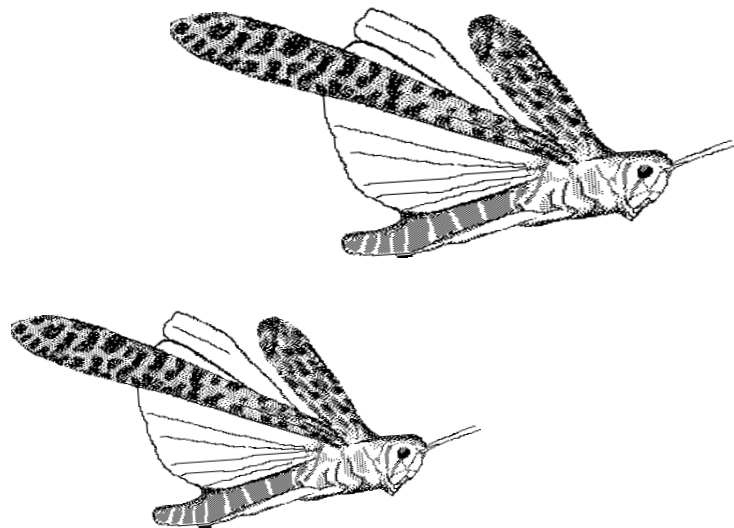


# Desert Locust Joint Survey in the Spring Breeding Areas of the I.R. Iran and Pakistan

April 2001



FOOD AND AGRICULTURE ORGANIZATION  
OF THE UNITED NATIONS

Rome, 2001



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OF THE UNITED NATIONS**

**Rome, May 2001**

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## Contents

<i>Acknowledgements</i> .....	<i>iv</i>
Summary of findings .....	1
Recommendations .....	3
Introduction .....	5
Work details .....	5
Discussion .....	6
A. Northern Baluchistan .....	7
B. Central Baluchistan .....	7
C. Southern Baluchistan .....	7
Appendix 1. Survey participants .....	11
Appendix 2. Itinerary and distance .....	13
Appendix 3. Survey results .....	15
Appendix 4. Rainfall data .....	35
Appendix 5. Meteorological observations (I.R. Iran) .....	45
Appendix 6. Meteorological observations (Pakistan) .....	47
Appendix 7. Itinerary for 2002 .....	49
Appendix 8. Survey photos .....	51

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## Summary of findings

1. A joint survey of the desert areas of the south-eastern I.R. Iran and Baluchistan of Pakistan was carried out from 1 to 30 April 2001 for the seventh consecutive year. This year the survey team traveled a distance of 9304 Km.
2. The first part of the survey was undertaken in I.R. Iran for 15 days. The same number of days were spent for the second part of the survey in Pakistan.
3. As visas for Pakistani's participants were not issued until last day, the Plant Protection Department in Pakistan expected that the survey start would be delayed by one or two days. Fortunately with the good cooperation of the Foreign Ministry of I.R. Iran, the survey started on time.
4. Two experts from I.R. Iran and two from Pakistan accompanied by one maintenance assistant from each country participated in the joint survey. They were provided with four well equipped vehicles with drivers in each country.
5. Based on the recommendations of the 22nd Session of the FAO Commission for Controlling the Desert Locust in South-West Asia, a short training course was undertaken before the survey for Pakistani participants and during the first part of the survey for the Iranian participants. During the survey in I.R. Iran, the Iranian trainer who had previous joint survey experience reviewed the data collected during the survey to make sure that there were no errors in the coordinates, dates or observations.
6. The survey and the short training course costs were borne by FAO.
7. In some cases, local experts, inhabitants and shephareds helped the team to identify potential locust breeding areas that had been previously infested.
8. In order to streamline the preparation of the final report and submit it on time to FAO, the Team Leaders discussed the survey results at the end of each day and the final report was gradually prepared from the first night onwards.
9. The survey was carried out by forming two teams, comprising of one expert from Pakistan and the other from I.R. Iran. More areas were covered using this method of organizing surveys.
10. For the first time, the survey team made a circle around Jaz Murian plain to properly assess the Desert Locust situation in this important basin.

11. At the end of the survey in I.R. Iran and in Pakistan, the survey team met with Mr. Farid, Director of Sistan & Baluchistan Agricultural Organization in Zahedan, and Mr. Zafar Ali, Director (Technical) for Plant Protection Adviser and Director General in Karachi, respectively, to discuss the programme and results of the survey. The survey team explained the current Desert Locust situation to Mr. Farid and Mr. Zafar Ali.
12. **Locust Situation:** No locust swarms nor any gregarious/solitary breeding were observed from 1<sup>st</sup> to 30<sup>th</sup> April in I.R. Iran and Pakistan.
13. **Vegetation:** Drought conditions prevailed in all potential breeding areas of both countries due to no rainfall received thereafter.
14. **Results:** The locust situation in both countries was generally calm due to little rainfall. No locusts were seen during 30 days in Baluchistan of both countries.

## **Recommendations**

1. The Desert Locust Joint Survey in the Spring Breeding Areas in the I.R. Iran and Pakistan should be undertaken next year and cover more areas. A new survey route in I.R. Iran has been proposed by the joint survey team for the next survey in 2002 (see Appendix 7). In this itinerary, most of the coastal strip of southern I.R. Iran should be surveyed.
2. The 2002 Joint Survey of I.R. Iran and Pakistan should start on 1 April as it did this year. To achieve this objective, FAO HQ should send necessary authorizations to its Representatives no later than 31 January 2002. In this way, Plant Protection authorities in the two countries will have sufficient time to get the necessary clearances.
3. It is recommended that the I.R. Iran survey team should have three locust officers instead of two and one maintenance assistant. This will improve the technical competence of the team. The financial implications of this proposal are thought to be minor.
4. It is recommended that as the training courses offered to both teams in this year were sufficient and effective for improved survey operations, these type of courses should be undertaken every year prior to the beginning of the joint survey.
5. It is recommended by the I.R. Iranian team that nominated locust officers of both countries should not be changed as was done by Pakistan this year because the new locust officer will be familiar with only one half of the survey (e.g. I.R. Iran) and he will not be able to compare what was seen during the other half of the survey (e.g. Pakistan). This is counterproductive and against the objective of the joint survey.
6. It is recommended that border meetings between locust officers of the two countries should be undertaken during the winter-spring breeding season every month. The Plant Protection Organization in I.R. Iran should take the necessary actions to get clearance from its Government.
7. Based on recommendations of the 22nd Session of the FAO Commission for Controlling the Desert Locust in South-West Asia, the provision of medical insurance for the joint survey participants should be investigated by FAO HQ.



8. It is recommended that Iranian's vehicles should have HF radio equipment to communicate with each other. As there are two survey groups, it is desirable that these groups have communication with each other, especially in the remote areas visited by the joint survey team. This would facilitate better organization and implementation of each day's survey.
9. It is recommended that the 2002 Joint Survey start in Pakistan because of the weather conditions. Rapidly increasing temperatures during the period of the survey make it more difficult to survey in western Pakistan.
10. It is recommended that the survey team have about 10 days off between the two parts to rest and have enough energy for second part of the survey (Appendix 7).
11. Although not specifically related to the joint survey, it is recommended that whenever the Plant Protection Department in Pakistan organizes control operations with Ulvamast vehicle-mounted equipment and uses new methods for controlling locust, locust officers from the Plant Protection Organization in I.R. Iran should be invited to exchange their experiences. These activities could be sponsored by FAO or the Commission.

**Desert Locust Joint Survey in the Spring Breeding Areas  
of the I.R. Iran and Pakistan  
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**Introduction**

This is the seventh of the joint surveys recommended by Nineteenth Session of the Commission for Controlling the Desert Locust in the Eastern Region of its Distribution Area in Southwest Asia in 1994.

After seven years of using recommendations of previous survey teams, the annual joint survey has improved year by year. Usefulness of the survey in view of its results and early warning by the team is quite tangible. The results of the joint survey can help both countries as well as other countries in the region to plan better survey and control operations, leading to pesticide use reduction and reduced damage to agricultural crops.

As the weather and conditions were dry in the spring breeding areas of the two countries for the past three years, the survey team decided to have more stops. In this way, the survey team could observe more areas such as Jaz Murian in I.R. Iran.

Both sides of Baluchistan are quite alike in terms of topography, vegetation and soil texture. They end in the Gulf of Oman and the Arabian Sea on the south. The coastal strip is the most important part of the spring breeding area of the Desert Locust. The two big deserts of Jaz Murian in I.R. Iran and Baluchistan in Pakistan contain a large proportion of the spring breeding area of I.R. Iran and Pakistan.

**Work details**

The survey team consisted of four locust experts, two each from I.R. Iran and from Pakistan. A maintenance assistant and four drivers with vehicles from each country accompanied the survey team (Appendix 1).

The survey team stayed in government-owned rest houses in I.R. Iran and, at times, in Pakistan.

The vehicles provided by both countries were in good condition.

The Pakistani team crossed the Mirjaveh border point on 1 April and joined the team from I.R. Iran. The survey team visited various areas in the south and southeast of I.R. Iran until 15 April and then entered Pakistan at the Taftan border point on the same day after 15 days of survey in I.R. Iran. The team from I. R. Iran returned to their country on 30 April after spending 15 days for survey in Pakistan (Appendix 2).

Using the survey method recommended by FAO, the team recorded rainfall, vegetation and locust data on the forms provided by FAO during the survey. The team made stops in areas with green vegetation and sandy soil texture and, after walking a distance of 250-1000 m, recorded the developmental phase and behavior of the locust observed, type and density of vegetation, and soil type and moisture on the relevant forms (Appendix 3).

During the survey of this year, the team was tentatively divided into two groups, each consisting of an Iranian and a Pakistani expert. This enabled the team to visit more areas and collect data (Appendices 4-6) and take photos (Appendix 8).

## **Discussion**

Baluchistan may be divided geographically as follows (Fig. 1):

- a) The northern region with mountain chains that have in between them vast plains with clay-loamy soil covered with a thin layer of sand.
- b) The central region that has large valleys with loamy soil. Many seasonal streams pass through these valleys. Dates and wheat are grown in this region.
- c) The southern region of coastal areas along the Gulf of Oman and the Arabian Sea. This coastal strip with sand and year-round humidity has the highest potential for Desert Locust activities. Various tropical fruits are grown in this region.

### ***A. Northern Baluchistan***

The Taftan mountain chain in I.R. Iran and Raskuh in Pakistan separate the northern and central regions. Large plains in this region extend from Zahedan in I.R. Iran to Nushki in Pakistan. Except for the irrigated wheat fields seen on the way, vegetation in the region was dry due to insufficient rainfall. Generally, Nushki is the only area of significance with respect to Desert Locust. It is not likely to have big locust populations this year due to a lack of rainfall (Fig. 2).

### ***B. Central Baluchistan***

This region is delimited by the Taftan Mountains and Raskuh Mountains to the north. In this region, the Khoran and Rakhshan Valleys in Pakistan are known for their Desert Locust egg laying potential. Vegetation in central Baluchistan of Pakistan was meager due to little rainfall. No locust populations were observed. For the first time, the survey team made a circle around the Jaz Murian area.

### ***C. Southern Baluchistan***

The coastal plains in southern Baluchistan extend from Jask in I.R. Iran to Pasni in Pakistan. These plains are best for egg laying in both parts of Baluchistan. In the Shooli area in Pakistan, with the highest egg laying potential, vegetation was seen dry. Vegetation in Baluchistan of both countries was dry.

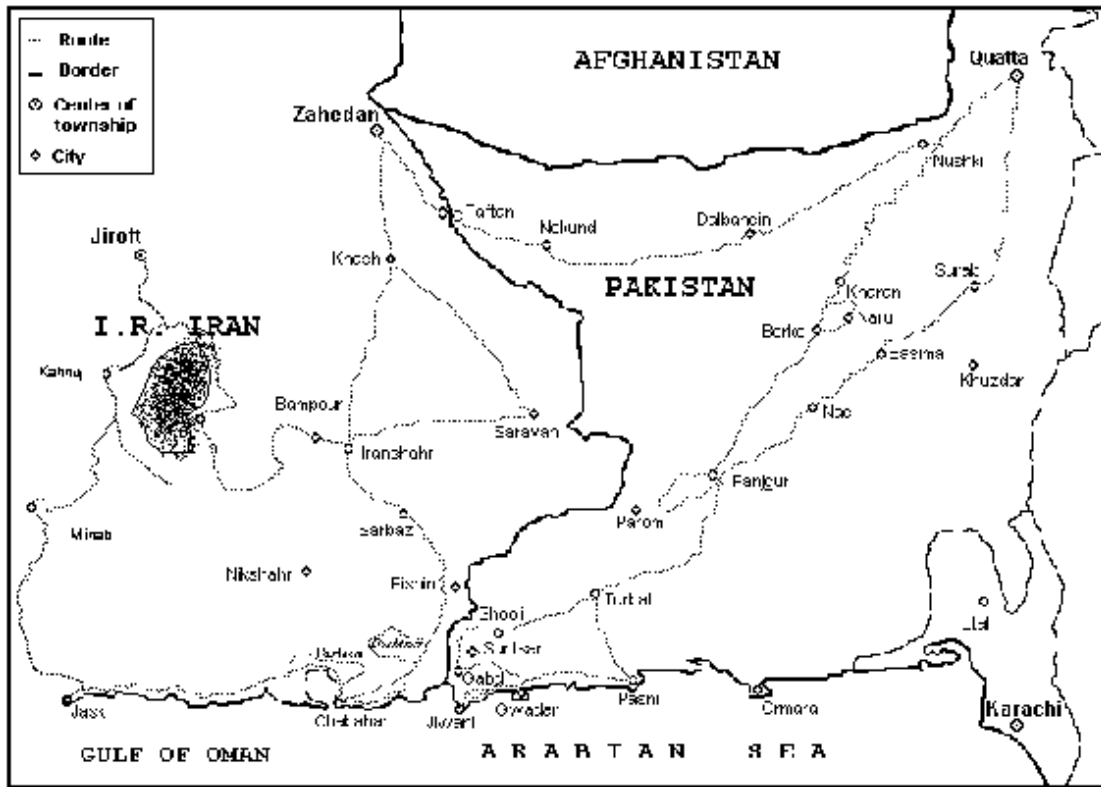


Figure 1. Map of area surveyed during the 2001 Joint Survey.

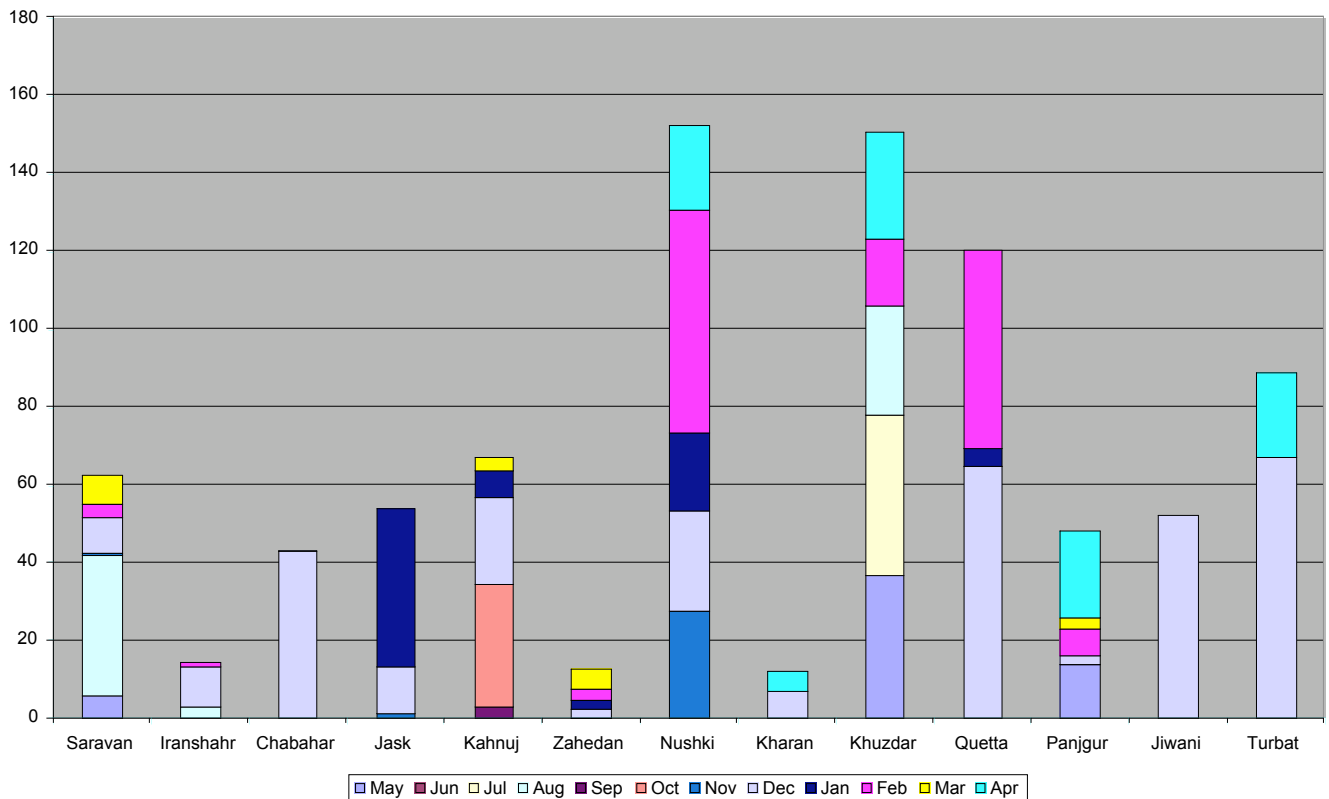


Figure 2. Rainfall data for May 2000 – April 2001 for some key stations in the spring breeding areas of I.R. Iran and Pakistan.