

REPORT

Rome,
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25-28 June
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Desert Locust Technical Group

Fifth session



Food
and
Agriculture
Organization
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**Report of the fifth session of the
DESERT LOCUST TECHNICAL GROUP**

Rome, Italy

25-28 June 1996

**Plant Production and Protection Division
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome 1996**

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1. INTRODUCTION

The Fifth Session of the Desert Locust Technical Group is the regular annual meeting of the Group for 1996. As now established the Group comprises members both of locust-affected countries and donors, together with observers and FAO staff.

The Session was opened by Mr N. van der Graaff in his capacity as Acting Director of the Plant Production and Protection Division, AGP. He welcomed the participants and reminded the participants of their Terms of Reference:

1. study and report to the FAO Desert Locust Control Committee on all technical and scientific matters pertaining to the control of the Desert Locust;
2. report and advise on specific issues referred to the Technical Group by the DLCC;
3. oversee and follow-up recommendations of the DLCC;
4. advise the Secretariat on the agenda for future meetings of the DLCC

A List of the persons who attended the meeting appears as Appendix I. An apology was received from Mr E.M. Karrar, who was unable to participate at the session.

2. ADOPTION OF THE AGENDA

The following agenda was adopted:

1. Opening
2. Adoption of the agenda
3. Election of Chairman and Vice-Chairman
4. Information
 - (a) Review of reporting and Implementation of improved communication systems
 - (b) Review of usefulness of remote sensing
 - (c) Desert Locust Situation
 - (d) Desert Locust Surveys (Expert Consultation : Oman)
 - (e) The efficiency of Desert Locust control campaigns
5. Report on status of EMPRES
 - (a) Status of economic studies
 - (b) Desert Locust research under EMPRES
 - (c) Status of the EMPRES programme prepared for the Central Region including related projects
 - (d) Extension of EMPRES to other regions
6. Status of recommendations made by 33rd Session of the DLCC
7. Agenda for 34th Session of the DLCC
8. Environmental aspects Desert Locust Control
9. Any other Business

Copies of the papers presented are available from FAO, on request.

3. ELECTION OF THE CHAIRMAN AND VICE-CHAIRMAN

Ms Jane Rosenberg was elected as Chairman of the Session and Mr A. El-Gammal as Vice-Chairman. A Drafting Committee, consisting of Mr El-Gammal, Mr L. Bonneau, Mr B. Chara and Mr C. Elliott was formed.

4. INFORMATION

4 (a) Review of Reporting and Implementation of Improved Communication Systems

The FAO Secretariat presented a review of the reporting of Desert Locust information from the field to FAO Headquarters. Reporting was analysed according to periodicity, timeliness and quality, as achieved during 1995 by the different locust-affected countries and by the Desert Locust Control Organization for Eastern Africa (DLCO-EA). The Secretariat stressed that the purpose of the paper was not to criticise individual countries or organizations, but to identify areas where improvements would be made. It was noted that by 'quality', it was meant the suitability of reports for forecasting purposes by FAO Headquarters. It was also emphasised that there were many different reasons why reports might not be produced regularly, quickly, or be of high quality.

In the discussions that followed, these different reasons were expanded upon but it was agreed that generally there was a strong correlation between the quality of reports supplied and the resources available to the supplier. The Secretariat said that there should be no dispute about the parameters by which quality was assessed, as this had been based on the data contained in the Desert Locust Survey Form as approved by the DLCC. However, it was pointed out that the quality of the reports depended in turn on the quality of surveys. It was agreed that this was a separate question which should be examined as its own Agenda item. The consensus of the meeting was that there had definitely been an improvement in quality of Desert Locust reporting over the last five or ten years. The Group agreed that the incoming reports had not been analysed in sufficient detail to identify fully the reasons for their shortcomings. Such an analysis should be done in order to provide suitably pragmatic proposals for consideration at future Technical Group meetings. It was further noted that there was a seasonality element affecting the likelihood of locust activity at certain times of the year and that at other times of the year such activity was most unlikely. This should be taken into account in evaluating the periodicity and timeliness of reports.

The Secretariat also presented data on the expansion of e-mail contacts in locust-affected countries and underlined the improvements that would result as more Plant Protection Departments had this facility.

In conclusion, the following **RECOMMENDATIONS** were made:

- that efforts should be continued to improve the resources available to locust affected countries to enable them to collect the required locust survey information.
- that the Secretariat's study should be expanded to cover at least 1993 and 1994 (so that improvements in reporting over time could be more easily assessed), and to examine in greater detail the elements used to judge the quality of reports. During recognized seasons for locust activities, reports on the presence or absence of locust activity should be obligatory. The expanded study should be presented to the next DLCC meeting;
- that the e-mail system should be built up in the Western and Eastern Region and in Southwest Asia to facilitate communication of locust information;
- that there should be further studies of the way in which locust information could be exchanged between locust-affected countries and the functions such exchanges could serve;
- that EMPRES resources should be used also to strengthen the internal communications systems of locust-affected countries;
- that the process of training personnel in locust-affected countries in the collection of high quality data, the utilisation of standard forms and the transmission of the information to National, Regional and to the FAO Forecasting Unit should be continued as a priority activity.

4 (b) Review of Usefulness of Remote Sensing

The review briefly covered the 20-year history of remote-sensing. Funding had generally been limited and during that period, experience had shown that low-resolution NOAA imagery had potential for locust habitat monitoring. Since November 1995, a Belgian funded FAO project, working in close collaboration with the Natural Resources Institute (NRI), under ODA/UK support, is developing operational methods to correct and calibrate NOAA satellite data to monitor Desert Locust habitats in Eritrea as a pilot study. This is expected to improve the early identification of potential "dangerous" areas for locust population build-ups.

It was clarified that ground-truthing was an essential element of the approach, as evidenced by the 3-month field study recently completed. Pure remote sensing data, being only a small part of the total information needed, is only a part of the efforts of the joint study in Eritrea which seek to provide a locust data management and monitoring system, allowing the best use of limited survey and control resources. The work in Eritrea had reached the cross-over point between research and application. Some criticism was expressed to the effect that the greening-up of vegetation, as detected by calibrated remote sensing, had only a limited correlation with Desert Locust gregarization, but it was agreed that knowledge of greening-up against a background of information on vegetation preferred by locusts and other environmental parameters, would be of great help in guiding surveys. Furthermore, it was noted that the techniques had not yet reached the point at which they could be of practical use.

In conclusion, it was **RECOMMENDED** that the use of remote sensing in locust habitat monitoring should be continued as a complementary activity to EMPRES, pending its development as a practical and cost effective aid, and that it should not be part of the core activities.

4(c) Desert Locust Situation

In the Western Region, extensive breeding was reported within a large area of central Algeria where control operations are currently being carried out. Several swarms continued to move south in Mauritania during the second half of May reaching the extreme south-east. Scattered adults were present along the Malian border during the first half of June. Scattered adults were present in early June in northern Mali and gregarious infestations were reported at a few places in northern Niger. Due to the difficulty of finding and treating all infestations in Algeria, moderate numbers of new swarms are expected to form from mid June onwards and move towards the summer breeding areas of the Sahel where they will start laying in July.

In the Central Region, no significant locust infestations have been reported. Heavy rains associated with a cyclone in mid June fell in the interior of Yemen and southern Saudi Arabia.

In the Eastern Region, control operations are in progress in south-eastern Iran and western Pakistan against late instar hoppers and new adults that were becoming gregarious. Groups and a few small swarms are expected to continue to form and move towards the Indo-Pakistan summer breeding area where conditions are improving in Rajasthan as a result of recent heavy rainfall associated with a cyclone.

It was concluded that there could be considerable summer breeding this year in the Sahel of West Africa, possibly in Western Sudan, and to a lesser extent along the Indo-Pakistan border. Countries should be preparing themselves for potential moderate scale survey and control operations.

Following discussion of the situation and of the obligation of each country with significant locust populations to control those populations to the best of their ability, the following **RECOMMENDATIONS** were agreed upon:

- that, given the considerable potential for summer breeding of Desert Locusts, a high level of vigilance should be maintained by locust-affected countries;

- that FAO should fulfil its mandated coordination role by preparing immediately a short-term Action Plan to respond to the possible needs of the locust affected countries during the summer-breeding season, and a longer -term plan, the latter to be presented to the next DLCC meeting;
- that FAO should be responsible for coordinating individual requests for assistance from locust-affected countries, the same request often being made to several different donors.

4 (d) Desert Locust Surveys (Expert Consultation : Oman)

A brief summary was made of the main recommendations of the Experts' Consultation, held in December 1995, Oman. The importance of survey of the winter-breeding area of the Central Region had been emphasised, as this was a critical element of the upsurge limitation strategy in the Region. The need for surveys not to stop when the first infestation was found, but to delimit the extent of infestations was stressed. The need for Operational Research on survey methodologies to determine their success in finding infestations was underlined as an important activity of EMPRES. The use of GPS and e-mail as standard technologies for surveying and survey reporting was mentioned. The Consultation also recommended the updating of Survey Guidelines, including a full section on aerial surveying. As an addendum, it was mentioned that surveying should in principle also incorporate damage assessments and a methodology for estimating Desert Locust crop damage.

In the discussions that followed, it was suggested that further Workshops on improving surveys should be considered, covering initially the approaches used in Western Africa and later involving the standardisation of methodologies throughout Desert Locust range. The importance of the cost-effectiveness of different types of surveying should be examined. It was noted that while in the Central Region, surveys of winter-breeding areas was of special strategic value, surveys of summer-breeding areas were also important for locust control.

It was RECOMMENDED :

- that further Workshops on Desert Locust surveying procedures and methods should be arranged by FAO, to be funded from the DLCC resources.

4(e) The Efficiency of Desert Locust Control Campaigns

The Secretariat pointed out that this question was being examined from the point of view of information, i.e. the collection of information against which efficiency could be assessed. FAO's official Guidelines offered little advice on what data needed to be collected, nor how to evaluate it. As a result a new Guidelines on Campaign Evaluation had been commissioned and the draft had been circulated to the Technical Group for comment. It was also necessary to decide at what level of detail information on control operations should be collected, since these varied from brief (the Survey Form), to adequate (the Control Report Form), to ideal (as per the new draft Guidelines). A number of possible improvements in information collection were proposed.

The Technical Group endorsed the proposed updating of the Guidelines on Control and the preparation of the new Guidelines on Campaign Evaluation. The development of a role for the EMPRES Liaison Officers in supervising the data collection, with appropriate support from the Regional Commissions, was also endorsed. It was noted that the development of improved simple/reliable kill assessment methods were part of the project proposed to be funded by Norway. In discussions on the extra resources needed to support teams estimating kill and the efficiency of individual operations, it was mentioned that one donor intended to earmark about 10% of all its emergency contributions for this purpose. It was further suggested that external evaluations of the different aspects of campaigns, remained an important component of the efforts to improve efficiency. The Group recognised that assessing efficiency of campaigns (macro-evaluation) was based in part on the assessment of individual operations

(micro-evaluation) and that successful individual operations did not necessarily lead to successful campaigns.

It was **RECOMMENDED** that:

- all locust affected countries and donors should recognise the importance of evaluating locust control at both the micro and macro levels;
- that donors, including FAO through its TCP programme, should consider allocating a certain proportion of their budgets to supporting field teams collecting data on the efficiency of Desert Locust control operations and campaigns.

5. REPORT ON STATUS OF EMPRES

The Secretariat presented an overview of the EMPRES Programme, the concept, the formulation process and the current position on donor contributions. In addition to those listed, the potential interest of the European Union, the likely contribution of the North-West African countries to an EMPRES programme in the Western Region, and IFAD's positive indications were mentioned.

In the clarifications which followed, it was pointed out that the Central Region programme has been started in the form of Pilot Projects and that these will merge into the full programme when it starts. Sweden mentioned that it had traditionally supported only emergency operations and was still considering its position on EMPRES. It was hoped that a decision would be taken by the end of the year. It was also noted that though reference was made to the weak capacity for survey and control in locust-affected countries, this referred only to certain key countries. Others were acknowledged as having efficient teams which performed effectively.

5(a) Status of Economic Studies

These studies on the economics of Desert Locust control were being coordinated under the EMPRES Programme. The Lead Investigator presented the progress achieved so far. Economic studies were needed in order to be able to justify long-term financial commitments to improving Desert Locust management. Little information existed on the economic returns achieved, the costs/benefits distribution amongst stakeholders, and whether complementing (non-control based) risk management options were viable or not. Basic questions to be addressed included the scale and distribution of economic returns and how these were affected by different technical/institutional capacities and strategies; the use of these data to develop policy options according to economic pay-off; how fairly to spread the risks and costs associated with Desert Locusts within and between affected countries and donors.

Results so far recognized the need for short and medium-term approaches, but the value of studies would ultimately contribute most if they succeeded in integrating economic dimensions into Desert Locust policy and decision-making.

In the discussions, one of the points stressed was the need to include sociological costs into the economic studies, as there was often more to locust damage than simply reduced crop production. It was also suggested that environmental costs be included in the equation. The investigator said risk analysis incorporates social aspects and that severe social consequences can be evaluated in many different ways. The effect of locust control on other agricultural/crop protection activities needed to be looked at. Sometimes resources might be deviated away from such activities for locust control, with adverse results on the neglected sector. It was pointed out that while insurance schemes might not be a practical means of counteracting locust problems, they had never been fully investigated. The study aimed to do this. It was of course totally out of the question that a locust upsurge would be left uncontrolled in order to measure resultant agricultural damage.

In conclusion, the Group **RECOMMENDED** that:

- both short-term and longer-term economic studies are needed and should fully take into account sociological, environmental effects as well as crop damage effects of locust upsurges.

5(b) Desert Locust Research Under EMPRES

The FAO Secretariat gave a brief description of ongoing and planned research activities. The Belgian-funded EMPRES project on remote-sensing had already been described. Protocols for studies on IGRs and mycopesticides had been prepared for the Central Region but had been postponed for lack of suitable targets. Following the IFAD-hosted research meeting, a research network linked to EMPRES had been proposed and was still under discussion. The proposed Netherlands contribution to EMPRES includes research elements on strategy evaluation and this was considered as fitting into the framework of the Central Region document. The Norwegian project would look at pesticide applications, dosages and the methodology for evaluation. It was agreed that some elements could be more precisely described as research, while others amounted more to operational testing.

FAO had recently initiated a collaborative effort with the Central Region Commission to build up research activities on locusts using institutions/universities existing within the Region. Research proposals on important aspects of Desert Locust management would be submitted for funding to the Commission, to EMPRES and to donors. There was some discussion on whether FAO should support/carry out research directly or only coordinate it. It was agreed that FAO could support/carry out applied research as and when donor funds were channelled through it for this purpose, as was the case for the LOCUSTOX project. Generally, however, its role was to stimulate, encourage, and coordinate research on Desert Locust where this was likely to have a practical outcome.

In conclusion, it was **RECOMMENDED** that:

- the efforts being made by FAO/EMPRES and the Central Region Commission jointly to coordinate a research programme with the institutions and universities in the Region should be continued;
- FAO/EMPRES should continue to coordinate and stimulate research and research stations involved in the Desert Locust.

5(c) Status of the EMPRES Programme Prepared for the Central Region including related projects

The FAO Secretariat reported on progress in implementing the three pilot projects in the Central Region, on early warning, early reaction and research. The staffing situation was also mentioned, including the appointment and regular meetings of the EMPRES Liaison Officers, the progress of the selection procedures for two National Professional Officers and the Project Coordinator which were nearing completion. Field activities covered support of survey operations, improvements in communications, and the provision of vehicles. A contingency planning exercise prior to the winter-breeding period had been carried out in three countries. Although these plans were not used because no locust upsurges developed, they will be valuable in the future.

In commenting on the reported progress, it was noted that it was important to extend the coordination of research through the Central Region Commission and to include also training. The Commission had prepared a project document aimed at strengthening locust management capacities through training in the Region in the short, medium and long term. The Secretariat reminded the Group that FAO's capacity as a donor was minor in respect to training, while its role as a coordinator was of major importance. The Commission should seek support for the training programme from within the Region and expect only small contributions from EMPRES.

The Group agreed on the following **RECOMMENDATIONS**:

- that the collaboration between EMPRES and the Central Region Commission on training and meteorology network be strengthened with a view to making joint efforts towards the achievement of EMPRES objectives;
- that consideration be given to organizing a Workshop on locust training towards greater standardisation, increased sustainability and improved coordination.

5 (d) Extension of EMPRES to other Regions

The FAO Secretariat presented a paper which outlined the main elements of the proposed extension of the EMPRES Programme to the Western Region. The elements of the Western Region document would be very similar to that of the Central Region, emphasising the strengthening of national capacities for survey and control, improving surveys, early warning, and information exchange, developing the ability to react more quickly to locust upsurges, and encouraging research and training.

It was agreed that since the EMPRES (Desert Locust) Programme covered the whole range of the species, the formulation exercise in the Western Region was more the development of a document for that Region, rather than strictly an extension of EMPRES. The efforts being made were directly in response to the request made by FAO's member countries at the last FAO Conference. Some views were expressed that the development of a second document to that already existing for the Central Region, might dilute donor resources so that neither was fully and properly funded. The consensus response was that in general the major funding expected for the two programmes came from different donors. Group members from the Western Region warmly welcomed the initiation of a document for their Region. Contrasting views were expressed about the proposed staffing for the Region. On the one hand, it was felt that staff costs should be kept down, using more resources on strengthening survey and control teams. On the other hand, the number of staff were considered perhaps to be too few to generate progress in such a vast and complex area. The conclusion was that staff components should be kept to their present modest levels, but could be reviewed at a later date as the needs became clearer.

Another view was expressed that FAO's major role in the Western Region should be as overall coordinator with a specific duty in improving information exchange, rather than as a project implementor. It was explained that FAO's role was in part dependent on the reaction of donors, whereby some might wish to channel funds through FAO, while others would prefer to work bilaterally but with FAO involved in coordination. The feeling of several donors present was that FAO should always be fully informed of bilateral programmes from an early stage of their development and that, if necessary, a formal arrangement to this effect should be put in place. Another point that was raised was the part played by OCLALAV in EMPRES Western Region and it was agreed that this problem should be addressed by FAO/EMPRES and OCLALAV as the formulation procedure continues.

It was noted that the European Union is supporting similar developments in the Western Region to those envisaged under EMPRES and an effort should be made by FAO and EU to coordinate the process. France had initiated a Trust Fund project with FAO to assist with the formulation process.

In conclusion, the Group made the following **RECOMMENDATIONS**:

- that FAO should continue the development of a Western Region EMPRES document, should finalize it as soon as possible and receive full support in this endeavour from locust-affected countries, regional organizations and donors. As the elements of the Western Region programme become clearer, the locust-affected countries and FAO should begin working towards creating mechanisms for constructive communication and coordination between the Central and Western Region programmes.

- that FAO and other interested parties should examine both CLCPANO and OCLALAV in respect of their current viabilities, capabilities and potential for contributing towards the goals and objectives of the EMPRES programmes, bearing in mind that the activities of both organizations are defined by their member countries.
- that FAO's key role as coordinator of Desert Locust activities should continue to be fully recognized and donors should keep FAO up to date with information on the formulation, approval, and progress of their bilateral locust programmes.

6. STATUS OF RECOMMENDATIONS MADE BY 33RD SESSION OF THE DLCC

The FAO Secretariat presented a paper which reflected the state of the funding of the different activities envisaged during 1995/1996. It was explained that the balance remaining in the fund was large because the activities had not matched the available funding, but participants were reminded that it had been agreed at the DLCC that an emergency reserve of \$100,000 should be retained. Several activities were now planned between now and the DLCC meeting in February 1997. Group members were, in general, critical of both the report and found lack of progress with the activities. The Secretariat accepted by the next meeting of the Technical Group, a paper would be prepared which would more clearly indicate progress on the implementation of the DLCC recommendations. Efforts would be made to complete as many items as possible in the next eight months.

It was noted that new contributions to the Trust Fund were irregular. Members were reminded that normal practice was for the FAO Director-General to write to member countries inviting voluntary contributions. The Group felt that an intensification of TF-supported activities and expenditure would be the best stimulus to further voluntary contributions.

In conclusion, it was **RECOMMENDED** that:

- FAO should speed up the implementation of the 33rd DLCC Recommendations and prepare a detailed report for the next DLCC meeting in which it would be evident what progress had been achieved.

7. AGENDA FOR 34TH SESSION OF THE DLCC

A draft Agenda was presented to the Group by the Secretariat. In the discussions that followed, a number of significant changes to both the sequence of the items and the items themselves were proposed. Suggestions made included the inclusion of the report on the implementation of the 33rd Session recommendations early into the meeting, so that participants would be reminded of what went on before and what progress had been made. It was felt that the report from IRLCO-CSA should be a separate item, since it did not relate to the Desert Locust. It was agreed that the Agenda would be a heavy one to complete in 5 days and some items should be left out, for example the general item on research.

In conclusion, it was agreed that the Secretariat should prepare a revised Agenda, (Appendix II) reflecting these discussions, and circulate it for final comments before the end of the Technical Group meeting.

8. ENVIRONMENTAL ASPECTS DESERT LOCUST CONTROL

The meeting reviewed briefly the environmental effects of chemical control. It was concluded that there are significant risks for humans and livestock with presently used pesticides. Accidents do occur among applicators. Among wild life the aquatic fauna is particularly at risk, although effects tend to be of a temporary nature. While all pesticides presently known to be effective for locust control pose risks, the proper choice of pesticides

and adopting precautionary measures may reduce these risks considerably. Monitoring and training are also essential tools for risk management.

The meeting noted with concern the approaching conclusion of the current phase of the Locustox project and endorsed again the **RECOMMENDATION** of the DLCC :

- to ensure follow-up and extension of the activities of the Locustox Project to other countries

9 ANY OTHER BUSINESS

The only item raised was the role of the Pesticide Referee Group (PRG). Participants pointed out that the Tables of Efficacy for different pesticides produced in the PRG reports which were circulated widely by FAO, were often used by donors, locust-affected countries and even chemical companies as if they were officially recommended by FAO. It was important that this confusing position be rectified. Furthermore, the Group underlined the importance of environmental aspects and proposed that this should be further developed.

The Group **RECOMMENDED** :

- that FAO prepare a paper for the DLCC meeting which would examine the Terms of Reference of the Pesticide Referee Group and the composition of the Group.
- that the chairman of the Pesticide Referee Group be invited to the next DLCC meeting.

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**Provisional Agenda 34th Session of the Desert Locust
Control Committee (DLCC)
Rome, 24-28 February 1997**

1. Opening of the Session
2. Election of Chairman and Vice-Chairman
3. Adoption of the Agenda
4. Election of the Drafting Committee
5. The Locust Situation, February 1995 to February 1997 and forecast
 - (a) Desert Locust
 - (b) Other Species (for information)
 - (c) Additional information from affected countries
 - (d) Control Measures
 - (e) Review of Existing Control Potential
 - (f) Environmental Aspects of Desert Locust Control
6. Report of Pesticide Referee Group
7. Assistance Provided to Countries and Regional Organizations (bi-lateral and multi-lateral)
8. Report of the 5th Session of the Desert Locust Technical Group
9. Implementation of the recommendations of the 33 rd Session
10. Emergency Prevention System (EMPRES) for Desert Locust
11. Research Activities
12. Training
13. Reports of Regional Commissions and Organizations
 - (a) Central Region Commission
 - (b) North-West Africa Commission
 - (c) South-West Asia Commission
 - (d) DLCO-EA
 - (e) OCLALAV
 - (f) IRLCO-CSA
14. International Trust Fund 9161: Contributions, Expenditures and proposed workplan 1996-1997
15. Any other Business
 - Obsolete and Expired Pesticides
16. Date of next Session
17. Adoption of the Report