen Arab Republic</u>								
Al-Khabra	Oct. 1975	Adults, hoppers	Bushes & patchy vegetation	4,400	-	-	820	Ground
Al-Majarsheh	Nov. 1975							
Wadi Habi								
Wadi Bohal								
Mayde East	Dec. 1975	Adults, hoppers		2,200	-	-	925	Ground
Wadi She'B	July 1976							
Wadi Hiran								
Wadis Habi, Haseen								
Wadi Bohal								
<u>People's Democratic Republic of Yemen</u>								
Marwan	Oct. 1975	Adults, hoppers	-	Control patchy infestations with BHC and dieldrin				Ground
Western Coast								
Wa Dha	Dec. 1975			500	-	-	-	
Nisab	Jan. 1976							
Mas Ip								
Eastern Coast	June 1976	Adults, hoppers		500	-	200	-	Ground
Hadhrancut								

Appendix II

Anti-Locust Survey and Control Potential
Available in Member Countries of the Commission

<u>Name of Country</u>	<u>Personnel</u>	<u>Equipment</u>	<u>Vehicles</u>	<u>Insecticides</u>
Bahrain	16	31 sprayers 2 dusters	4 vehicles	Malathion, DDT and Lindane } 8,190 lit.
Egypt	386	171 sprayers 21 power dusters 97 hand dusters	35 Landrovers 50 light trucks 4 jeeps 6 heavy trucks	Bran 1044586 kg. BHC Dust 64995 kg. DDT/Lindane 1124 lit. Aldrin 1782 lit. BHC 64876 kg.
Iraq	20	2 aircraft 20 Power sprayers 100 Napsack sprayers 10 Exhaust nozzle sprayers	20 different types and sizes	BHC Dust 50,000 kg. Bran 50,000 kg. Malathion 50% EC 10,000 lit.
Jordan	50	33 tractors 2 Unimog sprayers	8 vehicles	- nil -
Kuwait	43	23 power dusters 29 power sprayers 20 hand dusters 13 exhaust sprayers	13 landrovers 13 medium 14 lorries	Dieldrin 20% 7235 lit. Aldrin 180 lit. Dieldrin 18% 3,754 lit. BHC Dust 80,000 kg.
Lebanon	22 technicians 20 others	60 power sprayers 80 napsacks	1 aircraft 5 landrovers	Dipterex and dimethoate } 5,000 lit. BHC 12,000 kg.
Oman	nil	- nil -	- nil -	- nil -
Qatar	2		2 landrovers 1 Toyota 1 Lorry	Dieldrin 20% 380 lit. Bran 250 kg. BHC 120,000 kg.
Kingdom of Saudi Arabia	80	8 power dusters 30 exhaust sprayers 5 other sprayers	35 jeeps 6 Lorries 4 Pickup	BHC Dust 100,000 kg. Bran 1,360,000 kg. Dieldrin 20% 9,100 lit. Malathion 97% 9,100 lit.
Sudan	400	1000 ULV sprayers 250 power dusters and sprayers 25 exhaust sprayers	15 heavy 10 medium 15 light 25 landrovers	Bran 3,500,000 kg. Malathion 96% 10,000 lit. Malathion 57% 10,000 lit. BHC 7% 500,000 kg. BHC (w.p.) 80,000 kg. Dieldrin 25% 9,100 lit.
P.D.R. of Yemen	29	3 power dusters 149 hand dusters 16 exhaust sprayers 1 Micron sprayer	10 landrovers 4 lorries	Bran 2,000 kg. BHC Dust 40,000 kg. Dieldrin 5,164 lit. Malathion 2,252 lit. Acrodil 17,085 lit.
United Arab Emirates	20 tech. 80 lab.	30 power sprayers 1 Islander 1 Piper aircraft	16 pick up Landcruisers	BHC 2,000 kg. Dipterex 1,000 lit.

APPENDIX III

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND No. 9409

Budget for the Five-Year Period 1973-1977 and Proposed Budget for the Period 1978-1982 expressed according to FAO Expenditure Codes

<u>Code</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>	<u>Proposed annual budget for 1978-1982</u>
10 <u>Personal Services</u>							
Short-term experts, local staff, interpreters and assistance	25,000	25,000	25,000	25,000	25,000	125,000	55,000
20 <u>Travel</u>							
Delegates, teams, FAO staff to Sessions, regional co-ordination, consultants	10,000	10,000	10,000	10,000	10,000	50,000	15,000
30 <u>Contractual services</u>							
Printing, processing reports	5,000	5,000	5,000	5,000	5,000	25,000	5,000
40 <u>General operating expenses</u>							
Miscellaneous, rent, communications, hospitality	10,000	10,000	10,000	10,000	10,000	50,000	15,000
55 <u>Supplies and materials</u>							
For field surveys, POL, vehicle maintenance	30,000	30,000	30,000	30,000	30,000	150,000	20,000
67 <u>Equipment</u>							
For field projects	20,000	20,000	20,000	20,000	20,000	100,000	40,000
80 <u>Fellowships and grants</u>							
Individual and group training	25,000	25,000	25,000	25,000	25,000	125,000	20,000
	<u>125,000</u>	<u>125,000</u>	<u>125,000</u>	<u>125,000</u>	<u>125,000</u>	<u>625,000</u>	<u>170,000</u>
92 <u>Project Servicing Cost *</u>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>65,000</u>	<u>17,700</u>
	<u>138,000</u>	<u>138,000</u>	<u>138,000</u>	<u>138,000</u>	<u>138,000</u>	<u>690,000</u>	<u>187,700</u>
Unallocated	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>8,000</u>	<u>12,300</u>
	<u>139,600</u>	<u>139,600</u>	<u>139,600</u>	<u>139,600</u>	<u>139,600</u>	<u>698,000</u>	<u>200,000</u>

* 5% on Codes 55 and 67, 14% on other components

To the extent that pledged contributions from member countries are not paid, it may be necessary to scale down expenditure allocations proportionately.

Subject to the total commitments at any given time not exceeding the total contribution pledged and received 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 IV

Trust Fund No. 9.409 - International - Desert Locust Commission for
Controlling the Desert Locust - Near East

Pledge Position as at 31 May 1976

	<u>Outstanding Contribs. 1969-73</u>	<u>Outstanding Contribs. 1973-74</u>	<u>Outstanding Contribs. 1974-75</u>	<u>Outstanding Contribs. 1975-76</u>	<u>Outstanding Contribs. 1976-77 (New Scale)</u>	<u>Total Due at 31.5.76</u>
Bahrain	-	-	-	-	7,000.00	7,000.00
Egypt	-	-	-	-	26,032.00	26,032.00
Iraq	-	-	-	-	23,000.00	23,000.00
Jordan	-	-	-	-	11,486.00	11,486.00
* Kuwait	-	-	-	12,796.00	20,000.00	32,796.00
Lebanon	2,372.39	8,970.00	838.00	8,970.00	8,970.00	30,120.39
* Oman	5,506.00	5,506.00	5,506.00	5,506.00	8,000.00	30,024.00
Qatar	-	-	-	-	10,000.00	10,000.00
Saudi Arabia	-	-	-	-	35,228.00	35,228.00
Sudan	-	-	-	-	14,934.00	14,934.00
Syria	-	-	-	13,350.00	13,350.00	26,700.00
United Arab Emirates	-	-	-	-	21,000.00	21,000.00
Yemen Arab Republic	16,896.00	4,224.00	4,224.00	4,224.00	640.00	30,208.00
Yemen, People's Dem. Rep.	-	-	-	-	360.00	360.00
Total	24,774.39	18,700.00	10,568.00	44,486.00	200,000.00	298,888.39

* The delegates of Kuwait and Oman informed that all the arrears had since been paid.

APPENDIX V

REGULAR PROGRAMME TRUST FUND

Trust Fund No. 9409.00 - International - Desert Locust - Commission for
Controlling the Desert Locust in the Near East

Statement of Account as at 31 December 1975

(expressed in US dollar equivalents)

Receipts

Balance as at 1 January 1975		175,521.32
Various Governments	205,004.00	
Interest credited	3,815.48	
<u>Less: Transfer to TF 9462.00 (Training Project)</u>	<u>(125,000.00)</u>	
		<u>83,819.48</u>
		259,340.80

Deduct:

Cash Expenditure 1975

Personal Services	40,570.10	
Official Duty Travel	10,792.64	
Contractual Services	1,622.03	
General Operating Expenses	17,183.85	
Supplies and Materials	27,513.24	
Furniture and Equipment	41,588.97	
Acquisition and Improvement of Premises	-	
Fellowships, Grants and Contributions	11,342.66	
	<u>150,613.49</u>	
Project Servicing Costs 5% on supplies and equipment 14% on other items	<u>14,866.68</u>	
		<u>165,480.17</u>

Balance as at 31 December 1975

93,860.63

Appendix VI

List of Documents

AGP:DL/NE/1	-	Provisional Agenda and Notes
AGP:DL/NE/X/76/2	-	Programme of Work and Budget
AGP:DL/NE/76/2	-	Desert Locust Situation during 1975/76; a review of : (i) Significant developments over the past year, and forecast (ii) Locust survey and control activities carried out by member countries and plans for the future
AGP:DL/NE/76/3	-	Special surveys carried out in strategic areas during 1975/76 and future plans
AGP:DL/NE/76/4	-	Anti-locust survey and control potentials available in member countries of the Commission
AGP:DL/NE/76/5	-	Coordination of Desert Locust research in the region
AGP:DL/NE/76/6	-	Proposed amendments of the Agreement for the establishment of the Commission for Controlling the Desert Locust in the Near East
AGP:LCC/76/4	-	Pilot project on the application of Remote Sensing techniques for improving Desert Locust survey and control
<u>Other papers :</u>		The United Arab Emirates' report on the Desert Locust situation during 1975/76 Review of the Desert Locust situation in the Sudan July 1975 to June 1976

