

REPORT

OF THE THIRTY-FIFTH SESSION OF THE

DESERT LOCUST CONTROL COMMITTEE

held in
Rome, Italy
24-28 May 1999

Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
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TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
OFFICERS OF THE SESSION	1
AGENDA	2
PRESENTATIONS, DISCUSSIONS AND RECOMMENDATIONS	2
• The Desert Locust Situation and Forecast: March 1997 to June 1999	2
• Implementation of the recommendations of the 34 th Session of the DLCC	3
• Analyses of recent Desert Locust upsurges: Data Management and Interpretation	4
• Report of the Sixth Session of the DLCC Technical Group	5
• The future role of the DLCC Technical Group	5
• Report of the <i>ad hoc</i> SubCommittee on the Terms of Reference of the DLCCTG	5
• The economic impact of the Desert Locust	6
• Report of the 1998 Pesticide Referee Group Meeting	6
• Report on LOCUSTOX Progress and the DLCC Seminar	8
• Report on the Joint-Meeting West Africa/North-west Africa	8
• EMPRES Progress and Directions	9
• Reports of Regional Commissions and Organizations	11
• International Trust Fund 9161: Contributions/Expenditure/Proposed Workplan 1999/2000	12
• Any Other Business	13
• Date and Place of the 36 th Session	14
• Adoption of the Report	14
ACKNOWLEDGEMENTS	14

APPENDICES

- I. LIST OF PARTICIPANTS
- II. APPROVED AGENDA
- III. THE DESERT LOCUST SITUATION AND FORECAST: MARCH 1997 TO
JUNE 1999
- IV. INTERNATIONAL TRUST FUND 9161: CONTRIBUTIONS, EXPENDITURES
AND PROPOSED WORKPLAN 1999-2000

INTRODUCTION

1. At its thirty-fourth Session, held in Rome from 24 to 28 February 1997, the FAO Desert Locust Control Committee (DLCC) agreed that the thirty-fifth Session should be held in Rome on a date to be determined by the Director-General of FAO. The dates chosen were 24 to 28 May 1999 and the Director-General accordingly issued invitations to Governments and relevant organizations.
2. A list of participants is given in Appendix I.
3. The Session was opened by Mr A.Sawadogo, Assistant Director-General, Agriculture Department. The opening address was given by the Deputy Director-General Mr D.Harcharik, who warmly welcomed participants.
4. A minute's silence was observed in memory of George Popov, who died in December 1998, and who had been given a presentation in honour of his outstanding contribution to the knowledge of Desert Locust at the thirty-fourth Session.
5. Mr Harcharik went on to remind participants that the mandate of the DLCC was to promote common action against the Desert Locust and provide FAO with advice on the locust situation and on the measures required to keep it under control. He recalled that since the last Session, another locust upsurge had occurred in the Central Region but it had been brought under control by the countries in that region. He noted that an EMPRES field programme (Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases – Desert Locust component) had been fully active in the Central Region for the last two years, with considerable donor trust fund assistance, and he thanked donors for this support. A similar programme had been formulated for the Western Region and it was hoped that it would also be supported. Mr.Harcharik said that the basis of these programmes was prevention of plague development. An example of what happens when prevention fails could presently be provided by Madagascar. While this concerned another species of locust, the Malagasy Migratory Locust, it should remind us to be alert and prepared.
6. Mr.Harcharik said that, despite satisfactory progress, a number of important problems remained to be addressed including the provision of funding for EMPRES Central Region beyond the year 2000, and the full implementation of EMPRES Western Region. A continuing commitment from the locust-affected countries was important to help mobilize internal and external funding. It should also be remembered that the success of EMPRES would benefit all DLCC member countries. Consideration should be given to strengthening the support which DLCC provides to EMPRES. The Deputy Director-General emphasised the importance of other items on the Agenda. He wished participants a successful meeting and looked forward to hearing of the conclusions reached and the recommendations made.

OFFICERS OF THE SESSION

7. The following officers were elected by acclaim:
Chairman: Mr. Bateno K. Leramo (Ethiopia)
Vice-Chairman: Mr. Cheferou Mahatan (Niger)
Rapporteur: Mr. M.A. Ould Babah (Mauritania)

AGENDA

8. The Agenda, as adopted, is given as Appendix II.

PRESENTATIONS, DISCUSSIONS AND RECOMMENDATIONS

The Desert Locust Situation and Forecast: March 1997 to June 1999

9. The complete text of the presentation, as it was verbally updated, is given in Appendix III.
10. In the discussions which followed, several countries mentioned that the figures given in the paper were not accurate. The Secretariat explained that the figures were those that were available when the paper was prepared in February 1999. Updated figures had been provided verbally and would be included in the updated version of the paper which would be reproduced in full in the report on the 35th Session of the DLCC.
11. Participants mentioned the importance of maintaining regular surveys even in times of recession. The Secretariat said that there was no substitute for ground-based surveys for providing accurate information on the locust situation. For some countries, the constraint was lack of resources to support such surveys.
12. On greater use of electronic mail, it was noted that Libya, Chad and Niger had recently installed e-mail at their PPDs and that in cooperation with CILSS, arrangements were being made to install e-mail in other Sahelian countries. Front-line Desert Locust countries were encouraged, if necessary, to make their needs for e-mail installation known to FAO which would endeavour to identify funds for this purpose. A list of e-mail addresses in affected countries is given in Appendix IV.
13. For the locust data management system RAMSES, the Secretariat indicated that this system was best suited to those countries that systematically carried out locust surveys, thereby acquiring large volumes of data. It was noted that RAMSES had been developed jointly by the Belgium-funded EMPRES project and by the U.K. It had been installed in Eritrea and was in the process of being installed in Yemen. Initial training had also been given to Saudi Arabia and the DLCO-EA.
14. A demonstration of RAMSES was arranged for DLCC participants and further information on the system was available. Since RAMSES had to be to some extent customized to fit each country, a preliminary estimate of the cost per country of customization, installation and training was about US\$ 50,000 per country.
15. It was noted that reporting information included the number of hectares treated, but a plea was made for data on the type of pesticides used, the application method and the results also to be reported, as provided for in the FAO Desert Locust survey and control form which was approved at the 33rd Session. These data were needed by the Pesticide Referee Group as feedback on the efficacy of different pesticides.
16. It was further noted that where resources were limited for surveys, use could and should be made of alternative sources of information such as border guards or other military personnel who might be based in areas important for Desert Locust activity.

17. It was **RECOMMENDED** that locust-affected countries should continue their efforts to strengthen their capacity for regular surveys of critical Desert Locust habitats, and that they should aim to meet the best standards of quality in the reports sent to the FAO Desert Locust Information Service, on which forecasting for all affected countries was based. It was **FURTHER RECOMMENDED** that where resources were short, FAO should seek the necessary assistance to ensure that essential surveys were completed.

Implementation of the recommendations of the 34th Session of the DLCC

18. It was reported that a detailed paper on this topic had been presented at the DLCC Technical Group (DLCCTG) meeting in October 1998 and the present paper was intended as an update on progress. The efforts being made jointly in the Central Region by the Central Region Commission, by EMPRES and by the FAO HQ Desert Locust Information Service to improve the quality of locust reports were mentioned. Data were given on the gradually expanding use of e-mail for sending in reports.
19. Although the DLCCTG had recommended that lists of control potential should be sent to FAO for analysis, none had so far been received by FAO. On the other hand, this information was known to have been discussed at the regional locust Commission meetings. EMPRES Central Region had held several workshops on contingency planning, which included preparing inventories of locust control capacities. It was **RECOMMENDED** that FAO tabulate lists of control potential which it received for the next DLCC meeting.
20. Attention was drawn to the lack of funding for a follow-up phase of the EMPRES project on remote-sensing of Desert Locust habitats. The result was that there seemed little chance of extending the work completed in Eritrea on the detection of up-greening vegetation to other countries, or of further refining the technology. It was **RECOMMENDED** that FAO should seek donor support for further studies both on remote-sensing of Desert Locust habitats and also on meteorology, including the possible use of automatic met. stations.
21. Disbursements of funds from the DLCC Trust Fund for fellowships were described. It was noted that support to North-west Africa was nearly completed, that two out of three Masters students from the Central Region had been placed and that two candidates from Southwest Asia were in the pipeline. As agreed at the 34th. Session, the next areas to receive attention were West Africa and then East Africa. The request had been made by certain member countries of the Southwest Asia Commission for DLCC funds to be used for short-term training instead of long-term fellowships was put to the Committee. It was noted that the short-term training provided by Silwood Park/NRI in the U.K. for the last two years would this year be held within the Central Region. Assistance from this source for short-term training was available to DLCC countries if required. It was also mentioned that Egypt had recently inaugurated a Training Centre for Desert Locust Control. This was available for all aspects of locust training related to survey and control operations.
22. The Committee **RECOMMENDED** that, where possible, DLCC fellowship training should take place within the Desert Locust regions both for reasons of cost and to

allow field work on the species. It was further **RECOMMENDED** that priority be given to long-term fellowships at the Master or Doctor level, but that short-term training could also be considered as a second priority. Finally it was **RECOMMENDED** that FAO initiate the next round of fellowships in West Africa, being the region listed in previous DLCC recommendations as the next region to benefit from the funding. In this context, the West African countries decided to discuss among themselves which country should put forward the first candidate and would inform FAO accordingly.

23. In respect of national training programmes, several countries mentioned that they regularly conducted national training programmes which had not been mentioned in the presentation. Other countries expressed interest in participating in such events. It was **RECOMMENDED** that countries holding national training events in which they were prepared to include neighbouring countries should announce such events ahead of time in the Desert Locust Bulletin.
24. The lack of progress on finalizing the updated Desert Locust Guidelines because of staffing shortages in the Locust Group was reported. FAO was once more **URGED** to finalize the updated Guidelines that had been completed and to initiate the remainder. The Committee also **AGREED** to provide the necessary funding to have the updated Guidelines translated into French and Arabic.

Analyses of recent Desert Locust upsurges: Data Management and Interpretation

25. The consultant, whose work was funded in part by the DLCC, developed a simulation model using estimated locust multiplication rates in relation to rainfall, and a starting population density of 100 locusts per hectare. The simulation produced a similar number of locusts at the end of 1992 to those estimated by actual surveys. The results also suggested that the size of the emigration to the Red Sea coast in November 1992 could have been predicted from the level of early summer rainfall. A paper on the model and simulations of the 1992-1994 upsurge will be published shortly under the FAO Desert Locust Technical Series. The consultant presented to the DLCC results of follow-up studies to test these results. The tests showed that simulations using actual rainfall values for the whole summer breeding season in Mauritania clearly simulated gregarization in the 1994 season when an upsurge occurred and did not indicate gregarization in 1998 when populations remained at recession levels. Results were much less clear when the simulations were based on June and July rainfall totals and mean values for the rest of the season. The consultant concluded by presenting her subjective scores of the assumptions within the model and her belief that results from the model should always be viewed with caution.
26. In the context of models, France said that its Biomodel on *Schistocerca gregaria* was available for use and had been offered to FAO. The transfer would require a scientific follow-up. A number of participants said that it would be easier to judge the accuracy of the assumptions made in the model used by Ms. Magor once the details had been published and were available for detailed scrutiny. There was a general consensus that the model described and any others that were developed would have their greatest impact if they could be used operationally to predict possible developments in Desert Locust populations. The Committee also stressed the value that models have in highlighting what is known and what remains to be better understood.

Report of the Sixth Session of the DLCC Technical Group

27. The Chairman of the Group said that copies of the DLCCTG report were available. He wished mainly to draw attention to the recommendations made. They included a general endorsement of the direction being taken by the EMPRES Programme in the Central Region and a recommendation that, in respect of locust research, the EMPRES and the Central Region Commission should foster field work within the region using national research institutions and support further studies on locust socio-economic impacts. Some concern was expressed that the Group was not spending enough time on truly technical questions (see the next agenda item). The Group had also reviewed the implementation of DLCC recommendations and had prepared an Agenda for the next DLCC Session.

The future role of the DLCC Technical Group

28. It was reported that this topic had been discussed at the DLCCTG. The conclusion reached was that since the Group covered the whole range of the Desert Locust, it served a distinct function from the EMPRES Consultative Committee which at present existed for the Central Region only. In an effort to ensure that Group discussions focussed on technical issues, the Group proposed that towards the end of the DLCC, Group members should meet, identify technical issues worthy of discussion or which had been referred to it by the DLCC, and decide on who would be asked to prepare working papers on the topics, under funding, if necessary, provided by DLCC.
29. The two topics concerning the DLCCTG were discussed together. Some participants were of the view that the TG had not addressed enough technical issues at its last meeting, papers being presented for information, not for technical discussion. Others felt that the functions of both the DLCC and the TG had become somewhat blurred with some technical papers presented at the DLCC and some policy matters at the TG. The Committee nevertheless unanimously agreed that the TG should continue to function and should hold one meeting per year. In order to ensure that discussions concentrated on technical matters, it was decided to ask a representative sub-committee to re-examine the Terms of Reference of the TG and to report back to the DLCC before the end of the Session.
30. **Report of the *ad hoc* SubCommittee on the Terms of Reference of the DLCCTG**
- The sub-committee nominated by the DLCC discussed the revised mandate, membership and organization of the Technical Group. It proposed the following revised mandate: "to study and report to the DLCC on all technical and scientific matters pertaining to the control of the Desert Locust, as referred to it by the DLCC".
 - The sub-committee proposed the following criteria for the Technical Group membership: "The Technical Group will be composed of five members to be chosen by the DLCC on the basis of their individual ability, expertise and experience relevant to locust management.
 - The sub-committee further proposed that "members of the Technical Group will be nominated by the DLCC for a period of four years".

31. In discussions from the floor, it was **AGREED** to modify the proposals to read as follows:-

- revised mandate: "to study and report to the DLCC on all technical and scientific matters pertaining to the control **and management** of the Desert Locust, as referred to it by the DLCC".
- Technical Group membership: "The Technical Group will be composed of five members to be chosen by the FAO **Secretariat** on the basis of their individual ability, expertise and experience relevant to locust management, **augmented as necessary by outside expertise**."
- Duration of Nomination: "members of the Technical Group will be nominated by the DLCC for a period of four years".
- Frequency of Meetings: **once per year**.

The Committee **APPROVED** the revised Terms of Reference for the DLCCCTG, as modified.

The economic impact of the Desert Locust

32. The proceedings of a Workshop and a paper on "A Preliminary Analysis on Economic and Policy Issues in Desert Locust Management" had been published by FAO in 1998. Results suggested that future work should cover the collection of better data, further examination of cost/benefits and greater efforts to reduce the costs of control. Investigation of other options for reducing the risk of crop damage and of international financing issues was also mentioned.

33. The Meeting welcomed the progress which has been made in understanding the economics of Desert Locust management. New insight into the long-term economic effects of control operations and the relationship between control costs and benefits were regarded as important results of the preliminary economic analysis. This analysis also provided tools for incorporating economic aspects into the development of improved management strategies. However, the meeting also noted that some important components have not been fully addressed in the preliminary analysis. These include general investments made for crop protection which are then used for Desert Locust control, damage done to grazing lands, and certain social and humanitarian implications. The Meeting **RECOMMENDED** that future economic studies should cover such aspects and that particular attention should be paid to the economics of the preventive control strategy.

34. It was noted that the University of Hannover was preparing, in collaboration with FAO, draft Guidelines on evaluating the economics of Desert Locust management. Furthermore, the University of Göteborg was undertaking a study on the environmental economics of the Desert Locust in Morocco and Sudan.

Report of the 1998 Pesticide Referee Group Meeting

35. The Chairman of the Pesticide Referee Group (PRG) summarised the conclusions of the 1998 meeting of the Group and the further efforts that had been made to tabulate the environmental side-effects of the different pesticides. He explained that the data used for the environmental evaluations were partly derived from the LOCUSTOX

- project and partly from ecotox databases available in Europe. Data on efficacy were derived entirely from trials carried out by various bodies, but mainly by industry. The desirability of more feedback from large-scale operations by locust-affected had already been mentioned. The data on the speed of action came mainly from commercial literature and field trials.
36. The Chairman said that a decision-making chart had been included in the report to help countries decide which was the most suitable pesticide for each situation. Although an outbreak could develop very quickly, it was felt that a combination of air transportation and knowledge of the ecology of traditional outbreak areas would often allow the most appropriate pesticide to be selected. Participants were once more reminded that the PRG was intended to provide good advice to countries but each country was responsible for registering its own pesticides and had a sovereign right to purchase whichever pesticide it chose. Pesticides purchased by FAO on behalf of a country needed to be selected from those listed by the PRG as being efficacious.
 37. A number of questions were posed on the status of mycopesticide use on Desert Locusts. The Chairman said that the PRG's assessment of *Metarhizium* was based on trials, including some as large as 400 ha and including aerial applications, but the product had not yet been used operationally.
 38. Participants underlined the importance of training in improved locust control and pesticide application. Train-the-trainers courses had been held at Silwood Park with NRI/UK and assistance for courses in locust-affected countries was available.
 39. It was noted that many countries made use of the PRG Report in making decisions on the purchase of pesticides. It was felt that greater participation in the PRG by locust-affected countries would be beneficial to improve understanding on pesticide selection and reducing environmental side-effects. It was **PROPOSED** that one participant from each EMPRES Region should participate.
 40. The Secretariat reminded participants that FAO had prepared detailed specifications of some long-established locust pesticides. Additional specifications were under preparation for some new products.
 41. It was noted that some work had been initiated by the Norwegian EMPRES project on using mixtures of pyrethroids and organophosphates. Preliminary results indicated a synergistic effect which might allow greatly reduced amounts of the active ingredients to be used. The mixtures were also likely to have a quick knock-down effect which might make evaluation of control efficiency easier. The work needed to be completed as soon as possible and to be field-tested.
 42. The Secretariat reported that it had been decided to produce copies of the PRG Report in Arabic as well as in English and French.
 43. In conclusion, it was **RECOMMENDED** that the work of the Pesticide Referee Group be continued with the support of the DLCC.

Report on LOCUSTOX Progress and the DLCC Seminar

44. Phase IV of the LOCUSTOX project is now under way and its principal elements were described, especially how its new autonomous foundation will function. As requested by the DLCC, a workshop had been held for francophone countries on assessing the environmental side-effects of locust control. A second workshop for anglophone countries was planned for later this year. Details of the workshop were provided.
45. In providing further details of LOCUSTOX activities, it was explained that the foundation would charge for its services, but that it was intended to be non-profit-making. Cost estimates could not be given as they would vary according to the nature of these services. Studies on the side-effects of pesticides on livestock were now well established and would soon be extended to include camels. It was noted that the LOCUSTOX project had been always an initiative between Senegal, the Netherlands and FAO. Its scientific results had now been disseminated widely, as a three-volume FAO publication in both English and French, and had been extensively used by the Pesticide Referee Group. It was further noted that the project had prepared a manual on methods and techniques according to international quality standards. From 1998 onwards, its scope had been widened to include CILSS countries and it was available to support EMPRES to which several inputs had already been made or would take place later this year.
46. Several countries within the Western and Central Regions mentioned that they had residue laboratories and indicated that they were fully willing to collaborate with LOCUSTOX/EMPRES initiatives.
47. The Committee **RECOMMENDED** that the work of LOCUSTOX and its new foundation should be continued and should be extended as much as possible to other Regions.
48. In connection with the continuing problem of obsolete pesticides resulting both from past locust campaigns and from other activities, the DLCC **RECOMMENDED** that FAO continue its efforts to implement the disposal of these pesticides and to encourage the international community and the pesticide industry to contribute to the process.

Report on the Joint-Meeting West Africa/North-west Africa

49. In compliance with a DLCC recommendation made at the 33rd. Session, a meeting was held in February 1999 and a follow-up meeting in May 1999, immediately before the 35th. DLCC. Reports on both meetings had been distributed to participants, together with a synthesis of the results. These could be considered as historic in that it was proposed to create a new locust commission to be known as the "FAO Commission for Controlling the Desert Locust in the Western Region". The Commission would comprise the nine countries from West and North-west Africa which were directly involved in implementing preventive control.
50. The DLCC expressed its **STRONG SUPPORT** for the creation of the new Commission and **RECOMMENDED** that FAO finalizes the Agreement immediately, submits it officially to the Member States for ratification, and organizes a Ministerial-level meeting during the FAO Conference in November 1999 for its approval.

EMPRES Progress and Directions

51. As a Special Programme of the Director-General, EMPRES had always been intended to cover the full distribution range of the Desert Locust. For practical purposes, the range had been divided up into three Regions, Western (West and North-west Africa), Central (the Red Sea countries) and Eastern (Southwest Asia). Reports on the three Regions were presented.
52. For the **Central Region**, activities related to the locust upsurge in 1997/98 were described whereby control efforts by member countries assisted by EMPRES succeeded in preventing further developments and the spread of the infestation to other regions. Details were given of the EMPRES training programme and the efforts being made through individual Country Focus Programmes to strengthen capacities for early locust surveys and efficient control operations. Progress in catalysing research on topics identified as important for improved locust management was also described.
53. For the **Western Region**, the formulation of the field programme document had been completed by November 1998 and negotiations with donors were under way. EMPRES funds continue to be allocated to frontline Sahelian countries to support locust surveys.
54. For the **Eastern Region**, EMPRES activities were discussed at the last Southwest Asia Commission meeting and interest in being involved with EMPRES was expressed mainly as a means of modernizing management practices and reducing environmental impacts. It is intended to approach donors locally with FAO support to try to find resources to support EMPRES activities in the Region. Meanwhile the Commission allocated resources to allow participation in major EMPRES training workshops in the Central Region.
55. As a general clarification, it was pointed out that EMPRES was a programme which was supported by projects addressing different components of the overall programme. It was currently in its first phase of four years and the original planning had envisaged three phases. The programme was a collaborative effort between the locust-affected countries, the donors, technical assistance agencies, and FAO.
56. Several participants stressed the importance of EMPRES establishing milestones, benchmarks and performance indicators so that progress could more easily be measured and assessed. It was explained that on the Central Region part of the programme, a first effort had been made by the EMPRES Liaison Officers and EMPRES staff at a participatory workshop to develop progress indicators for the programme. Further work was currently being done on updating the project's Logframe incorporating the indicators, and additional refinement of the indicators was expected to be carried out at the Liaison Officers workshop in 1999
57. It was noted that the locust upsurge in 1997/1998 had been brought under control mainly through the efforts of the Central Region countries with some limited financial, operational and coordination assistance from EMPRES, provided on an as needed basis. The major contribution from the countries was reflected in the distribution of the burden of the costs incurred in carrying out the control. DLCC recognized that

without the great efforts of these countries, the 1997/1998 upsurge could well have spread to other Regions.

58. The importance of actively continuing to establish the participation of research institutions within the Region in any research initiatives encouraged or catalysed by EMPRES was underlined. This would ultimately contribute to the sustainability of locust research in the long term.
59. The Secretariat stressed that the success of EMPRES depended on all EMPRES countries working together to establish preventive control as a routine and, jointly and equally, to strengthen national capacities in a sustainable way to achieve this objective. Where limitations in funding had been experienced, solutions were being actively searched for.
60. Several countries considered that improvements in the coordination between EMPRES Central Region, the Central Region Commission, and DLCO-EA, as well as between the EMPRES countries themselves, were necessary and required attention well before the end of the EMPRES programme.
61. On the Western Region, the major concern expressed was that EMPRES Western Region should start operations immediately. Despite the lack of firm commitments from any donors, the Secretariat was optimistic that, with the strong support of member countries, with the breakthrough that had been achieved in the creation of a new Commission, and with the interest already shown by some donors, this part of the programme would become operational by the end of 1999.
62. For the Eastern Region, the Secretariat said that FAO fully intended to develop EMPRES activities in Southwest Asia but that this had always been envisaged as the third phase of development after the Central and Western Regions. Some EMPRES support had already been provided and the Commission had opened discussions on establishing EMPRES activities at its meeting in November 1998. Aspects of particular interest had been the modernization of management practices, operational research and training.
63. In conclusion, the Committee **RECOMMENDED** that EMPRES Central Region should make greater efforts to develop milestones/ benchmarks/performance indicators against which progress of the programme could be measured, and to involve research institutions within the region in any research initiatives. It should also improve coordination with the Central Region Commission and the DLCO-EA.
64. The Committee **RECOMMENDED** that FAO establishes the EMPRES Western Region programme operationally by the end of 1999.
65. The Committee **RECOMMENDED** that FAO should initiate discussions with donors on the support of some EMPRES activities in the Eastern Region.

Reports of Regional Commissions and Organizations

66. The activities of the **FAO Central Region Commission** were described, including information exchange, training, joint-surveys, publications, research and coordination with EMPRES. The Commission during its last Session had requested FAO to re-establish the fulltime post of Secretary of the Commission. Member countries supported this request and recommended FAO to take measures towards the re-establishment of the full-time post of the Secretary as soon as possible. They also called on FAO to take action further to improve the coordination and cooperation between the EMPRES Central Region Programme and the Commission.
67. In order to strengthen capacity within the Region, the **FAO North-west Africa Commission** has made inputs into training by funding its own fellowships, and at a structural level whereby several countries have improved or set up a national service specifically devoted to locust control. Other matters receiving attention included the establishment of EMPRES in the Region, preventive control in general and the problem of obsolete pesticides. The Commission has also contributed to the costs of locust surveys in Mauritania including repairing the Maghreb team vehicles put at Mauritania's disposal.
68. The **FAO Southwest Asia Commission** met in 1998 for the first time for over three years. With improved contributions from member countries, a larger budget and more activities were planned for 1999. These included improved communications and collaboration between member countries, renewed efforts to re-establish the post of Commission Secretary, and an expressed interest to become involved in EMPRES as a means of modernizing locust management practices.
69. The delegate from Pakistan, on behalf of the Southwest Asia Commission, stressed the very strong demand of member countries that the post of Commission Secretary should be re-established.
70. The report of the **Desert Locust Control Organization for Eastern Africa** was distributed. It included mention of reports on restructuring and the proposed merger with IGAD.
71. The Technical Director of **Organisation Commune de Lutte Antiacridienne et Antiaviaire** reported on the activities of his organization. In particular, he mentioned that an OCLALAV archive of locust reports existed and stressed that the best use should be made of this source of information both to avoid its being lost and to contribute to future preventative control.
72. The report of the **International Red Locust Control Organisation for Central and Southern Africa** was distributed. Details were given of Red Locust populations during the last two years. Mention was also made of the FAO review of the Organisation which was carried out at the request of the Council of Ministers. The consultants' recommendations were accepted with minor modification, resulting in a cut of 50% in the Organisation's budget.
It was noted that in 1999, IRLCO-CSA will be celebrating the 50th. Anniversary of its establishment.

73. The Director of the **Australian Plague Locust Commission** was welcomed to the DLCC as an invited observer. He described the activities of the Commission and suggested ways in which a useful collaboration could be developed between Australia and countries affected by the Desert Locust.
74. Participants were encouraged by the evidence presented, that in Australia a strategy of preventive control was working effectively. They were also impressed by the way in which this was being achieved with a relatively small staff. In response to many questions from the floor, various clarifications were given.
75. The meeting noted the reports of the Commissions and Organizations. It **STRONGLY RECOMMENDED** that the FAO Commission posts in both the Central Region and the Eastern Region should be re-established.

International Trust Fund 9161: Contributions/Expenditure/Proposed Workplan 1999/2000

76. The presentation is given in full as Appendix V.
77. The status of contributions to the Trust Fund by member countries was reviewed. The amount received in 1998 was considerably below the normal annual budget. Several loyal and regular contributors had developed small arrears. An appeal was made for the settlement of arrears in order to match the increased activity of EMPRES and the Regional Commissions.
78. In reporting on expenditure, it was noted that there had been significant underspending against the approved budgets of 1997 and 1998. In the absence of an approved budget for 1999, a temporary budget had been established in order to allow planned activities to proceed up to the DLCC Session. Expenditure against this budget was well advanced, partly because of the cost of the two technical meetings on restructuring the locust organizations in the Western Region. The major items of expenditure remained the DLCC fellowships, the preparation, translation, duplication and distribution of DLCC documents, the cost of the DLCC itself, and the cost of the Pesticide Referee Group meeting, apart from the restructuring meeting already mentioned.
79. Under-expenditure was mainly due to the funds allocated for the Guidelines, Training and Joint-Surveys not being used.
80. A proposed Workplan and Budget was presented for a total expenditure of US\$ 784, 780 for the years 1999 and 2000. This budget drew on cash balances in the Trust Fund, but it was pointed out that a budget of this level would not be sustainable unless member countries paid their contributions.
81. In response to questions on the figures presented, it was confirmed that the total expenditure on Fellowships in 1997 recorded as Attachment 5/1 in the paper on Agenda No:5 as US\$ 24,955 was the correct figure and the figures given Table 2 of the paper on the Trust Fund (Agenda Item 14) would be adjusted appropriately. On the difference between the budgetted amounts for Fellowships in 1999 shown in Table 2 (\$85,000) and in the proposed budget (\$58,000), it was explained that the the Table 2 figure was inserted temporarily in the system to cover the period between 1 January

1999 and the DLCC Meeting in May. However, given the recommendation to initiate Fellowships for West Africa and given that expenditure in 1999 was already \$43,000, it was suggested to increase the budget for Fellowships to \$85,000 both in 1999 and in 2000.

82. Several countries indicated that they had taken steps before coming to the DLCC or would take them when they returned home to settle arrears owed to the DLCC Trust Fund. The meeting expressed its appreciation of these efforts. Trust Fund members were reminded to ensure that payments specified the DLCC Account Number. It was also elaborated that where countries had difficulty paying their contributions because they were in US dollars, consideration could be given to paying part of the contribution in local currency. This required various authorisations and depended on the capacity of the FAO Representation in the country concerned to absorb the local currency.
83. Participants pointed out that in 1997 and 1998, scarcely 35% of the budget had been used. Indications given by the Secretariat suggested that expenditure was on course for a better performance in 1999. In explanation, it was pointed out that the Locust Group had suffered staff shortages during the period in question and this had had an effect on the rate of implementation. It was further noted that inflation was not taken into account given the tendency to underspend. If full expenditure was achieved in the next two years, consideration could be given in future to including an inflation factor.
84. While the budget proposal for the updated Guidelines was only \$50,000 over the two years, it was felt that this would be sufficient to finalize and print the first two or three Guidelines. The Secretariat said that it was hoped that the first updated volume would be brought out by the end of 1999 or early 2000. The Committee urged that the work be initiated as soon as possible in the light of the funds that had been already allocated to the task, including those by the U.K.
85. The Secretariat proposed that if the locust situation remained calm, the funds allocated for contingency/emergency could be used to support the EMPRES Programme. This was **APPROVED**.
86. In conclusion, the Committee **APPROVED** the proposed budget with the modifications mentioned in paragraphs 81 and 85 above.

Any Other Business

87. **RAMSES**: at the request of participants, a presentation was made on the RAMSES application to clarify its function within locust management, to demonstrate the capacity of the software and to provide details of the cost involved. It was explained that RAMSES is not a model but a tool designed to improve the handling of locust data and information, using GIS.
88. During the discussion which followed, it was noted that at this stage, intentionally, RAMSES does not contain the routines to perform analysis. As a tool it made analysis much easier, as it allowed direct and harmonized access to various types of information needed by the locust officer to interpret locust situations. RAMSES could also be an ideal platform offering a spatial dimension for running existing models. It is not meant to replace field surveys, but should make their planning more efficient. The

meeting was informed that data already put in other databases in other countries, such as Mauritania, could be incorporated into RAMSES. The meeting appreciated that historical data is an important part of the system and inputting could be part of the installation training. Having nationals trained in inputting archival data would reduce the cost. It was explained that the impact RAMSES had had in Eritrea, which was chosen as pilot country, was difficult to assess because the work had been disrupted by events. The meeting noted that the inclusion of remote sensing remains important. Applied research should continue to optimize satellite derived information. It was noted that NOAA satellite derived vegetation index methodologies had reached their technical and quality capacity, but SPOT VEGETATION satellite data may offer potential improvements. FAO has an agreement through the European Union for receiving one year of SPOT VGT data free. For rainfall estimation, no progress had been made. It was then mentioned that Algeria had employed a number of automatic weather stations in Desert Locust habitats and it would be useful for other countries if a report could be prepared on how the stations functioned, what their maintenance cost was and how significant their distribution was in relation to the erratic rain events.

89. In conclusion, the Committee **RECOMMENDED** that suitable documentation on RAMSES, covering its potential uses, its limitations and the cost involved in its installation should be organized by FAO and distributed to interested DLCC countries. It was **FURTHER RECOMMENDED** that RAMSES should be introduced to other Regions, according to the availability of funds.

Date and Place of the 36th Session

90. The Committee agreed that the next Session of the DLCC would be held at FAO Headquarters in Rome in about two years' time, unless the Desert Locust situation deteriorated markedly, warranting that it should be held earlier. It was also agreed that the precise date should be determined by the Director-General of the FAO.

Adoption of the Report

91. The report of the 35th Session was adopted unanimously.

ACKNOWLEDGEMENTS

92. The Chairman thanked the participants for their contributions, the FAO Secretariat for the excellent way in which the meeting had been organized and the donors for their support of Desert Locust activities especially the EMPRES Programme.
93. The delegate from Sudan, on behalf of the delegates, thanked the Deputy Director-General, the Director of the Plant Production and Protection Division, and the Chief, Plant Protection Service for their support, the Secretariat for their efforts to ensure a successful meeting, and the Chairman and Vice-Chairman for having conducted the Session in such a satisfactory manner.
94. On the occasion of the departure of Mr. Nézil Mahjoub on retirement and his last participation in a DLCC meeting, the member countries of the FAO North-west Africa Locust Commission wished to place on record their recognition and heartfelt thanks for the untiring efforts of Mr. Mahjoub for more than 25 years to assist their region. He

had made an enormous contribution to the cause of preventive control of the Desert Locust in the Western Region. The DLCC fully associated itself with these remarks and expressed its thanks to Mr. Mahjoub for his many contributions to the activities of the Committee.

95. The Director of the FAO Plant Production and Protection Division, on behalf of the Director-General, said that the 35th Session of the DLCC had been notable for the excellent contributions from participating countries, for the open and frank discussions and for the important conclusions reached. He said that FAO would give full consideration to the recommendations made and their implementation, and would continue to do its best to provide effective coordination of Desert Locust management. He thanked participating countries for their attendance and he wished them all a safe journey home. He formally closed the meeting.

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Approved Agenda

1. Opening of the Session.
2. Election of Chairman, Vice-Chairman and the Rapporteur.
3. Adoption of the Agenda.
4. The Desert Locust Situation and Forecast: March 1997 to June 1999.
5. Implementation of the recommendations of the 34th Session, DLCC.
6. Analyses of recent Desert Locust Upsurges.
7. Report of the Sixth Session of the DLCC Technical Group.
8. The future role of the Technical Group.
9. The economic impact of the Desert Locust.
10. Report of the 1998 Pesticide Referee Group.
11. Report on LOCUSTOX Progress and the DLCC Seminar.
12. Report on the Joint Meeting West Africa/North West Africa.
13. EMPRES Progress and Directions:
 - Central Region
 - Western Region
 - Eastern Region
14. Reports of Regional Commissions and Organizations:
 - (a) Central Region Commission
 - (b) Northwest Africa Commission
 - (c) Southwest Asia Commission
 - (d) DLCO-EA
 - (e) OCLALAV
 - (f) IRLCO-CSA
 - (g) The Australian Plague Locust Commission (APLC)
15. International Trust Fund 9161: Contributions/Expenditure/Proposed Workplan 1999/2000.
16. Any Other Business.
17. Date of next Session.
18. Adoption of Report.

The Desert Locust Situation and Forecast: March 1997 to June 1999

Overview

1. A summary and analysis of the Desert Locust situation from March 1997 to June 1999 and a forecast until late 1999 are presented on a regional basis. These are based on reports received from locust-affected countries and regional organizations as well as meteorological and remote sensing data available at FAO. The period was characterized by an on-going upsurge in the Central Region that eventually ended by the summer of 1998 as a result of large scale control operations and poor habitat conditions. This was followed by localized outbreaks in northern Sudan and south-eastern Libya later in the year. In the Eastern Region, an outbreak occurred during the summer of 1997 along the Indo-Pakistan border. It was successfully controlled. The situation remained generally calm in the Western Region due to mainly dry conditions and the lack of invasions from other regions. By the end of the spring of 1999, locust numbers were unusually low in all countries as a result of a failure of the rains in the winter and spring breeding areas along the Red Sea coast and in Baluchistan, Pakistan and I.R. Iran.

Desert Locust situation by Regions

Western Region

2. During the spring of 1997, only isolated adults were present in a parts of Algeria, Morocco and northern Mauritania. In late May, control operations in Algeria treated about 160 ha of small groups of hoppers. During the summer, small scale breeding occurred in southern and central Mauritania and in northern Mali. No control operations were required. During the winter of 1997 and spring of 1998, only isolated adults were present in northern Mauritania. Other adults were present in Algeria during the spring. During the summer of 1998, small scale breeding occurred in southern Mauritania, northern Mali and Niger. Breeding was heavier in Mali where small hopper bands and swarms formed in October despite earlier control efforts which took place in August against 1,200 ha of adults mixed with grasshoppers. Several small swarms moved into southern Algeria from northern Mali in November 1998 and were treated. During the winter, small scale breeding took place in northern Mauritania and and a localized outbreak developed in south-eastern Libya. The event in Libya was very unusual and the origin of this population is not entirely clear. It possibly developed from small-scale breeding in north-eastern Chad in the autumn. About 10,000 ha of laying adult groups and swarmlets and hopper bands were treated there in January and February 1999. During the remainder of the spring, the situation remained calm in the Region.

Central Region

3. The upsurge which began in the Region at the end of 1996 continued along the coastal plains of the Red Sea during the spring of 1997. Most of the infestations were

concentrated along a 900 km stretch of coastline in Saudi Arabia where breeding conditions were unusually favourable. Large scale control operations undertaken in Saudi Arabia by 70 ground teams and four aircraft treated nearly 250,000 ha of hopper bands and swarms from March to May. Smaller operations were carried out in areas of local breeding on the coastal plains of Sudan in March. As a result of the substantial control operations during the spring, only a few swarms appeared in the summer breeding areas of the interior of northern Sudan during June and July. Favourable breeding conditions were present over large parts of Northern Kordofan and Northern Darfur throughout the 1997 summer. Control operations commenced against hoppers in August and the first swarms appeared in early September in eastern Sudan. Nearly 8,000 ha were treated during the summer in Sudan. Elsewhere, low density populations and small scale breeding occurred in the interior of Yemen from June to November, in south-eastern Egypt from July to September, and on the Eritrean coast during the summer where 400 ha were treated in August.

4. Heavy rains fell along both sides of the Red Sea in October 1997. Swarms produced in the summer breeding areas arrived on the Sudanese coast in late October and in northern Eritrea in early November. Although aerial operations were carried out in coastal areas of Sudan against the incoming swarms, breeding could not be prevented. Effective control was made more difficult because of an inaccessible area of insecurity along the coast from Tokar to the southern border. Control operations continued in Sudan and commenced in Eritrea against hopper bands that formed from November onwards. By mid December, new swarms started to form in Sudan, and groups were seen in Eritrea mixed with African Migratory Locust. Some of the swarms flew across the Red Sea, some moved north into south-eastern Egypt during January, while others remained to breed again. Control operations finished by March after treating about 53,000 ha in Sudan, 18,000 ha in Eritrea and 50,000 ha in Egypt.
5. In Saudi Arabia and Yemen, only low density winter populations were present on the Red Sea coastal plains until the arrival of swarms in January and February 1998. Large scale control campaigns were initiated against the hopper bands produced by the incoming swarms. Operations continued from March to May against a second generation of hopper bands and swarms. By June, operations had finished after treating about 280,000 ha in Saudi Arabia and 18,000 ha in Yemen. Elsewhere, bands and fledglings were also reported in Djibouti and north-western Somalia in early 1998. About 1,300 ha were treated in northern Somalia in April. In eastern Ethiopia, aerial operations treated nearly 2,500 ha of swarms coming from northern Somalia in March and April. By late June, the situation had become quiet.
6. Small scale breeding occurred during the summer of 1998 in the interior of Yemen and Sudan. Both areas were affected by unusually heavy rains and floods in September which allowed resident populations to breed, leading to the formation of hopper bands in October. In Sudan, aerial operations were required during December 1998 and January 1999 north of Khartoum and treated 44,000 ha of bands and swarms. Along the coastal plains on both sides of the Red Sea, only scattered adults were present during the winter

and spring. Rains failed to appear in most areas and, consequently, locust numbers did not increase during the winter or spring. The situation remained unusually calm.

Eastern Region

7. Small scale breeding occurred during the spring of 1997 in Baluchistan of western Pakistan and eastern Iran but no gregarious populations resulted even though unusually heavy rains fell. During the summer, several swarms appeared in south-eastern Pakistan during July which eventually gave rise to hundreds of small hopper bands along the Indo-Pakistan border. Control operations treated 46,000 ha in Pakistan and 21,000 ha in India. By November, the situation had become calm.
8. In 1998, spring breeding of local populations in Baluchistan was supplemented by a few small swarms that appeared in late March in eastern Iran most probably coming from the Central Region. These laid eggs and several small hopper bands and swarms formed in May and June that required control. Ground operations in Baluchistan treated more than 15,000 ha in Iran and 1,200 ha in Pakistan. During the summer, only small scale breeding occurred along the Indo-Pakistan border despite heavy monsoon rains. No control operations were undertaken.
9. In 1999, insufficient rains fell in Baluchistan to allow significant breeding. Consequently, only low numbers of solitarious adults were present from February through May in some coastal and interior areas. No control operations were required.

Control Operations

10. From January 1997 to early February 1999, more than 900,000 ha were treated in locust-affected countries as reported to FAO. The majority was carried out in Saudi Arabia using local resources.

	1997	1998	1999 (4)	Total
Algeria	163	30		193
Egypt		50,267	200	50,467
Eritrea (1)	400	18,439		18,839
Ethiopia		2,450		2,450
India	21,128			21,128
Iran		15,590		15,590
Libya			9,490	9,490
Mali (2)		1,200		1,200
Morocco	7,423			7,423
(3)				
Pakistan	46,076	1,250		47,326
Saudi Arabia	339,360	280,267		619,627
Somalia		1,300		1,300

Sudan	35,981	59,875	6,653	102,509
Yemen		21,568		21,568
Total (ha)	450,531	452,236	16,343	919,110

1. 1998 includes operations from Nov. 1997 against infestations mixed with *Locusta*
2. mixed with grasshoppers
3. January 1997
4. Up to 1 May 1999

Forecast until late 1999

8. The failure of the rains during the past winter and this spring in breeding areas along both sides of the Red Sea and in Baluchistan, Pakistan and I.R. Iran have had a dramatic impact on locust numbers. Very little breeding is thought to have occurred which suggests that population levels are at perhaps their lowest point this decade. Consequently, very few locusts are expected to move into the Sahel of West Africa and Sudan from the Red Sea coast and into desert areas along the Indo-Pakistan border from Baluchistan and be present for the beginning of the summer rains. It will take several generations of breeding before locust numbers increase to a significant level. In order for this to occur, good rains would have to fall regularly in the breeding areas throughout the summer, otherwise breeding will be limited and numbers will remain low and non-threatening. If this is the case, a similar scenario can be expected at the end of the year in the winter breeding areas.

INTERNATIONAL TRUST FUND 9161: CONTRIBUTIONS, EXPENDITURES AND PROPOSED WORKPLAN 1999-2000

Introduction

1. While there have been a number of innovative activities supported by the DLCC Trust Fund during the period 1997 to date, the fund continues in general to be under-utilized. However expenditure in 1999 is already advanced, mainly because of the cost of the Technical Meeting on West/North-west Africa (see DLCC Agenda Item 11), which took place in fulfillment of the DLCC proposal originally made at the 33rd. Session (para 85).
2. The status of contributions made by the 35 countries that participate in the Trust Fund is shown in Table 1. It should be noted that contributions recorded in 1998 amounted to only US\$ 106,916 which is considerably below the normal annual budget. Several countries that have been loyal and regular contributors to the fund have developed small arrears. Given increased activities on the Desert Locust under the stimulus of the EMPRES Programme and the Regional Locust Commissions, it is likely that in future full use of the Trust Fund will occur. Participating countries are therefore urged to settle the outstanding payments indicated.

Financial Reports

3. The summary of expenditure against the budget approved by the 34th. Session for 1997 and 1998 is shown in Table 2. Because the DLCC did not yet approve a budget for 1999, a temporary budget had to be created sufficient to cover activities planned up to the meeting in May. Expenditures and Commitments as at 5 March 1999 (the cut-off date for preparation of this report) are also shown in the Table. A detailed breakdown of all expenditures (and commitments for 1999) between 1997 and 5 March 1999 is available for scrutiny on request.
It should be noted that the cash balance at the end of 1998 was \$ 694,583 and some of these funds may be used to cover a budget in 1999 or 2000 over and above expected receipts.
4. As can be seen from Table 2, major items of expenditure in all three years are: a) the DLCC fellowships; in 1999, the cycle with the countries of the North-west Africa Commission will be complete, the cycle with the Central Region Commission is on-going with two out of three Fellows placed and the cycle for the Southwest Asia Commission is about to be initiated; b) the preparation, translation, reproduction and distribution of DLCC documents/reports and of the Desert Locust Bulletin produced by the FAO HQ Desert Locust Information Service (DLIS); c) the holding of the DLCC Session itself, especially the cost of interpretation; d) the holding of the DLCC Technical Group, which also has interpretation; e) the holding of the "historic" Technical Experts Meeting, referred to in section 1 above, the meeting requiring that 12 participants be funded to come to Rome and interpretation in three languages; f) the holding of the Pesticide Referee

Group under the auspices of DLCC; and g) the study and analysis of the 1992-1994 locust upsurge (reported on under Agenda Item 6).

5. Items which were included in the Workplan and budgetted for, but on which no or very little expenditure was incurred, include revised Guidelines on the Desert Locust. A consultant prepared a revised draft on Control but the shortage of staff in the DLIS has not allowed the draft to be finalized. There is a danger that the text will begin to become out of date if it is not completed soon. The LOCUSTOX Project also prepared a first draft of a Guideline on Environmental Monitoring and a revised draft is expected soon which will also have to be finalized by the DLIS/Locust Group.
Funds have not been utilized for Joint-Surveys nor for Training. The DLCC is urged to suggest suitable ways in which these funds can be used in future.

Proposed Workplan for 1999/2000

6. It is proposed that a similar division of resources be made in 1999/2000 as in the previous biennium, with the following exceptions:
 - Budget increase in 1999 for item 2 [Reproduction/Distribution/Translation of DL Bulletin and DLCC documents]. More DLCC/Bulletin documents are being translated into Arabic, including the Internet Homepage and costs are also expected to be higher during a DLCC Session year.
 - Given the lack of progress in finalizing the DL Guidelines (item 3), it is intended to make a great effort in 1999/2000, if necessary with consultancy help, to complete the work. Hence the increased budget.
 - Funds allocated for the DLCC Session (item 5) have been all been placed in 1999. No DLCC is anticipated in 2000.
 - The expected total cost of the Technical Experts' Meeting (item 8) has been included in 1999 and an amount also allocated for 2000 in the event that another meeting on a different subject is required that year.
 - Following the success of the consultancy work carried out in 1997 (item 10) (see Agenda Item 6), funds have been allocated for further to-be-identified consultancies in 1999/2000.

[N.B. Decisions taken by the 35th Session of the DLCC (para 81 and 85), added US\$ 27,000 to both the 1999 and the 2000 budget for Fellowships, in order to allow the fellowships to be initiated in West Africa. An amendment was also made to allow the unallocated US\$ 100,000 for Contingency/Emergency to be also used for EMPRES if the locust situation remained calm.]

The proposed budget for 1999/2000 is given below:-

PROPOSED BUDGET (US\$)

No.	Item	1999	2000
1.	Fellowships	85,000	85,000
2.	Reproduction/Distribution DL Bulletin, DLCC papers	36,000	25,000
3.	DL Guidelines	30,000	20,000
4.	DL Survey	30,000	30,000
5.	DLCC Meeting	50,000	-
6.	Training	10,000	10,000
7.	DLCC Technical Group Meeting	42,000	42,000
8.	Technical Experts Meeting	75,000	20,000
9.	Pesticide Referee Group	25,000	25,000
10.	Consultancy Studies	10,000	10,000
	Sub-Total	393,000	267,000
11.	Projet Servicing Costs	51,090	34,710
	Total	444,090	301,710
12.	Contingency/Emergency/EMPRES Fund		100,000
	Grand Total 1999/2000		845,800

In conclusion, it should be noted that the proposed budgets for 1999/2000 exceed available resources as at 31/12/98 [US\$ 694,583].

New contributions are, of course, expected to be received in 1999 and thereafter. In fact contributions totalling \$ 29,172 have already arrived. Nevertheless participating countries are once more reminded of the importance of maintaining their contributions to the Trust Fund. The Trust Fund provides an important and significant addition to the current momentum of Desert Locust activities.

Table 1

TRUST FUND No. 9161.00 - MTF/INT/008/MUL -				
Inter-Regional Desert Locust Control Project				
Status of Contribution as at 31 December 1998 (final)				
(expressed in US\$)				
Member Governments	Outstanding 31/12/1997	Contribution due for 1998/1999 *	Received up to 31/12/1998	Outstanding 31/12/1998
AFGHANISTAN	20,880.00	3,480.00		24,360.00
ALGERIA	0.00	7,700.00	7,700.00	0.00
BAHRAIN	1,840.00	920.00		2,760.00
CAMEROON	36,587.00	2,780.00		39,367.00
CHAD	65,400.00	3,520.00		68,920.00
DJIBOUTI	18,900.00	1,120.00		20,020.00
EGYPT	5,740.00	5,740.00	11,480.00	0.00
ETHIOPIA	8,640.00	4,320.00		12,960.00
GAMBIA	24,849.50	2,420.00		27,269.50
GHANA	26,255.00	3,280.00		29,535.00
INDIA	36.99	20,000.00	20,000.00	36.99
IRAN, Islamic Rep. of	256,495.24	20,000.00		276,495.24
IRAQ	111,600.00	7,440.00		119,040.00
JORDAN	3,420.00	3,420.00	6,840.00	0.00
KENYA	51,943.39	3,580.00		55,523.39
LEBANON	20,715.98	3,060.00		23,775.98
LIBYA	66,858.02	10,640.00	10,006.38	67,491.64
MALI	37,213.00	3,600.00		40,813.00
MAURITANIA	55,125.09	2,900.00		58,025.09
MOROCCO	16,080.00	5,360.00	10,720.00	10,720.00
NIGER	58,200.00	3,760.00		61,960.00
NIGERIA /a	67,369.61	0.00		67,369.61
OMAN	14,700.00	2,100.00		16,800.00
PAKISTAN	6,520.00	6,520.00	6,520.00	6,520.00
QATAR	21,950.00	1,760.00		23,710.00
SAUDI ARABIA, Kingdom of	30,000.00	20,000.00		50,000.00
SENEGAL	4,679.80	3,520.00		8,199.80
SOMALIA	51,774.77	3,500.00		55,274.77
SUDAN	33,145.70	3,980.00		37,125.70
SYRIA	33,038.12	4,520.00	22,600.00	14,958.12
TUNISIA	53,076.44	4,460.00		57,536.44
TURKEY	28,960.00	14,480.00		43,440.00
UGANDA	43,940.00	3,380.00		47,320.00
UNITED ARAB EMIRATES	4,623.80	4,600.00	4,600.00	4,623.80
YEMEN	30,015.45	6,500.00	6,450.00	30,065.45
TOTALS	1,310,572.90	198,360.00	106,916.38	1,402,016.52

a/ Withdrawn from 1995

* Fiscal Year begins in July

Table 2

(Figures in US\$)

		1997		1998		1999	
No.	Item	Budget	Expenditure	Budget	Expenditure	Budget	Expenditure* + Commitments
1	Fellowships	60,000	28,829+	60,000	12,094	85,000	43,143
2	Reprod./Distrib. DL Bulletin/DLCC Papers and reports	25,000	35,221	25,000	17,488	35,552	17,019
3	Guidelines	10,000	1,685	10,000	-	-	-
4	DL Survey	30,000	1,415	30,000	-	-	-
5	DLCC Meeting	25,000	9,918	25,000	-28	-	36,000
6	Training	10,000	-	10,000	-	-	-
7	Tech.Group Mtg	42,000	452	42,000	28,605	-	-
8	Tech.Expts.Mtg	10,000	3,885	10,000	-	123,600	66,049.02 #
9	Pesticide Ref.Group	10,000	-	10,000	24,591	23,000	20,696
10	Study on 92-96 Upsurge	11,000	10,441	-	-	-	-
	Sub-Total	233,000		222,000	-	-	-
11	Project Servicing Costs	30,290	11,940	28,860	10,757	34,730	4,156
12	Contingency/Emergency Fund	-	-	100,000	-		
	Grand Total	263,290	103,786	350,860	93,507	301,882	187,062
<p>* as at 05/03/99, including expenditure + commitments # expenditure to be reimbursed (contract A. Monard) + 24,955 expenditure on fellowships (as shown in Table 5/1 on next page) 3,874 cost of ticket/dsa for fellowships officer to visit India to discuss problems in placement of one fellow ----- 28,829</p>							

Fellowships Awarded by DLCC under DLCC TF-MTF/INT/008/MUL

Fellow	1997		1998		1999	
	Budget	Expend.	Budget	Expend.	Budget	Commit. & Expend.
	60,000		35,000		85,000	
Moumene (Algeria) (CLCPANO)		12,400		9,575		17,200
Al-Shaibany (Yemen) (CRC)		14,000		8,696		14,500
Al-Hariri (Syria) (CRC)		-		-		11,442
Al-Alawi (Oman) (CRC)		1,683		-		-
Credits- Unspent Funds		- 3,128		- 6,177		
	60,000	24,955	35,000	12,094	85,000	43,143

GRAND TOTAL: US\$

Budget 1997-99 180,000
Expend.+Commit. up to 4.3.99 80,192
Balance Available 99,808

Planned Fellowships for 1999/2000:

	1999	2000
1. To be named (Central Region country)	14,000	14,000
2. M. Ghaemian (Southwest Asia-Iran)	30,000	
3. M. Ishfaque (SWA-Pakistan)	14,000	14,000

Appendix IV

List of e-mail addresses of Desert Locust control services

Addresses of those locust-affected countries that have email at the national plant protection departments:

Algeria	inpv@ist.cerist.dz
Chad	dpv@intnet.td
Egypt	said97@esic.claes.sci.eg
Eritrea	mehari@empres.er.punchdown.org
Ethiopia	cpdmoa@padis.gn.apc.org
Iran	m_ghaemian@hotmail.com
Libya	ncdlcly@yahoo.com
Mauritania	claa@toptechnology.mr
Morocco	cnlaa@marocnet.net.ma
Oman	dlumaf@gto.net.om
Pakistan	plant@khi.compol.com
Saudi Arabia	yasl@naseej.com.sa
Senegal	dpv@sentoo.sn
Yemen	empr-fao-ye@y.net.ye