REPORT OF THE

NINTH SESSION OF THE COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

Held in Baghdad
16-19 December 1978

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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Plant Production and Protection Division
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1978

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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 1978

   (i) Emergency locust control operations in Saudi Arabia and the Yemen Arab Republic

   (ii) Other significant developments over the past year, and forecast

   (iii) Arrangements to strengthen locust survey and control activities to face the present locust emergency, including consideration of the recommendations of the Twenty-Second Session of the Desert Locust Control Committee (Extraordinary Emergency Session)

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9. Consideration of the Report of the Executive Committee

10. Election of the Executive Committee and its Chairman and Vice-Chairman

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12. Date and Place of Next Session

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SUMMARY OF DISCUSSIONS

The Desert Locust Situation During 1978

1. The Commission received from the FAO Secretariat a report on the locust situation in the Region. This was brought up to date by additional information supplied by the Delegates. The significant developments during 1978 are described in the following paragraphs.

2. In Saudi Arabia, only a few scattered locusts were reported during November and December 1977 in southern Tihama, mainly in Jizzan area. However, the rainfall was frequent and ecological conditions were suitable for breeding. A swarm of nine square kilometres was observed in Jizzan in late December 1977 and laid eggs in Khabit El-Masara, south east of Jizzan. Control measures were applied promptly. Scattered locusts were seen in Qunfida area, mainly in Shaggah Al Yamaniyah, north of Qunfida. Solitary locusts were also reported north of Jeddah and Yanbo. In January 1978, two swarms reached Jizzan and laid eggs; later on two more swarms reached Jizzan and egg laying took place again. The total area of infestation was 200 square kilometres. The locusts included hoppers, hopper bands and adults. Ten Saudi teams controlled the locusts using dieldrin, malathion and BHC with exhaust nozzle sprayers. During February 1978, several mature swarms were found in the Jizzan area and the infestation extended norther of Jizzan to the Sabia area. Control operations were continued by air and ground teams. Meanwhile, ecological conditions continued to be suitable for breeding as rains were received frequently. During March, control operations were continued. In mid-April four locust swarms were located in Kharj near Riyadh and found to have laid eggs. Later, hoppers and fledglings were reported in the area and the infestation stretched to Dawadmi, some 300 kilometres west of Riyadh. These hopper bands and fledglings were, however, successfully controlled. During April, two more swarms were found in Abha but then dispersed.

3. Two swarms were reported north of Qunfida in mid-April; they had come from the west. Egg laying was reported to have occurred and control was applied. Again in the Qunfida area, six mature swarms were reported on 6 May in the north. Egg laying occurred and hopper infestations were controlled. In Leith area and south of Jeddah in the neighbourhood of Mecca, hoppers and adults were located during April and early May and were successfully controlled. In Najran area, several mature swarms were reported in the south at the edges of the Empty Quarter (Rub Al Khali). On 17 May three swarms were reported in Najran area and were controlled. The locust activity in this part lasted until June. During August 1978, scattered locusts were reported from Jizzan and Qunfida areas. Populations in these areas increased during September and October. High densities in Qunfida of hoppers and adults demanded control mainly at Shaqqah Shamaliyahand Shaqqah Al Yamaniyah to the north of Qunfida. On 7 October 1978, a mature swarm of three kilometres reached Jeddah from the west. This swarm then dispersed. The density was estimated at 2 adults per square metre and the infestation was in a limited area.

4. There were three reports of pink swarms measuring 8, 8 and 15 square kilometres from Leigh area on 22 November. The swarms were reported to have arrived from the west and moved to the north west. One swarm was controlled and the other two were reported to have dispersed. Another swarm was seen in Jeddah on 25 November and also dispersed and further pink swarms were reported north of Jizzan on 27 November. Large groups of adults were present north of Qunfida in late November and non-swarming adults at 2,000 per hectare were present in Shaqqah Ash Shamiyah and Shaqqah Al Yamaniyah. Lower densities of adults were present also near south Tihama. Two more swarms were seen, one north of Jizzan and the other north of Qunfida, in late November and early December 1978. Another swarm was

seen in the Jeddah and Mecca area. Solitary adults were also reported from Hail and other parts around Jeddah. Small scale breeding took place in many areas in southern Tihama of Saudi Arabia and control by ground and aerial units was carried out.

5. In the Yemen Arab Republic, the country reportedly remained free from locust activity until November 1977, as very few locusts were seen during the surveys. Rains were received during October, November and December 1977. By the end of December a swarm was reported in Maydi coming from the west, and laid eggs in Wadi Hayran and Maydi. In January 1978, four mature swarms were reported north of Hodeidah at Bhagawiyah; control was undertaken. Swarms continued to be observed in Turba, Az Ziyida and Durhami. Most of the Tihama of Yemen was infested with hopper bands, fledglings and adults. The locust situation became serious. The number of swarms reported from the Tihama of Yemen was more than a dozen, and the last one was observed on 10 May. The total infested area was 3,500 to 4,000 square kilometres. During July, August, September and October only scattered locusts were reported in the Tihama of Yemen.

6. In the People's Democratic Republic of Yemen, breeding on a small scale took place in the Masip area in August along the eastern coast. Control operations were carried out against patchy infestations spread over an area of 8 square kilometres, using 500 kg BHC dust. Otherwise, only scattered populations were reported from the coastal plains as well as the hinterlands during 1977. The rains during this period were generally below average and the conditions for development of locusts were not suitable. However, the rains in October-November 1977 extended into the country and were reported to be particularly heavy and widespread along the edges of Rub Al Khali. These were followed by widespread rains at the end of February, and light to heavy showers subsequently. Breeding conditions were, thus, favourable in many parts.

7. In January 1978, a marked increase in population was observed at Ramalat, Ballal, Haura and Askar. In February, advanced stage hoppers and fledglings were located on the eastern coast and control operations were adopted. Some migration into these areas was also observed. In March, low density hoppers of all stages were found at Khaber over 24 square kilometres and more infestations over 300 square kilometres were discovered in Wadi Hadramout in April. Control operations were carried out successfully. On 8 May, a small mature swarm entered the People's Democratic Republic of Yemen from the north in Wadi Behian and seemed to have dispersed later on. Low density hoppers and fledglings were also reported from a number of places and a general increase in the locust population was also recorded in May and some medium-sized groups of locusts observed. Control was adopted. In June, hopper infestations and fledglings were met with in the foothills of the western coast and were controlled. Considerable adult populations, in high numbers at some places, persist in many parts of the country. Breeding on a large scale was likely if there were good rains. In August, September and October 1978, scattered locusts were reported on the western coast. During August a loose swarm was reported in Dhalla and later in October control operations were successful in Nisab and Dathina.

8. In Oman, reports were received of the presence of scattered locusts in the Batinah coastal areas during February 1977; these reports could not be substantiated during a special survey conducted in April-May and no significant locust activity was reported in the latter half of 1977. The lull in the locust activity continued in 1978 as well. Special surveys of Batinah and other areas in March-April reported very few locusts. No locust reports were received during May and June: the country was reported to be mostly dry. In the second week of July, light showers were received in areas around Sur, Wafi and Ibra and heavy showers in the first half of August. Four mature locusts were found in this area. No locusts were reported during September. However, scattered pink adults were seen at several localities in the Batinah coast between Muscat and Sohar and on the Jebel in late October and early November. Many hundreds of pink adults were seen at lights in Muscat on 2 November. These almost certainly represent immigrants from the summer breeding area in India and Pakistan. Further migration and breeding could be expected in the country.

9. In the United Arab Emirates, very few locusts were found from January to March 1978. At the end of April, low density adults, 225 to 1500 per square kilometre were observed in the Sharijah area; pairing was also seen and conditions were favourable for reproduction.

A small swarm was reported to have entered Assila (2414N 5174E) on 7 May and considerable numbers of mature yellow adults were found in the area. They were controlled and no significant locust activity was observed until September 1978. Pink adults at densities up to 5 per square metre in cultivations in the Kalba area of Fujeira were seen on 30 October. Migration from the east and breeding is expected during the winter/spring period.

10. In Sudan, rains continued in January 1978. A laying swarm was reported in the Tokar Delta on 19 January. This was reported to have come from a south-westerly direction. At the same time, an infestation of fledglings and maturing adults was found over 2,830 hectares on the southern Red Sea coast. Also, north of Port Sudan hoppers were found in the hinterland. Ecological conditions continued to be favourable. On 3 February, another mature swarm which have come from a south-east direction was reported settled in the Dambil area of the Tokar Delta and had subsequently laid eggs in the area. During the same period, first stage hoppers were found over a large area, probably the progeny of the swarm reported in January. Infestations continued until March. From April to June, dry conditions prevailed in the area and there were no reports of any further infestations. Control operations both by air and ground, which commenced in November 1977, were successfully concluded by March 1978. From April onwards, dry conditions prevailed and the locust population was on the decline. In July, heavy rains fell in the eastern parts of Khartoum, White Nile and Kassala Provinces, where favourable conditions existed for breeding. The traditional summer breeding areas of the Northern Province were still dry. Because of the presence of a large number of swarms in northern Ethiopia, considerable migration of locusts was expected into Sudan but no major movements were reported during this period; presumably the swarms in Ethiopia were held up there due to local favourable conditions.

11. However, it appears that some swarm movement did occur as a laying swarm measuring 6 square miles was reported at Abu Sinoon (1725N 3425E) on 10 September and a copulating swarm measuring 10 x 2 miles was seen at Siedon (1719N 3426E) on 19 September. A third mature swarm was reported at Dagain (1600N 3605E) in Kassala Province on 18 October. Higher density populations of adults and egg fields were discovered on 19 September in the Hassaniya area of Nile Province between latitudes 1640N and 1700N, and longitudes 3230E and 3235E. Large numbers of adults were also reported north-west of Ed Dueim between latitudes 1420N and 1440N, and longitudes 3140E and 3150E in late September. In the first week of October dense populations of mature adults were found within an area estimated at 600 square miles around Hamashkorib (1710N 3642E). Medium density mature adults were also found over areas totalling 6,900 hectares between latitudes 1705N and 1830N, and longitudes 3143E and 3232E up until 22 October. Large numbers of hoppers were reported with the adults north-west of Ed Dueim in late September. Widespread hopper infestations were discovered in Kassala, Nile and Northern Provinces during October. In the first week of October hatchings and first to third instar hoppers were found over an area estimated at 600 square miles in the Hamashkorib area of Kassala Province (1710N 3642E). First to third instar bands were found over areas totalling 2125 hectares, between latitudes 1630N and 1807N and longitudes 3205E and 3340E up until 18 October, and first to fourth instar bands were found over areas totalling 6,900 hectares between latitudes 1705N and 1830N, and longitudes 3143E and 3232E up until 22 October. Control operations were in progress in all the infested areas.

12. In October and November 1978, ecological conditions were favourable for breeding on the Red Sea littoral and in certain areas in the interior. A mature swarm of adults was seen at Dagein (1600N 3605E) on 19 October. On 29 October an immature swarm measuring 12 square miles was seen at the River Atbana at position 1722N 3424E and a swarm of mixed maturity measuring 7 square miles was seen at Mitatib (1609N 3603E). In the first week of October adults at high densities were found over an area of 1500 square kilometres in the Hamashkoreib (1710N 3642E) area of Kassala Province. Scattered adults were also seen over an area of 6,900 hectares in Northern Province in the third week of October. In the Red Sea Province groups of adults were found at three localities totalling 370 hectares in the area south of Sinkat in position 1826N-1833N, 3648E-3651E, at 11 localities totalling 1680 hectares in the Tokar Delta in the third week of October. In the fourth week of October scattered adults were seen at Wadi Oko (2027N 3550E) over an area of 360 hectares. There were widespread hoppers breeding in Kordofan, Nile, Northern, Kassala and Red Sea Provinces. In Kordofan there were late instar hopper bands at four localities totalling 220 hectares during the fourth week of October. In Nile Province first to fourth instar

bands were reported from 16 localities totalling 15,268 hectares in the Hassaniyah area between 7 and 22 October. By the fourth week late instar bands were present at only three localities totalling 6,375 hectares. In Northern Province first to fourth instar hoppers were present at 12 localities over a total area of 8,900 hectares between 13 and 18 October. In Kassala Province hatching and first to third instar hopper bands were found over an area of 1500 square kilometres in the Hamashkoreib area in the first week of October. In the Red Sea Province dense hopper bands were found at three localities totalling 370 hectares south of Sinkat on 20 - 21 October; large dense bands of late instar hoppers were found over an area of 360 hectares at Wadi Oko (2027N 3550E) in the fourth week of October, and scattered second to fourth instar hoppers were found in the Tokar Delta between 15 and 24 October. Swarm and hopper infestations were present in November and more breeding was expected. Control operations were in progress against all the hopper infestations but details are not yet available. In September 160,000 kg of BHC dust was used against Desert Locust and grasshopper infestations in White Nile Province and 5,200 kg of BHC bait and 54 litres of 57% Malathion against Desert Locust infestations in Nile Province.

13. Three immature swarms and one swarm of mixed maturity were seen along the Nile between Shendi and Ed'Demer between 3 and 11 November, the largest being 15 sq. km. A small immature swarm was seen along the Atbara on 3 November and two mature swarms were seen along the Atbara on 14 November measuring 19 and 51 sq. km. respectively. Most of these swarms were of thin density. Groups of adults were found between 19 and 23 November between Shendi and Zeidab. There were 6 reports of swarms in the northern part of Kassala province between 2 and 15 November, two were of mixed maturity and four immature, the largest swarms measured 256 and 128 sq. km. The Red Sea coast was invaded by swarms in mid-November. Between 12-18 November mature copulating and laying swarms were reported from 6 blocks in the Tokar Delta, and a 20 sq. km. immature swarm was seen at Khor Mukban on 13 November. Groups of laying adults persisted in the Tokar Delta to the end of the month. On 25 November a 6 sq. km. immature swarm was seen at Gebeit and again at Barameiya on 26 November. Another, mature, swarm measuring 20 sq. km. was seen at Haiya on 26 November. There were also large numbers of immature scattered locusts in the Tokar Delta at densities ranging from 1,260 to 12,180 per hectare over an area of 4,445 hectares. These constituted the results of breeding commenced in late September.

14. Early in the month there were third - fifth instar hoppers over an area of 15,000 hectares at Khor Langeb. Scattered hoppers were present throughout the month in the Tokar Delta at densities of up to 10 per dutha plant. On 24 November a new wave of hatching commenced, and by early December there were first and second instar bands over an area of 900 hectares, in the area bounded by latitudes 1828N - 1910N and longitudes 3631E - 3652E. Groups of hoppers were also found between Shendi and Zeidab between 19 and 23 November. Control operation by ground and aerial units were in progress.

15. No locust activity was reported from other countries in the Region, namely Bahrain, Egypt and Kuwait (only a few scattered locusts), Iraq, Jordan, Lebanon, Qatar and Syria.

Regular Survey and Control Operations During 1978

16. In Saudi Arabia, survey operations were started in October 1977 and continued until June 1978. In December 1977, 12 teams, each equipped with exhaust nozzle sprayers and dusters, conducted the campaign. The size of the infested area was about 3,500 square kilometres in Jizzan, Qunfida, Leith, Mecca and the interior. Besides ground teams, one aircraft participated in the operations from 5 February to 19 April 1978. Insecticides used were malathion 14 tons, dieldrin 20 tons, BHC dust 70 tons and bait 40 tons.

17. In the Yemen Arab Republic, strategic areas in Tihama of Yemen were surveyed regularly. Control operations started early January 1978 and concluded in June 1978. The infested area was estimated at 4,000 sq. km. Control was carried out by fourteen ground teams. They were equipped with exhaust nozzle sprayers. An aircraft was used for the two weeks from 23 March to 4 April 1978. Insecticides used were 18 tons of dieldrin 20% ULV, 50 tons BHC 10% dust, 2.5 tons BHC 15% solution in oil, 2.2 tons dimethoate and 2 tons thiodan.

18. In the People's Democratic Republic of Yemen, regular surveys were carried out in most of the strategic areas. Control operations were carried out in Wadi Hadramout, the western coast and Beihan. Insecticides used were 5 tons of BHC dust 10%, 4 tons BHC in oil solution and 6 tons BHC bait.

19. In Sudan, surveys were conducted regularly. Control started in November 1977 by ground teams and air using 5 tons dieldrin 20%, 4 tons malathion 96%, 60 tons BHC dust and 306 tons BHC bait. Again control operations started against swarms on 19 September 1978 and were in progress against wide and severe infestations in Kassala and other areas. The area of infestation was estimated at 1,500 sq. km.

20. In the United Arab Emirates, a small amount of dieldrin (about 1 ton) was used for the control of a small swarm and scattered adults.

21. In Oman, following a warning from the FAO Regional Locust Officer in Jeddah in February, the Department of Agriculture commissioned surveys of the Interior west of Ibra and a survey-cum-control team visited Khasab following a report of "locusts". The former survey party encountered no locusts while the Khasab team found only grasshoppers. Farmers in the Wadi Quriyat area, however, reported seeing isolated adults in their cultivations during February. Another report, albeit negative, was received from the Advisor to the Sultan on Conservation of the Environment, who returned to Muscat on 20 March having spent three weeks in Northern Dhofar and the Jaddat al Harassis on an ecological survey, but had seen no locusts

Special Surveys Carried Out in Stretegic Areas During 1978

22. In accordance with the recommendations of the Eighth Session of the Commission (Report, paragraph 21(a)) special surveys of strategic areas were carried out in the Sultanate of Oman, the United Arab Emirates and the Yemen Arab Republic.

Sultanate of Oman (J. Roffey, 21 - 29 March 1978)

23. The FAO special survey was planned to visit first those areas which had received recent rainfall and which were, therefore, most likely to provide suitable food, shelter and oviposition habitats for locusts, and the team visited the following areas:

> Ruwi-Nizwa, Nizwa-Sumail, Wadi al Batha, Ibra, Al Izz-Kamil, Sur, Al Izz, Kamil Bilad Bani Bu Ali, Al Hadd, Mudhaiyabi, El Washihi, Nizwa, Wadi Quriyat, Adam, Ibri, Qabil, Buraimi, Hayl (Wadi Jizi), Rumais, Sohar, Shinas, Wadi Jizi.

24. In general, ecological conditions along the survey route were dry. The greenest areas of natural vegetation were in parts of the Sharqiyah and Jaalan, which had received rain in February and early March. Other areas which had received some rain in the last two months included Izki, Wadi Sumail, near Qabil and parts of the northern Batinah. However, even in the greenest areas the rainfall had been insufficient to produce a good growth of annual grasses or herbs and had therefore probably been only marginally sufficient to allow successful breeding. A few drops of rain fell at Ruwi on the afternoon of 20 March, but during most of the survey skies were generally clear apart from some cumulus over the Jebel and some cirrus moving from the west between 25 and 28 March. Daily maximum temperatures ranged from 27.5°C (22 March Al Izz, 24 March Nizwa) to 39°C (29 March Batinah coast) and daily minimum temperatures from 14°C (22 March Nizwa) to 17.3°C (24 March Al Izz) (Minimum temperatures were not taken on the Batinah coast). Wind direction was variable. Along the Batinah it was generally blowing from the sea after the morning calm. In the Sharqiyah it was very variable, usually being light southerly or northerly during the day but becoming strong southerly between 1800 and 1900 hours and lasting for several hours. On 25-26 March there were westerly winds over the northern Batinah between Nizwa and Buraini and a wind with a westerly component was recorded near Hayl in Wadi Jizi on 28 March.

25. In view of the generally deficient rainfall and the low numbers of locusts reported from the country in recent months, very few locusts were encountered on the survey. These

were found in the Sharqiyah and Jaalan: 22 March, 2229N 5855E, 2 grey adults; 23 March, 2217N 5940E, 14 grey adults; 23 March 2230N 5947E, 1 grey adult. Desert Locusts might have been present in other areas than these, but in view of the dry conditions their numbers are likely to have been very low and they could only have bred in very restricted sites. It was possible that there might have been some very localised breeding in particularly moist areas, as nymphs of Heteracris, Catantops and Acrotylus were present in areas where adult Schistocerca were seen. The site 35 km south of Ras-Al-Hadd was the greenest encountered and here fifth instar Catantops were seen together with numerous adult Catantops.

United Arab Emirates (Pakistani team 4 February to 23 June and Shawkat Qasim Bashmaf 16 February to 16 April 1978)

26. In the first week of March 1978, rain was reported from the Ras-Al-Khaima area, and the soil moisture and vegetation conditions continued to be adequate for egg laying and the multiplication of locusts along the eastern coastal parts during April. The rainfall in most areas was sufficient in May, only a light shower was received in Jabel-El-Ali on 14 April. Subsequent surveys in May and June showed that the ecological conditions became unsuitable with the rise in temperature and drying of the soil.

27. The Pakistani team undertook regular surveys of the coastal areas and the interior, and surveyed once along the Saudi Arabian and Oman borders. Because of the generally low rainfall and adverse ecological conditions, no major locust activity was observed in the Emirates from February to June 1978. However, solitary locusts in small numbers were recorded during March, seven adults in Bidiyah coastal area and low density in Adda-Duba-Sharm. In April, low density, 225 to 1500 adults per square kilometre, were observed in Dubai-Shahrja and Ras-Al-Khaima. Pairing was observed in Jabal-El-Ali coastal areas. In view of rains in Jabal-El-Ali some breeding was expected but no gregarious population was found there.

28. In the first week of May, a mixed swarmlet of pink, grey and bright yellow adults and a large number of adults, density 1200 per square kilometre, reportedly entered the United Arab Emirates at Assila (2414N 5174E) and Chiasi (2324N 5249E) from Rub Al Khali. Aerial survey was organized and control operations undertaken in the area. The population dispersed soon after and no locust activity was reported in June 1978.

29. During February-March, Mr. Shawkat Qasim Bashmaf surveyed the desert areas in Dubai, Shahrja, Abu Dhabi, Ajaman, Ras-Al-Khaima and Um-El-Guin. A small number of isolated adults were found in Ras-Al-Khaima here and there. The rainfall was light but the ecological conditions were, on the whole, suitable for breeding during the period of the survey. Mr. Bashmaf also made suggestions on the strengthening of the locust and plant protection facilities of the Ministry of Agriculture and Fisheries.

Yemen Arab Republic (R. Rainey 10-13 February and J. Roffey 7-13 March 1978)

30. At the request of the Ministry of Agriculture, Dr. R. Rainey of COPR, London, who was visiting the Yemen Arab Republic regarding armyworms, undertook a brief assessment of the fast developing locust situation in the country. He was accompanied by the FAO Locust Officer from Hodeidah. They visited the areas of Hodeidah - Turbah - Zaydiyah; Al Jannah - Al Atanah - Bani Fayed, Wadi She'ban and Hodeidah - Zabid. The overall situation was adjudged as serious, the locust infestations extended from Zabid to the Saudi Arabian border over a distance of at least 250 km. Populations in Gumeisha/Baghauyia area were of plague proportions and at par with those in 1956 but were, perhaps, less heavy than those of 1958 and 1962 when considering the last 25 years.

31. In the second week of March 1978, Mr. Roffey visited coastal areas between Ad-Durayhmi and Wadi-Hayran and found the control effort very effective, and the only area where unaffected hoppers and fledglings were present was Khabt, north of Wadi-Hayran. In Zaydiyah - Turbah area, moderate dense concentrations of hoppers of all instars and widespread fledglings were seen, and a major control operation was considered necessary in the area. Several bands of medium density fourth and fifth stage bands were seen marching and ground grouping one

evening. These bands were dusted. In Lawiya - Ad Durayhmi, several patches of late instar hoppers, fledglings and immature adults were also present at densities of 5 per square metre. Some of the adult concentrations were flying spontaneously; a concentration of 800 x 400 metres was sprayed with dieldrin ULV with very good kills. It was considered that some escapes, perhaps enough to form a small swarm, could occur from this area. In conclusion, the well coordinated control campaign reduced the severity of the infestations considerably but several potential infestations still existed and some areas needed more surveys. Aerial operations were recommended to survey and spray the infestations: these operations were arranged in April 1978.

Future Plans for Surveys

32. It is recognised that the present locust situation has worsened despite the undertaking of control operations in the countries during 1978 using over 2,500 tons of insecticides. Besides the Central Region, locusts are now present in the Eastern Region and also to a limited extent in the Western Region. It is, therefore, recommended that special surveys be carried out in the strategic areas of Oman and the United Arab Emirates during early 1979.

33. The Commission, while recognizing the importance of special surveys, recommended that regular surveys of the breeding areas along the Red Sea Coast of Arabia, Sudan and the Gulf of Aden should be continued.

34. The Commission requested FAO to recruit an FAO Locust Officer for the duration of at least three months to survey the seasonal breeding areas of Oman.

35. The Commission expressed its appreciation of the cooperation of the Pakistani Mission to the United Arab Emirates and emphasized the need for the continuation of its services in survey and control.

36. The Commission reiterated the need for recruiting an FAO Locust Officer to be stationed in Eastern Arabia to assist the national Governments in survey, control and training.

Forecast for 1979

37. Winter breeding has already started on the Tihama of Saudi Arabia and the Yemen Arab Republic and is likely to start soon in the People's Democratic Republic of Yemen. Some swarms have reached western Saudi Arabia from north-eastern Africa and others may arrive in the People's Democratic Republic of Yemen, the Yemen Arab Republic and Saudi Arabia in January and February from northern Ethiopia and the Horn of Africa. Considerable numbers of adults arrived in the People's Democratic Republic of Yemen, most probably coming from the summer breeding areas in India and Pakistan. Some of these will almost certainly breed in the coastal areas of south-west Arabia and give rise to large numbers of hopper bands. The duration of winter-spring breeding in these coastal areas is difficult to predict. In some years breeding may be finished by March, but in years of protracted rainfall it has continued up until May.

38. In late February and March increasing numbers of adults will start to move into the interior of Saudi Arabia and the two Yemens. Some may migrate as day-flying swarms, others as night-flying individuals. These individuals are likely to breed in many widely separate areas, wherever conditions are suitable. Some of the adults may reach Jordan, Iraq, Kuwait and Qatar, as well as eastern Saudi Arabia, to that spring breeding may occur in all these countries. These will also be a northward movement along the Tihama

39. Winter-spring breeding may also occur in Oman, the United Arab Emirates and adjacent areas of Saudi Arabia if some of the adults which have reached these countries from India and Pakistan overwinter there. Further invasion from the summer breeding area in India and Pakistan will not occur now.

40. Escapes from spring breeding in the interior of Arabia and the Middle Eastern countries can move south-west across the Red Sea to Egypt, Sudan, Chad, Niger and even Mali during May and June. Temperatures are very high at this time and the invasion may be in the form of very dispersed swarms which may fly a lot at night and fail to be reported. This invasion is likely to be on a considerable scale and likely to give rise to widespread gregarious infestations in July - September 1979. Other escapes from the interior of Arabia may migrate southwards in May and June and reach the two Yemens, where they may breed in areas where rain has fallen, or they may cross the Gulf of Aden and reach the Horn of Africa. Yet other escapes from the interior of Saudi Arabia and countries to the north, and any from Oman and the United Arab Emirates will move eastwards into Iran Pakistan, Afghanistan and India.

41. Finally, between September and November 1979 west and south-west Arabia is likely to be invaded by escapes from the summer breeding area in Sudan and northern Ethiopia and eastern and south-western Arabia may be invaded by escapes from the summer breeding area in India and Pakistan.

42. In view of the fact that there are now gregarious locusts in several potential cource areas and some key areas are inaccessible to control teams, all national units should make every endeavour to locate and survey areas of rainfall in order to detect and control any breeding populations as soon as possible.

Survey and Control Potential Available in Member Countries and Steps to Strengthen it

43. The arrangements for strengthening locust control and survey have been reviewed at various levels. Three of these reviews are significant: reports of the First and Second Meetings of Locust Experts (Rome 23 June and 15-17 November 1978) and the Twenty Second Session of the DLCC held in July 1978. The locust situation is described as a 'plague', and control and survey operations on the same scale as those of 1978, or possibly even greater, are foreseen for the countries presently infested, notably Saudi Arabia, the Yemen Arab Republic, the People's Democratic Republic of Yemen, Sudan and possibly Oman and the United Arab Emirates. Other countries of the Region could be infested if the control is ineffective over large areas, and large populations escape detection and the ecological conditions continue to be favourable.

44. Considering the present situation, it is imperative that the Member Countries review their arrangements for control and survey, and strengthen their capabilities. Surveys of the suspected breeding areas deserve top priority, especially where rain has fallen. Information on meteorological conditions should be coordinated with the Meteorological Office and significant developments reported to all concerned. For good surveys, the provision of vehicles and wireless sets is essential. A minimum control potential is a prerequisit to face a locust emergency and should be built up urgently. Aerial surveillance and control are the only ways to control large areas quickly. The facilities of the Member Countries in this respect could be shared to mutual advantage. All these provisions will be of little use without technical staff with sufficient know-how to use them, but most of the Member Countries have plant protection facilities and expert advice can be made available to bridge immediate needs. However, provision is required for locust control staff who will have specific responsibility for collecting, collating, sending and receiving locust information regularly, and also organize control and surveys. To avoid waste of valuable resources, evaluation of control operations is a must. Also, information needs to be collected on damage done by locusts.

45. The updated information on the available control potential in Member Countries is given in Appendix I.

Support Provided to Member Countries

46. Equipment and supplies were provided from the Near East Commission Trust Fund No. 9409 to Member Countries during 1977, as detailed in Annex II of Appendix III (Report of the Executive Committee, Breakdown of Expenditure). Subsequent orders under Trust Fund 9409 and other funds during 1978 are shown in Annex V of Appendix III.

47. The Commission, while appreciating the prompt action taken by FAO in providing assistance in countries menaced by invasions of the Desert Locust, and while taking into consideration further assistance as recommended by the Second Meeting of Experts in Rome, November 1978, felt that additional assistance was nevertheless needed in several countries of the Region. It took note of the request of the Egyptian Delegation for 10 tons of fenitrothion 50% ULV, 4 tons of dieldrin 20% ULV, 10 radio sets, 10 power dusters and 1 Land Rover Station Wagon. It also took note of the request of the Syrian Delegation for 6 radio sets.

Consideration of the Report of the Executive Committee

48. The Commission considered and approved the Report of the Eighth Session of the Executive Committee (Appendix III). The Commission recorded its approval specifically for the following items:

(i) The Programme of Work and Budget for 1979

(ii) The Consolidated Statement of Accounts for 1977

(iii) Training and Fellowship Programme

49. The Commission, whilst appreciating the research work carried out in the Region, recommended that more consideration should be given to research of applied nature.

50. The Commission reviewed the payments of contributions by Member Countries and requested those who were in arrears to pay their contributions as soon as possible. The Commission requested the FAO Regional Locust Officer to follow up and contact Governments in this respect.

51. The Commission appreciated the work done by FAO through its Regional Locust Office and the Locust Officer in the Yemen Arab Republic. The Commission felt that the present locust situation has burdened them with more responsibilities and duties.

52. The Commission took note of the need to strenghen the FAO Regional Locust Office in Jeddah with an administration officer and some locust officers to assist in survey and control wherever and whenever needed in the Arabian Peninsula during periods of infestation.

53. The Commission took note that the present compound occupied by the FAO Regional Locust Office in Jeddah had to be vacated by the end of 1978 at the request of the proprietor. A new compound has to be rented and the Commission requested FAO to meet the necessary expenses from available resources.

54. Recognizing the importance of aerial survey and control, the Commission recommended the setting up of a self-contained aerial unit of at least three aircraft in the Arabian Peninsula, and requested FAO to assist in its establishment.

55. The Commission recognized that a programme of assistance for a period of two years was urgently needed in the following fields: establishment of an aerial unit, erection of hangars, supply of equipment and insecticides, recruitment of field officers and training (Appendix II). The Commission requested FAO to approach the Near East Cooperative Programme to sponsor this proposed project.

Election of the Executive Committee and of its Chairman and Vice-Chairman

56. The Commission elected the following countries as members of the Executive Committee: Egypt, Iraq, Kuwait, Saudi Arabia and the United Arab Emirates.

57. The Commission unanimously elected Iraq and Saudi Arabia as Chairman and Vice-Chairman, respectively, of the Executive Committee for the year 1978-1979 (until the next regular Session of the Commission).

DATE AND PLACE OF THE NEXT SESSION

58. The Commission expressed its wish to hold the next Session in the United Arab Emirates. The Delegate from the United Arab Emirates promised to convey this wish to his Government for consideration. The Commission requested the Director-General of FAO to convene its Tenth Session in consultation with the host government.

APPENDIX I

CONTROL POTENTIAL - NEAR EAST

	U.A.E.	Egypt	Kuwait
INSECTICIDES (tonnes)			
Dieldrin 18-20%	5 (20% ULV)	0.5	13
Fenitrothion ULV 96%	-	-	-
Malathion ULV 96%	3 (57% ULV)	-	-
BHC 10% dust	3	202	69 (20%)
BHC solution	-	0.5	46 (50% W.P)
Bait	-	590	15
Others: Malathion Ec.	3	6.9	-
EQUIPMENT			
Exhaust nozzle sprayers	15	5	-
Dusters: power/hand	-	18	7
Sprayers: power	10	-	32
hand	-	159	22
VEHICLES			
Light	10	78	6
Heavy	15	11	18
AIRCRAFT			
Fixed Wing	2	-	-
Helicopters	-	-	-
STAFF			
Technical	4	50	33
General	15	236	10

Old stock from 1955

CONTROL POTENTIAL - NEAR EAST (2)

	Saudi Arabia	Yemen AR	PDR Yemen	Oman
INSECTICIDES (tonnes)				
Dieldrin 18-20%	300 (20% ULV)	28	13	2.5
Fenitrothion ULV 96%	-	5	-	-
Malathion ULV 96%	280	-	-	3
BHC dust 10%	400	175	70	17
BHC solution	-	-	-	-
Bait	50	-	18.5	-
Others	-	70 (Dimeth-oate)	-	-
EQUIPMENT				
Exhaust nozzle sprayers	30	35	22	2
Dusters: power	147	-	3	-
hand	-	136	149	-
Sprayers: power	-	133	-	50
hand	-	-	-	25
VEHICLES				
Light	39	18	7	6
Heavy	6	-	1	4
AIRCRAFT				
Fixed wing	-	-	-	-
Helicopters	-	-	-	1 being purchased
STAFF				
Technical	10	4	5	12
General	80	3	26	160

CONTROL POTENTIAL - NEAR EAST (3)

	Bahrain	Iraq	Jordan	Lebanon
INSECTICIDES (tonnes)				
Dieldrin 18-20%	-	-	-	-
Fenitrothion ULV 96%	-	-	-	-
Malathion ULV 96%	8	10	-	-
BHC dust 10%	-	100	-	12
BHC solution	-	-	-	-
Bait	-	100	-	-
Others	-	DDVP/ULV 10	-	5
EQUIPMENT				
Exhaust nozzle sprayers	-	40	2	-
Dusters: power	-	-	2	-
hand	2	-	40	-
Sprayers: power	-	50	10	-
hand	31	120	-	140
VEHICLES				
Light	4	46	8	-
Heavy		4		5
AIRCRAFT				
Fixed wing	-	4 - 10	-	-
Helicopters	-		-	1
STAFF				
Technical	-	20	-	22
General	16	50	50	20

CONTROL POTENTIAL - NEAR EAST (4)

	Qatar	Syria	Turkey
INSECTICIDES (tonnes)			
Dieldrin 18-20%	0.4	4.2	-
Fenitrothion ULV 96%	-	-	-
Malathion ULV 96%	-	-	-
BHC dust 10% (Cotton dust)	-	400	-
BHC solution	-	9.5	
Bait	-	-	-
Others: 1. Aldrin	-	5	-
2. DDVP	-	2.5	-
EQUIPMENT			
Exhaust nozzle sprayers	-	13	-
Dusters: power	-	204	-
hand	-	230	-
Sprayers: power	-	256	-
hand	-	-	-
VEHICLES			
Light	-	-	-
Heavy	1	-	-
AIRCRAFT			
Fixed wing	-	8	-
Helicopters	-	-	-
STAFF			
Technical	-	-	-
General	2	-	-

Number and Type of Radio Sets in each country (as at 30.5.78)

Countries		RCA 150	RCA 5A	PYE 125	PYE 125T	PYE 130	TRT	Thompson CSF (various)	Others
Afghanistan					5				
Algeria							44	4	1
Chad	(OCLALAV)							14	
Benin									
Egypt				12		4			
Ethiopia									
India			13						
Iran									
Iraq									
Jordan				5					
Libya				1		15			
Mali	(OICMA)					14		18	
Mali	(OCLALAV)							15	
Mauritania	(M. of Agr.)			7	3	6			
Mauritania	(OCLALAV)								
Morocco		3	11						
Niger	(OCLALAV)		9	8	1			6	
Oman						5			
Pakistan				7		16			
Qatar						3			
Saudi Arabia									
Senegal	(OCLALAV)							34	
Somalia				17		22			1
Sudan				12		13			19
Syria				9					
Tunisia				3	2	4			2
Yemen (Sana'a)				5	6				
Yemen (P.D.R.)				2	4	8			
		3	38	88	21	110	44	91	23 = 418

Complete except for DLCO-EA.

All RCA and PYE 125 sets need to be replaced, with the exception of those in Niger, i.e. 132 sets.

APPENDIX II

ASSISTANCE REQUESTED BY THE COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

			US$	US$
1.	Staff Officer - Eastern Peninsula Office, 2 years		120,000	
	Field officers 24 m		240,000	360,000
2.	Training leading to degrees, 120 m.		40,000	
	Group training courses (2)		50,000	
	Exchange visits		10,000	100,000
3.	Pesticides	50 tons Dieldrin	175,000	
	General reserve	50 tons Fenitrothion	375,000	
		500 tons BHC	150,000	700,000
4.	Vehicles	25 light	300,000	
		10 trucks	280,000	580,000
5.	Spraying equipment	50	50,000	50,000
6.	Radios	20	70,000	
	Telex	1	30,000	100,000
7.	Hangars	5	750,000	750,000
8.	Aerial Unit - 2 aircraft and spare parts and spraying equipment		300,000	
	Ground support (vehicles, fuelling)		200,000	
	Hangars and maintenance equipment		100,000	600,000
				US$ 3,240,000