

REPORT OF THE

**NINTH SESSION
OF THE COMMISSION
FOR CONTROLLING THE DESERT LOCUST
IN THE EASTERN REGION
OF ITS DISTRIBUTION AREA
IN SOUTHWEST ASIA**

Held in Rome, Italy
10-13 December 1973



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Earlier reports of the preparatory meetings on the establishment of the Eastern Regional Commission for the Control of the Desert Locust and its regular sessions were issued as follows:

Special FAO Meeting on the Eastern Desert Locust Region, held in Teheran, Iran, 1-4 October 1962

FAO Meeting of the Proposed Eastern Regional Commission for the Control of the Desert Locust, held in Rome, Italy, 2-3 May 1963

First Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Teheran, Iran, 16-20 December 1964

Second Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Teheran, Iran, 5-8 March 1966

Third Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in New Delhi, India, 6-9 March 1967

Fourth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Kabul, Afghanistan, 21-24 February 1968

Fifth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Karachi, Pakistan, 10-13 March 1969

Sixth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Teheran, Iran, 14-18 April 1970

Seventh Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in New Delhi, India, 15-18 February 1971

Eighth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, held in Teheran, Iran, 3-6 June 1972

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AGP: 1973/M/11

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PARTICIPANTS
INTRODUCTION

The following delegates from the member countries of the Food and Agriculture Organization of the United Nations participated in the Ninth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in South-West Asia in Rome from 10 to 13 December 1973. The four Member Governments of the Commission, namely: Afghanistan, India, Iran, and Pakistan were represented by delegates and the Government of the United States of America by an observer.

President
The Session was opened by Mr. F. Albani, Director, Plant Production and Protection Division, who welcomed the participants on behalf of FAO and in his personal capacity. He appreciated the work being done under the aegis of the Commission and congratulated the member countries for taking prompt action during the current resurgence of the locust populations in the region. He informed the members that much more serious developments in the locust situation occurred during the early part of this year in the areas surrounding the Red Sea and the Gulf of Aden. The prompt action taken by the national and regional organizations assisted by FAO averted the chances of initiation of a new plague. He believed that if the locust control work was carried out with the same zeal the recession could be maintained and the countries concerned would be saved from the ravages of this age-old enemy of the farmer.

Officers of the Session

The following officers were elected:

Chairman: Dr. Heshamul Huque, Pakistan

Vice-Chairman: Dr. S.N. Banerjee, India

The work of preparing the draft report was entrusted to the FAO Secretariat. Mr. Gurdas Singh and Mr. S.S. Pruthi of the FAO Secretariat acted as Technical Secretaries.

Heshamul Huque
Director General
Agricultural Research Council and Plant Protection
Adviser to the Government
Ministry of Food, Agriculture and Underdeveloped Areas
Karachi

Observer

United States of America
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INTRODUCTION

Acknowledgements

At the close of the Session the delegates expressed their warmest appreciation of the courteous and tactful manner in which the Session had been conducted by the Chairman. The delegates also wanted to place on record their appreciation for the excellent work done by the Regional Locust Officer, Teheran, and for the efficient way in which FAO Secretariat had performed its various duties.

The four Member Governments of the Commission, namely: Afghanistan, India, Iran, and Pakistan were represented by delegates and the Government of the United States of America by an observer.

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Officers of the Session

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Chairman: Dr. Hasbani Hujue, Pakistan

Vice-Chairman: Dr. S.N. Banerjee, India

The work of preparing the draft report was entrusted to the FAO Secretariat. Mr. Gurbas Singh and Mr. S.S. Pruthi of the FAO Secretariat acted as Technical Secretaries.

PARTICIPANTS

Meeting Report No.
ASP: 1973/4/11 FAO Staff

The following delegates from the member countries of the Food and Agriculture Organization of the United Nations, observer and members of the FAO Staff participated in the session and contributed to the discussions summarized in this report:

Delegates from FAO Member Countries

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AREA IN SOUTH-WEST ASIA
held in
Rome, Italy
10-13 December 1973
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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 during 1972/73 and Forecast
6. A Review of the Desert Locust Survey and Control Activities carried out by the Member Countries during 1972/73 and Plans for the future
7. Consideration of the Report of the Executive Committee
8. Accounts for 1971 and 1972, and Programme of Work and Budget for 1974 and 1975/79
9. Anti-Locust Survey and Control Potentials Available in the Member Countries of the Commission
10. Special surveys carried out in Southern Iran and South-West Afghanistan during 1972/73 and Plans for Future
11. Any other business
12. Date and place of Next Session
13. Adoption of the Report

SUMMARY OF DISCUSSIONS

Desert Locust Situation during 1972/73

1. The Commission received from the FAO Secretariat a summary of the Desert Locust situation in the countries of the region during 1972/73. This information was supplemented by the delegates.
2. In Afghanistan, in addition to 201 mature adults a very low density population was observed between 17 and 24 May and 12 scattered adults and one fifth instar hopper on 30 June 1972 in Shorawak area. Eighty scattered immature adults on 1 and 2 July and 13 on 7 and 8 August were recorded in the same area. Thereafter, no locusts were reported from September 1972 until April 1973. Thirty-four scattered mature adults were found in the first fortnight of May 1973 and on 2 June a few third to fifth instar solitary hoppers along with fledglings and two old generation adults were observed in Darweshan area in about 1½ hectares. Scattered copulating and laying adults at a maximum density of 50 per hectare over a gross area of one square kilometre on 9 and 10 May and 87 first and second instar green hoppers at a maximum density of 6-7 per plant in about two hectares on 10 and 11 May were reported from Shorawak area. Two isolated adults were found in Farah and Herat areas on 14 and 17 May respectively. One immature adult and one fifth instar hopper were observed in Darweshan area on 15 and 16 July. No other locust activity was reported during the period under review.
3. In India, low density scattered adult population was recorded in May and June 1972 but there was a considerable rise in July and it was countless in Barmer district on 13 July. There were five reports of swarms in early July and two between 22 and 25 July from Barmer and Jaisalmer districts and one on 1 August from Jaisalmer district. Low density first to third instar solitary hoppers were recorded in Barmer district in July and first to fifth instar in Barmer and Bikaner districts in August. Small scale solitary hoppers of all instars continued to be found in September and October along with adults at a maximum density of 4 650 and 17 500 per square kilometre respectively. Low density adult population persisted during winter months and no appreciable rise was noticed until mid September 1973. In the first fortnight of September a few second and third instar solitary hoppers at a maximum density of 1 to 2 per square metre were recorded in Jaisalmer district.
4. In the second half of September, a countless population of mature and maturing adults was observed at Ramgarh in Jaisalmer district and low density populations were reported from several districts of Rajasthan; a few IV and V instar solitary hoppers were also found in Bikaner district. Five yellow swarm movements were reported from areas between 2705N to 2750N and 6955E to 7050E in Jaisalmer district from 26 to 30 September and three from 6 to 17 October. Subsequently, nine loose pink swarms/swarmlets were reported from areas between 2710N to 2750N and 7000E to 7055E from 17 October to 4 November. Third to fourth instar loose concentrations or small to medium sized loose hopper bands over a gross area of 600 square kilometres were found in Nachna sector of Jaisalmer district in the first fortnight of October and I to III and a few V instar hopper bands in several areas between 2700N to 2800N and 7000E to 7100E in Jaisalmer district from 7 to 18 October over a gross area of about 8 000 square kilometres. Egglaying by scattered individuals was also observed in the third week of October and emergence on 23 and 24 October in the same areas. A low density population of scattered adults was reported from several other areas in Rajasthan. A few concentrations and groups of adult locusts were found in the same areas during November, against which control operations were in the main concluded. Strict vigilance was being maintained.
5. In Iran, a low density adult population, mostly in cultivations, was found in Jiroft area in May 1972. In June scattered adults and a few fourth instar hoppers were collected from Bandar Abbas and Jiroft areas and small groups and concentrations of third to fifth instar hoppers and fledglings in an area of 3 350 hectares were observed in Chababar area.

In July a high adult population, in some cases countless, and a few solitary hoppers of second to fifth instar were recorded in Jiroft area. In August there was a considerable decline in the adult population and one fifth instar hopper was observed on 23 August. Low density populations of immature, mature and unknown maturity adults continued to be found in Jiroft area in September and October and scattered immature adults were also reported from Chabahar from 17 to 22 October. Small scale adults persisted during winter months and breeding was on a very restricted scale in southern Iran but there was a considerable increase in locust numbers in late March and early April 1973. From May to August scattered adults in small numbers were found in Jiroft, Lar, Chabahar, Bandar Abbas and the interior valleys of Baluchistan and Kerman provinces. No locusts were reported during September and October. Two medium sized loose pink swarms were reported from Gwatar Bandar and Pasa Bandar in Chabahar area at the end of November, against which control was undertaken.

6. In Pakistan, the population in summer breeding areas remained negligible but there was a sudden rise in Mekran with a maximum population of 2 400 per square kilometre at Ormara in May 1972. It further increased in June in Kharan, Kulanch and Dasht valleys and the maximum was 33 845 per square kilometre in Dasht valley; hopper concentrations were also observed in Kharan and Dasht valley. Further groups of adults and hopper concentrations were observed in Lasbela and Kharan in early July and more copulations and layings in Kharan, Dasht valley and Lasbela in the later half of the month. In August, a low density population of mature and immature adults was found in summer breeding areas and three small mature swarms were reported from Lasbela district on 4 August. A gross area of 208 square kilometres was infested in Lasbela and 65 square kilometres in Mekran. Control operations against hoppers and fledglings were concluded in the first week of September. Very low populations of scattered adults were reported from Sind desert, Lasbela and Dasht valley in September and from Sind desert and Lasbela in the second half of October. Small numbers of adults persisted in Sind desert, Lasbela and Mekran during the winter months. Mature adults at low densities were observed in Mekran, Lasbela and Kharan during March and April 1973. Between May and July scattered adults were reported from many localities in the summer breeding areas. Rain sufficient for breeding fell at a number of places from mid-May onwards but copulating locusts were not observed until the second half of July. There was a further rise in adult population during August in the normal summer breeding areas and in Lasbela district; a number of copulating pairs were observed in Sind desert. A few scattered solitary hoppers of first to fifth instar were reported from a number of places in Lasbela district during August.

7. A high locust population was reported from Mirpur Mathelo and Mirpur Khas areas in Sind in the first fortnight of September. Egglaying and hatchings in patches were reported in 36 square kilometres in Mirpur Mathelo desert on 27 September and II to IV instar hoppers were recorded in an area of 104 square kilometres in Nara desert of Sind on 28 September. A number of mature and immature swarm movements and pink groups and concentrations of adults were reported from Khairpur and Bahawalpur deserts adjoining the Indo-Pakistan border from 26 September to end November. Egglaying occurred in both the areas resulting into patchy breeding in a gross area of about 320 square kilometres in Khairpur and 3 120 square kilometres in Bahawalpur deserts. A sudden rise of adult population was recorded in Lasbela and Karachi and a large number of adult locusts were attracted to street lights in Karachi at the end of October.

Forecast

8. In spite of energetic control operations in India and Pakistan, some escapes were likely. Moreover, certain areas might be inaccessible and as such breeding might remain unlocated. Therefore, there was a great possibility of westward migration of large populations and possibly two or three swarms. Mekran area of Pakistan and the coastal areas of Iranian

Baluchistan should be kept under constant watch. Breeding might occur near the coast in these areas during December/January. Since the breeding in the Indo-Pakistan desert was late and hatchings were reported even at the end of October, there was a possibility of some overwintering and subsequent breeding in both Punjab of India and Pakistan following spring rains in these areas in February/March. It was considered desirable that both Governments should advise the authorities concerned of the above possibility with the view to maintain strict vigilance.

Desert Locust Survey and Control during 1972/73 and Plans for the Future

9. The locust activity in Iran during June 1972, in India from end September to November 1973 and in Pakistan from June to August 1972 and September to November 1973, necessitated control operations. The position with regard to activities in each country is given below:

Afghanistan

10. In addition to the joint Indo-Afghan special survey of south-western Afghanistan during April/June 1973, the important areas of Kandahar and Helmand provinces were kept under surveillance. No control was necessary against the populations found during these surveys.

India

11. The country continued to maintain 34 locust outposts in the scheduled desert areas in Rajasthan, Gujarat and Haryana and extensive and intensive surveys were carried out especially of the areas which received good rainfall. No anti-locust measures were undertaken during 1972. However, in 1973 five yellow swarm movements were reported from 26 to 30 September and three from 6 to 17 October. Subsequently, loose pink swarms and adult concentrations and hoppers of all stages in groups or small to medium sized loose bands were observed in October/November. The infested area was restricted to 2700N to 2800N and 7000E to 7100E in Jaisalmer district along the Pakistan border and was estimated to be 600 square kilometres in Nachna sector and 8 000 square kilometres in Shahgarh - Ghotaru - Kishengarh - Tanot sector. Control had been concluded in general but mopping up operations were in progress and up to 30 November a net area of 3 000 hectares was controlled by using 100 000 kg of BHC 10% dust, 4 000 litres of Aldrin and Dieldrin E.C.

Iran

12. Iran continued to maintain surveys of desert areas. Extensive surveys in March 1972 found very few locusts. Low density populations were found in May in Jiroft area. June reports showed a few IV instar hoppers and scattered adults in Bandar Abbas and Jiroft areas and III to V instar hopper concentrations and groups and fledglings in Chabahar area. Control was carried out in Chabahar area by using 600 litres of Dieldrin solution 15% and 20%, 25 litres of Aldrin 40% and 51 tons of BHC bait. The area treated was 3 350 hectares. Two medium-sized loose pink swarms were recorded at Gwatar Bandar and Pasa Bandar in Chabahar area at the end of November 1973 against which control operations were immediately organized by baiting and spraying with exhaust nozzle sprayers.

Pakistan

13. The country maintained regular surveys in the summer and winter/spring breeding areas. The winter/spring breeding areas received good rains during March 1972 and breeding conditions became favourable. However, the locust population was very low but at the end of May there was a sudden rise of population and a large number of yellow mature adults were observed in Dasht valley, Basima tehsil of Kharan district and later in Uthal area of Lasbela district. Control measures were undertaken over an area of 6 hectares in Dasht valley during May/June. In the last week of June high adult populations and hopper

concentrations were observed in Basima tehsil and 550 hectares infested area was cleared by the end of the month. Small groups of adults in about 512 hectares in the same area were also controlled during the last week of July. Scattered hoppers and III to V instar bands were detected at Shooli in Dasht valley in 65 square kilometres in the first week of August which were controlled by 15 August. In August three yellow swarmlets and hoppers of all instars were controlled over a gross area of about 208 square kilometres in Lasbela area. Groups of V instar hoppers and fledglings detected in about 16 hectares in Dasht valley in the last week of August were controlled by 3 September and on 6 September two small first instar hopper bands were controlled in Uthal area. In all, 615 kg of BHC 5% and 189 litres of Dieldrin 20% were used during these operations.

14. Monsoon rains in Pakistan during 1973 were heavy and widespread and conditions for breeding were very favourable. A high locust population was recorded in Lasbela district during July and I to V instar solitary hoppers over about six hectares were observed in the first fortnight of August. A large number of mature and immature swarm movements were reported from Khairpur and Bahawalpur deserts during September and October. Patchy breeding in a gross area of about 315 square kilometres in Khairpur and 3 120 square kilometres in Bahawalpur desert was recorded. Control operations against hoppers and swarms were undertaken from the ground as well as by aerial spraying. A few egg-beds were also sprayed. Up to 30 November, 77 571 litres of Dieldrin 20%, 3 442.5 litres of Aldrin, 990 litres of BHC solution and 80 365 kg of BHC 12% and 10% dust were consumed for clearing 259 000 hectares.

Future action

Survey of Strategic Areas

15. Over the years, certain areas on both sides along the Indo-Pakistan border were known to harbour pockets of locust concentrations quite often during August to October. These were, therefore, strategic to locust developments in the sub-continent. To overcome these difficulties and to help in the effective surveys in these areas, the Commission decided to make available up to Rupees 15 000 annually each to the locust organizations of India and Pakistan to be utilized to supplement the existing locust survey facilities during August to October in the areas extending to about 25 kilometres on either sides of the border from Bahla (2745N 7132E) to Gadra (2540N 7038E). The two locust organizations would prepare a detailed survey programme and submit it to FAO in advance, and subsequently make available a special survey report and account of the expenditure incurred for consideration of the Commission at its annual sessions.

16. Noting that rapid build-up of locust populations could suddenly take place under favourable conditions, as happened in October/November 1973, and in view of the presence of important populations in the winter/spring breeding areas of India, Iran and Pakistan, the Commission strongly recommended that strict watch should be kept over all the areas in south-eastern Iran, Mekran, Lasbela, Sind and Punjab areas of Pakistan and Rajasthan, Haryana and Punjab states of India.

Report of the Executive Committee

17. The Commission, while adopting the report of the Executive Committee (Appendix 1), recommended that a special study should be undertaken both by Indian and Pakistani national locust organizations to determine factors responsible for the rapid build-up of populations leading to swarms along the Indo-Pakistan border (Jaisalmer, Bahawalpur and Khairpur) during the monsoon breeding season of 1973. For this purpose, it would be necessary that the two organizations should exchange information with each other for preparing a comprehensive account of this upsurge and each of them should nominate liaison officers who should communicate with the FAO Regional Officer in Teheran to facilitate coordination of this study.

Administrative Budget and Accounts - FAO Trust Fund 9123

Accounts for the Year ending 31 December 1971

18. The Commission formally adopted the final statement of accounts as at 31 December 1971 (Appendix III), which had undergone no change since their submission to the Eighth Session as provisional accounts.

Accounts to 31 December 1972 and Outstanding Contributions

19. The Commission examined the final and audited statement of accounts for the year ending 31 December 1972 (Appendix IV) and approved it.

20. All contributions due up to 1971 had been paid by the member governments. For 1972/73 the position is shown below:

	Yearly Contributions (US\$)	Paid		Outstanding as at 30.9.73
		1972	1973	
Afghanistan	2 750	-	-	5 500
India	27 000	6 219	20 250	27 531
Iran	25 000	25 000	-	25 000
Pakistan	16 700	16 700	5 860	10 850
	71 450	49 919	20 250	74 731

The delegate of Pakistan informed that his Government had already made the full payment for 1973. The delegates of Afghanistan, India and Iran assured the Commission that the matter of paying their contributions would immediately be taken up with their respective governments on their return and hoped that the contributions would be paid without much delay. The Commission recognized that implementation of the programme of work would depend upon the actual and timely receipt of contributions from the member governments. The Commission emphasized the need for paying the contributions on or before 1 January each year, as delayed payment of contributions could interfere with the implementation of the agreed programme.

Programme of Work and Budget for 1974

21. The Fifth Session of the Commission held in March 1969 approved the Programme of Work and Budget for the five years 1970/74 and the member governments agreed to pay the same scale of contributions for this period. The Programme of Work and Budget was subsequently approved by the FAO Finance Committee and the Council in November 1969. Since the locust situation had not radically changed, the Commission adopted the budget for 1974 as approved at its Fifth Session.

22. Recognizing the importance of the Desert Locust breeding areas of Jaisalmer, India, and Bahawalpur and Sind deserts, Pakistan, along both sides of the Indo-Pakistan border and in the overall interest of the region, the Commission decided to make available Rs. 15 000 each to the locust organizations of India and Pakistan to supplement the existing locust survey facilities during August to October (para. 15) every year. The Commission decided that if any additional funds were needed in this respect, the expenditure should be met from the unobligated cash balance of the Trust Fund.

Programme of Work and Budget for 1975/79

23. At the First Session of the Commission held in Teheran in 1964, the establishing of a Trust Fund by the Director General of FAO was recommended and a scale of annual contributions from member countries was agreed upon in respect of the five years 1965/69. A Trust Fund was duly established and the agreed level of contributions provided a basis for the annual budgets over that period. The Commission, at its Fifth Session held in 1969, approved a further budget for the next five-year period 1970/74 maintaining the same scale of contributions and decided that the overall programme and budget should henceforth be planned over a five-year period.

24. The Commission considered and approved the Programme of Work and Budget totalling US\$ 357 250 for the five years commencing 1 January 1975 (Appendix V), 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 shortages 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. The provision made in the budget for an annual expenditure of US\$ 10 000 for purchase of insecticides should only be utilized in case of dire need. Subject to the overall limit of expenditure and to the type of activities specified, the budget should be regarded as flexible in that the amount allocated for a particular purpose might be increased or decreased at the discretion of FAO to meet the changing needs of the locust situation and the requirements of the member countries concerned.

Scale of Contributions

25. It was agreed that the scale of yearly contributions from member governments for the five years 1975/79 should be at the same level as for the previous years, namely:

	US\$
Afghanistan	2 750
India	27 000
Iran	25 000
Pakistan	16 700
	71 450
	=====

Survey and Control Potentials

26. The Commission reviewed the survey and control potentials available in the member countries and brought this information up to date (Appendix VI).

Special Surveys

27. The Commission received from the FAO Secretariat an account of the special surveys undertaken in south-west Afghanistan and in southern Iran and Pakistan during 1973. A summary of these surveys is given below:

Southern Iran and Pakistan (April/May 1973)

28. The survey was conducted jointly by a team comprising two technical officers and one maintenance assistant from Iran. The Government of Iran provided three vehicles with three drivers during the survey of Pakistan area and these were supplemented by one vehicle with a driver by the Government of Pakistan. The fourth vehicle from Iran was added to the fleet during the survey in Iran. These vehicles covered a total distance of 11 125 kilometres in Pakistan and 32 638 kilometres in Iran.

29. The Pakistani team left Karachi on 27 March and reached Mand (Iran-Pakistan border) on 31 March to meet the Iranian team at the border on 1 April. The Iranian team also left Teheran on 27 March and met the Pakistani team on 1 April as scheduled. The joint team then surveyed Dasht and Kulanch valleys, the coastal areas of Gwadar, Pasni and Ormara and Lasbela in Baluchistan and reached Karachi on 11 April. They left Karachi on 15 April and reached Zahedan on 18 April from where survey of southern Iran commenced on 20 April. The areas of Bampur, Espakeh, Chabandar, Jask, Minab, Bandar Abbas, Gavbandi, Bushehr, Borazjan, Kazerun, Jereh, Shiraz, Jahrom, Lar, Darab and Bandar Abbas were surveyed up to 11 May. From Bandar Abbas the party proceeded to Jiroft via Rudan, Rudkhaneh and Chah Naranj on 15 May. With Jiroft as the centre the surrounding areas of Mishpedan, Kharposht, Sargorich, Ahmadabad, Kazimabad, and Karimabad were surveyed up to 20 May when the party proceeded to Zahedan surveying Rizvania, Chah Hasan, Ziarat, Jaz Murian, Bazman and Khash areas en route. They reached Zahedan on 24 May and the two teams left for their respective headquarters on 27 March.

30. As stated earlier the important areas of Dasht and Kulanch valleys, the coastal areas of Gwadar, Pasni and Ormara and Pasni-Turbat-Awaran and Lasbela areas were surveyed in Pakistan from 2 to 11 April. Drought prevailed in general and the vegetation was mostly dry except some irrigated fields around which Heliotropium and Aerva were green in Kulanch and Dasht valleys. In the remaining areas also these bushes were present but in nearly dry condition. Besides these, Alhagi camelorum, Calotropis and Zyzyphus were also present. In the coastal belt, semi-dry Heliotropium and salt bushes of Suaeda and Salsola were also present. No Desert Locust adult or hopper was found during the surveys.

31. In Iran surveys were carried out from Zahedan to Chabahar and the coastal area between Chabahar, Bandar Abbas and Bushehr, Fars and Jaz Murian from 20 April to 20 May. Some mature and maturing scattered locusts were found along the coast up to Bandar Abbas from 23 to 30 April and one mature adult was observed at Bushehr on 1 May. The maximum population was 277 adults per square kilometre. Again on 14-15 May scattered mature adults at a maximum population of 92 per square kilometre were observed between Bandar Abbas and Minab. Some scattered adults were also observed in Jiroft area of Jaz Murian from 16 to 19 May and the maximum population was 185 per square kilometre. One fourth instar solitary hopper was also found at Chah Naranj on 16 May from a field. The populations were mostly restricted to cultivated fields which had rich growth of Heliotropium, Chrozophora, Panicum turgidum and Peganum harmala. In some fields Aerva sp. and Calligonum were also present.

32. In Iran also drought prevailed and the vegetation in the locust habitats was generally dry or semi-dry rendering the conditions for breeding unfavourable. However, there might be some suitable pockets where small-scale egg-laying and breeding might occur. It was, therefore, necessary to keep these areas under surveillance.

Southwest Afghanistan (April/June 1973)

33. The special survey of southwest Afghanistan carried out by the joint Indo-Afghan team was ninth in the series. The Indian team comprising two technical officers arrived at Kabul on 26 April and along with the Afghan team, consisting of two locust officers and four drivers, proceeded to Kandahar on 2 May. The survey commenced from Darweshan area of Helmand province and concluded at Kandahar on 15 June. The party returned to Kabul on 16 June. Mr. G. Popov from the Centre for Overseas Pest Research, London, also accompanied the team from 8 to 20 May.

34. During the course of survey, special attention was paid to the areas where locust population was encountered during the previous years and efforts were also made to explore the new locust habitats keeping in view the heavy and widespread breeding of 1962.

35. Severe drought prevailed in southwest Afghanistan and the vegetation was patchy and almost dry. Hence, whatever locust population was observed was restricted to cultivations and adjoining areas. A locust population at a density of 50-60 per hectare was observed

in Shorawak area where fairly good local showers occurred in March. Favourable conditions were also available in cultivated area of Darweshan where a locust population was encountered at a maximum density of 60 adults per hectare. A low density population was also observed at Reg-i-Takhtapul in Kandahar, Qale'h Abdur Rahman in Farah and Bichghai in Herat. The locust specimens met with in all the areas were fully mature with grey and hay grey body colour and fair to bright yellow hind wings. The traces of froth and sand particles at the ovipositors of the females indicated prior laying. Consequently, 87 first and second instar solitary green hoppers at a density of 2 to 7 per bush in an area of about two hectares were observed in Shorawak area of Kandahar province on 9-11 May and oviposition was suspected in Darweshan area which was confirmed on 2 June as solitary hoppers of third to fifth instar and fledglings at a density of 1 to 2 per square metre were found in about one and a half hectares. Solitary green hoppers of first to fourth instar at a density of 1 to 2 per bush were again found in the same area at Shorawak when it was re-visited on 7-8 June. The parent adults along with fresh adults at a population of 637 per square kilometre were still present in a limited area estimated about one square kilometre.

36. The current survey had a special significance because the existence of Desert Locusts during recession which was so far recorded at Shorawak in the south and Farah area in the north had also been located in Kandahar area in the east and Herat area in the north. Besides, development of new brood in Darweshan and Shorawak areas indicated that during recession Desert Locust populations could build up in Southwest Afghanistan in spring under favourable conditions.

Future Plans

37. The Commission noted that FAO had already started action for the 1974 special surveys and reiterated its earlier decision for their continuation in view of their usefulness.

Any other Business

38. The Commission received a report from the FAO Secretariat on the progress made in implementation of the recommendation made at the 16th Session of the FAO Desert Locust Control Committee (Report, paras. 38-44) concerning the training programme on crop pests with special reference to desert locust control and research (Executive Committee Report, para. 14). It noted that the majority of the governments were not willing to pay any additional amounts to cover the cost of trainees, more than the contributions which they were already paying into the various Trust Funds. The Commission, having recognized the importance of training, authorized FAO to pay the cost of trainees belonging to the member countries of the Commission estimated at approximately US\$ 50 000 annually from the unobligated balance of Trust Fund 9123 of the Commission.

39. The Commission recognized the need for reviewing the research programmes being undertaken at the various field research stations in the region and decided to appoint a short-term Consultant having considerable experience of the region to undertake a study of the research work being carried out and to prepare plans for future work for consideration of the Commission at its next session.

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DATE AND PLACE OF NEXT SESSION

40. The delegates decided that the next session of the Commission and of its Executive Committee should be convened possibly in November 1974 on a date and place to be decided by the Director-General of FAO in consultation with the host government.