

REPORT OF THE

**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**



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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INTRODUCTION

In accordance with the recommendation of the Third Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia, the Director-General of the Food and Agriculture Organization of the United Nations, at the kind invitation of the Government of Afghanistan, convened the Fourth Session of the Commission in Kabul from 21 to 24 February 1968. 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 observers.

The Session was opened by H.E. Engineer M.M. Akbar Reza, Minister of Agriculture and Irrigation, who welcomed all the participants on behalf of the Government of Afghanistan. H.E. Engineer Reza expressed his satisfaction on the way the Member Countries cooperated in the field of Desert Locust survey and control in the region. He pointed out that during the last few months the locust situation had taken a serious turn in the countries around the Red Sea and it would, therefore, be necessary for the Member Governments to undertake prompt action with a view to keep all the potential breeding areas of the Desert Locust under constant watch during the coming months and the monsoon breeding season. He hoped that such a prompt action would avert the possibility of starting a new plague and save the Member Countries of the Commission from the devastation of crops by this serious pest. He emphasized that the Member Governments, while discussing the program of work and budget and the plans for survey during the current year, should take into consideration the above change in the locust situation in the countries lying to the West of this region.

In reply, Mr. Gurdas Singh, FAO Desert Locust Specialist, thanked the Government of Afghanistan for their kind invitation to have the Session in Kabul and for the hospitality and the various facilities placed at the disposal of the FAO Secretariat. He assured the Member Governments of the Commission that the countries lying around the Red Sea were taking all possible steps in order to control the rising locust populations in that part of the world, and he hoped that it would be brought under control in time. Nevertheless, he considered it necessary to intensify the survey program and also to gear up the control machinery for meeting any emergency which might arise during the current year.

Officers of the Session

The following officers were elected:

Chairman: Mr. Abdullah Faizyar, Afghanistan

Vice-Chairman: Mr. Manuchehr Ayazi, Iran.

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

Acknowledgments

Before the closing of the Session the delegates expressed their great appreciation of the hospitality and the facilities provided by the Government of Afghanistan. They also thanked the Chairman for the efficient and courteous manner in which he had conducted the proceedings, and the FAO Secretariat for carrying out their various duties efficiently.

PARTICIPATION IN THE SESSION

The following delegates from Member Countries 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.

Delegates from FAO Member Countries

Afghanistan

Abdullah Faizyar
President
Plant Protection and Quarantine
Ministry of Agriculture and Irrigation
Kabul

Mohammed Anwar Sadek
Director-General
Plant Pests and Diseases
Plant Protection and Quarantine
Ministry of Agriculture and Irrigation
Kabul

Ajrudin Wais
Director
Plant Quarantine and Locust Control
Ministry of Agriculture and Irrigation
Kabul

Dost Mohammed Rahin
Director
Plant Protection
Helmand and Arghandab Valleys
Lashkargah

Faramoze Shinwary
Director
Plant Protection and Quarantine
Nengarhar Province
Jalalabad

India

Sardar Singh
Plant Protection Adviser to the Government of India
and Director, Locust Control
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Iran

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Plant Protection Organization
Ministry of Agriculture
Teheran

Pakistan

Heshamul Huque
Joint Director
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Forecast

7. In the Arabian Peninsula breeding was likely to continue on the southern Tihama of Saudi Arabia, the Yemen Tihama and the Republic of southern Yemen. In the wake of favourable conditions, locusts from these areas, including swarms, were likely to move northwards and breed there. Swarms might be present in Oman, Kuwait and eastern Saudi Arabia and invade coastal south-western Iran.

PARTICIPATION IN THE SESSION

AGENDA

The Commission unanimously adopted the following 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 1967/68 and Forecast
6. A Review of the Desert Locust Survey and Control Activities carried out by the Member Countries during 1967/68 and Plans for Future
7. Consideration of the Report of the Executive Committee
8. Contributions, Financial Situation and Budget for 1969
9. Anti-Locust Survey and Control Potentials Available in the Member Countries of the Commission
10. Special Surveys carried out in Southern Iran and Southwest Afghanistan during 1967 and Plans for Future
11. Any Other Business
12. Date and Place of Next Session
13. Adoption of the Report.

Afghanistan

Abdullah Faisyal
President

Plant Protection and Quarantine
Ministry of Agriculture and Irrigation
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Mohammed Anwar
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SUMMARY OF DISCUSSIONS

Desert Locust Situation during 1967/68

1. The Commission received from the FAO Secretariat a summary of the Desert Locust situation during 1967/68. This information was supplemented by the delegates.
2. In AFGHANISTAN no locust was observed throughout the period under report.
3. INDIA was reported free of any locust population during the month of January 1967. The following month showed a slight increase of population observed in Bikaner district of Rajasthan, whereas in March 1967 again locust population was reported nil. In April 1967 scattered locusts maximum being 75 per square kilometer were found in Barmer, Bikaner and Jaisalmer districts. Three early instar hoppers were also found in Kanasar area of Bikaner district. During May and June 1967, fairly widespread rains were received in the Eastern Rajasthan and scattered rains elsewhere resulting in a marked increase in the locust activity. In the month of July 1967 the maximum population touched the figure of 3,750 per sq. km. in Bikaner and Banaskantha districts of Rajasthan and Gujarat, respectively. At the same time solitary hoppers of all instars were observed in Barmer, Bikaner and Jodhpur districts. During October 1967 a marked increase of locust population was noticed in most of the areas of Rajasthan the maximum being countless in Barmer district. In November 1967 the maximum population density was 3,750 specimens per sq. km., whereas there was a general decline during the month of December 1967.
4. IRAN remained free throughout the year 1967, except when during the third week of December two swarmlets and scattered locusts of greyish and pink colour were reported to have been observed along the coast between Bunder Lingeh and Bunder Genaveh and in January 1968 three more swarmlets were reported.
5. In PAKISTAN no locust was reported until June 1967 with the exception of one in February 1967. With the advent of the monsoon rains, scattered locust population was observed in July and August 1967 at a number of places in Mirpur Khas, Las-Bela, Khokhropar, Gadra, Khainsar and Chachro areas. The population ranged from 27 to 880 adults per sq. km. and at the same time a few solitary hoppers were also observed in a number of places. During September and October 1967 scattered adult locusts and hoppers continued to be reported from a number of areas including Mekran with adult population ranging from 46 to 1,019 per sq. km. In November and December 1967 locust populations declined considerably in most of the areas in the eastern desert areas, whereas there was a general increase in Las-Bela and Mekran areas where breeding conditions were reported to be very favourable.
6. The Commission appreciated the timely warning given by FAO regarding the developments of the locust situation in the Arabian Peninsula and Eastern Africa, and expressed their satisfaction on the action taken by the various national and regional organizations in the above countries for controlling the infestations in their respective areas. However, escapes from the affected areas were expected and the Commission emphasized the need for making all preparations to cope with the existing locust populations present in Iran and to deal promptly with any further incursions which might occur during the coming months.

Forecast

7. In the Arabian Peninsula breeding was likely to continue on the southern Tihama of Saudi Arabia, the Yemen Tihama and the Republic of southern Yemen. In the wake of favourable conditions, locusts from these areas, including swarms, were likely to move northwards and breed there. Swarms might be present in Oman, Kuwait and eastern Saudi Arabia and invade coastal south-western Iran.

8. Breeding by locusts remaining in the interior of Muscat and Oman might be in progress and escapes from this area could invade southern Iran and Pakistan Mekran where breeding could occur. Consequently, the monsoon breeding areas of India and Pakistan were likely to receive more immigrant population in 1968.

Desert Locust Survey and Control during 1967/68 and Plans for Future

9. The Member Countries of the Commission continued to maintain survey of their respective areas for the Desert Locust populations. There were no significant developments in the locust populations which warranted control measures to be undertaken by the countries. The position in each country is given below.

10. AFGHANISTAN remained free from any locust activity and no control measures were undertaken.

11. In INDIA the density of hopper or adult population was not high enough to require control measures against the Desert Locust itself. But control was undertaken against the grasshopper Oedaleus, which as experience has shown not only multiplies in the places where locusts breed but its hoppers help in acquiring gregarious characters by the Desert Locust hoppers. It is believed that the control against Oedaleus prevented both the increase in number of the Desert Locust hoppers and their acquiring of the gregarious characters in the areas treated.

12. There were unusually heavy and widespread showers in the end of March 1967 in the Rajasthan desert ranging from 52 mm to 110 mm creating favourable soil moisture conditions for incubation. The earliest emergence of Oedaleus was observed in the first week of April 1967. Control operations were immediately organized in the infested areas of Barmer, Bikaner, Jaisalmer and Jodhpur districts, which concluded on 28 May 1967. Widespread hatchings of this grasshopper started from 8 July 1967. Control work was initiated simultaneously in all the infested areas. A total area of 3,487 hectares was treated using 18.6 tons of BHC 10% dust, 405 litres of Aldrin 40%, 13 litres of Dieldrin 20% and 50 kg. of BHC 50% (W.P.) against concentrated populations of the pest in the desert during both the upsurges in April-May 1967 and July-September 1967 in the districts of Barmer, Bikaner, Jaisalmer and Jodhpur.

13. In IRAN there was no activity until November 1967. On about 20 December 1967 two immature swarmlets were observed along the coast between Bunder Lingeh and Bushehr. This was followed by three more small swarmlets observed in January 1968 in the same area. Survey of this area, as also of the other warmer parts in Khuzistan, B. Abbas, Fars, Kerman and Baluchistan was being done since then. Transport, insecticides and machinery had also been sent to these areas.

14. No locust was reported from PAKISTAN, except one in February 1967 from Mekran, until the end of July 1967. After the rainfall, locusts were reported in the first fortnight of August 1967 from the Tharparker, Khairpur, Sukkur, Las-Bela and Mekran districts. Green hoppers were found in the Tharparker and Las-Bela districts. More than 50% of adults had six eye stripes. The population density of adults or hoppers was not high enough anywhere to require control measures in 1967.

15. In wake of the recent locust movements and the previous overwintering adults, some concentrations of adults and gregarious breedings were expected in Mekran and Las-Bela districts. Survey of these areas was being done and control would be arranged when and wherever necessary.

16. In view of the present locust situation in the Arabian Peninsula and the incursion of swarms which had already taken place in Iran, the Commission strongly recommended that all the areas in southwestern and southeastern Iran, Mekran and Las-Bela of Pakistan, should be kept under constant watch and control measures should be immediately undertaken against the existing swarms in Iran and adequate arrangements

should be made to cope with the breeding which is expected in these areas during spring. During the monsoon breeding season of 1968 both in India and Pakistan need for adequate arrangements for survey and control was stressed.

17. The existing locust outposts in various countries are shown in Map I.

18. The Commission welcomed the following statement made by the Observer from the United States of America:

" The United States has watched with interest and is encouraged by the continuing progress shown by the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia. The development of local capability to detect outbreaks of the Desert Locust or invasions at an early time appears to be the only real method for successfully preventing an outbreak of this serious pest. The special warning of the present desert locust situation issued by the Director-General on 27 December 1967 further emphasizes the importance of the task accepted by the Commission. We are confident that the Commission will meet this impending threat should it develop within the boundaries of any of the member countries promptly and effectively. "

19. The Commission was assured by the Observer from the United States of America that he would bring to the notice of his Government the present locust situation in the region and, if requested, his Government would certainly do everything possible to assist in the control of the Desert Locust infestations in the Member Countries of the Commission.

Report of the Executive Committee

20. The Commission considered the report of the Executive Committee (Appendix I) and endorsed the recommendations contained therein.

Administrative Budget and Accounts

21. FAO Trust Fund 123

(a) Accounts to 31.12.66 - The Commission formally adopted the statement of final accounts from inception to 31 December 1966 as given in Appendix II.

(b) Accounts to 31.12.67 - The Commission examined the provisional statement of accounts as at 31 December 1967 (Appendix III) together with the provisional statement of contributions from participating governments as at 31 December 1967 (Appendix IV) and noted that final accounts for the year 1967 would be presented to the Commission at its Fifth Session (spring 1969) for adoption and onward transmission to the Director-General. The Commission noted that contributions from Iran and Pakistan in respect of the year 1967 were still outstanding as at 31 December 1967. The delegate of Iran informed the Commission that the payment for the year 1967 had been made, perhaps the delay had occurred in transmitting this amount to FAO Headquarters. The delegate of Pakistan informed the Commission that the payment of their contribution had been delayed due to certain administrative formalities, and arrangements were in hand for depositing it at an early date.

(c) Program of Work and Budget for 1969 - The Commission considered and approved the Program of Work and Budget for the year 1969 (Appendix V) on the understanding that, for the purpose of implementing the Program, savings under any of the various expenditure headings could be utilized to meet shortages under any of

the other headings. The Commission authorized the Organization to utilize any unallocated balance on the Trust Fund to meet such expenditure as might be necessary to deal with any sudden emergency in collaboration with the Governments concerned.

(d) Emergency Reserve Fund - The Commission noted that, in accordance with the Program of Work and Budget for 1967 approved at the Third Session, the unspent surplus at the end of 1967 when ascertained would be transferred to an Emergency Reserve Fund to be used at the discretion of the Executive Committee to meet unforeseen emergency expenditure. In view of the current locust situation the Commission authorized FAO to incur expenditure on insecticides, supplies, subsistence of air-crew and POL for aircraft provided by Member Countries for aerial operations as the situation should demand during the coming months up to an amount of \$ 100,000. In the meanwhile the Commission requested FAO to make enquiries from the insecticide manufacturers for the supply of insecticide at a short notice for delivery possibly in southern Iran or Mekran of Pakistan.

(e) Locust Officer for Afghanistan - The Commission noted with satisfaction that a start had been made in developing an anti-locust service in Afghanistan although a considerable amount of work was still required to be done before such a service would be properly established. Concern was expressed that FAO had made no provision for the post of the Locust Officer beyond June 1968 and it was agreed that continuation of this post was absolutely essential for at least another two years, by which time the national anti-locust service should be properly equipped and staffed with trained personnel. The present locust situation made it more important than ever that this post should be maintained in the interest of both Afghanistan and the region as a whole. The Commission strongly urged FAO to find funds to finance this post for at least another two years. In case of any difficulty in financing this post for the total period, the Commission authorized FAO to fill up such a gap from the unallocated balance of Trust Fund 123. The Commission stressed, however, that FAO should utilize the Trust Fund money only if funds from all other sources proved insufficient to cover the post for a full period of two years.

(f) Training - Recognizing the importance of aerial spraying in future Desert Locust control strategy, the Commission considered the proposal for providing at least 12 man-months of fellowship particularly for Iran for training personnel in maintenance of spraying aircraft and equipment and decided to accommodate such expenditure in the budget for 1968 either from available savings or from the unallocated balance. The Commission noted with interest that facilities for such training existed in Pakistan and recommended that FAO should initiate enquiries about the qualification requirements for trainees, the actual facilities available and the period required for such a training and invite the Governments concerned for nomination of candidates.

Survey and Control Facilities

22. The Commission reviewed the survey and control facilities available in the Member Countries and brought this information up to date (Appendix VI).

Special Surveys

23. The Commission received from the FAO Secretariat an account of the Special Surveys undertaken during 1967, a summary of which is given below.

Southwest Afghanistan

24. The Indian team arrived in Kabul on 13 April 1967 and along with the Afghan team and Mr. S.S. Pruthi, FAO Locust Officer, left for Kandahar on 17 April for the desert areas. After a stop at Kandahar, they reached Spin Buldack (Afghan-Pakistani border), from where the survey began on 23 April. The Survey concluded on 11 June 1967.
25. The areas surveyed included those covered during the previous two years and some new localities reported to be suitable for harbouring locust populations. As compared with the first two surveys, more time was devoted to the areas bordering Pakistan and Iran. The areas of high frequency visitation by locusts lie in the provinces of Kandahar, Helmand, Farah, Chakhansur and Herat bordering Pakistan and Iran where the main desert areas are located in that part of southwestern Afghanistan.
26. The terrain in general is in the form of a valley, flanked either by low-lying hills or vast tracts of gravel stony barrens called 'dashts', dotted with rocks. Stretches of fertile soil of varying breadth (20-25 km.) lie along the river systems running in the centre of the valleys. There was an extensive and long sandy range running from Shorawak in Kandahar province to Darweshan in Helmand province. The sands were, however, loose and shifting. Typical breeding grounds of sandy to sandy loam soils with low or high sand dunes and suitable vegetation cover were met with here and there. Such areas at any one place were limited to a few square kilometres (5-30) only, and were interspersed in gravel and stony terrain.
27. No locust populations, adults or hoppers, were observed during the Survey. Stray populations of grasshoppers were observed in many of the localities surveyed. Collection was made and sent for identification.
28. Numerous populations of different species of grasshoppers were noticed in the area of Zamanabad (50 kilometres east of Herat). The habitat was hilly slope of low gradient strewn with minor streams. The soil had a thin grassy cover and was suitable for grazing.

Southern Iran and Pakistan

29. The Survey was undertaken from 7 March to 8 May 1967. In Iran the places surveyed were Iranshahr, Chahbahar, Jask, B. Abbas, B. Lingeh, Bushehr and Ahwaz. In this Survey, Pakistani Mekran lying on the other side of the common border was also surveyed covering the Kolwa and Kulanch valleys of Pasni. All these places in Iran and Pakistan were jointly surveyed by two Iranian and two Pakistani Locust Officers. The FAO Regional Locust Officer, Teheran, accompanied the Survey Party for half of its duration.
30. No adult locust or hopper was found during the Survey in Iran or Pakistan. Only one grasshopper was found on a sand dune in Iran and three grasshoppers on the Pasni sand dunes (reks) in Pakistan. Bird life was also scarce and the Survey party records that no crested lark, Galerida cristata chendoola, was seen along the coast in Iran and all the places visited in Pakistan. These highly negative results of this year's Survey are interesting when compared with the data obtained in 1964 by the Ecological Survey, and in 1965 and 1966 by the Special Surveys.
31. It is already well known that during the plague years, swarms breed in Iran on a large scale, but consistent information about the locust activity during the recession period has been gathered only since 1964. In February 1964 it was noted that some locusts had concentrated near B. Lingeh. The same year in June, gregarious breeding was reported from Jiroft (Kerman). The gregarization begun in Iran was followed by a large scale breeding in India and Pakistan, where control was undertaken

from August to October 1964. The gregarious breeding of 1964 necessitated control until 1966, though on a progressively decreasing scale. The relentless watch and control in India and Pakistan in 1964, 1965 and 1966 had contributed to a considerable extent towards the maintenance of the recession in the region.

32. In Iran no locust was found in 1965, but many grasshoppers were observed. In 1966 no locust was seen and the number of the grasshoppers had decreased considerably. In 1967 no locust was seen and only one grasshopper was seen on a sand dune - not even a crested lark had been observed. In Pakistan, in 1965 and 1966 there were enough locusts to warrant control, but in 1967 only one locust specimen was seen in February (not in this Survey). The above would show a progressive decline in the numbers of locusts and grasshoppers in 1965, 1966 and 1967 in Iran and Pakistan which was due to the concerted watch and action taken in 1964 and 1965, mostly in India and Pakistan, and due to unsuitable ecological conditions which had developed later in Iran and Pakistan.

33. Information collected about the swarming years in Iran pointed to the fact that locusts could be prevented from invading the northern half of the country. These Special Surveys had already indicated the areas which were not suitable for solitary breeding and might not be surveyed for this purpose. For instance, all the area along the Iraqi border from Ahwaz to Q. Shirin is considered such an area. There were other areas which were considered suitable for promoting gregarization and where strict watch would be necessary. In this way, it was hoped to classify different areas according to their importance and narrow down the areas for Special Surveys.

34. There was a growing appreciation of the need for regular surveys in Iran and six permanent survey outposts had been established. It was confidently hoped that these Special Surveys would ultimately succeed in their objective of gaining further information during the recession period, establishing regular surveys in Iran, thus improving locust control activities in the country.

Inservice Training

35. The Commission recommended that two newly appointed Iranian officials might be attached to the Special Survey of Iran-Pakistan during 1968 for inservice training.

Future Plans

36. The Commission noted with satisfaction that arrangements for Special Survey during 1968 had already been made. In view of the present locust situation it was decided that the Officer in charge of the Iran-Pakistan Survey should have complete freedom and flexibility in deciding the areas to be surveyed.

37. It was agreed that while preparing the reports of the 1968 surveys a map defining the important areas to be surveyed in future should be attached.

DATE AND PLACE OF THE NEXT SESSION

38. The Commission requested the Director-General of FAO to convene its next annual Session in early 1969 at a date and place to be decided by him.