



REPORT

EMERGENCY PREVENTION SYSTEM

FOR TRANSBOUNDARY ANIMAL AND PLANT PESTS AND DISEASES

(EMPRES)

(DESERT LOCUST COMPONENT)

13TH EMPRES LIAISON OFFICERS MEETING

SANA'A, YEMEN

11 – 15 DECEMBER 2005



Table of Contents

I.	OPENING.....	3
II.	NEW TECHNOLOGIES FOR IMPROVING EARLY WARNING.....	4
III.	BETTER NATIONAL INFORMATION SYSTEMS: RAMSES AND ELOCUST IN YEMEN ...	5
IV.	PRESENTATION OF COUNTRY REPORTS ON PROGRESS.....	5
V.	FAO LOCUST GROUP WEB PAGES	8
VI.	THE CRC-EMPRES WEBSITE.....	8
VII.	ASSESSMENT OF DESERT LOCUST REPORTING DURING 2005.....	8
VIII.	OVERVIEW OF THE 2003-2005 UPSURGE AND OUTLOOK OF THE DESERT LOCUST SITUATION, WINTER SEASON 2005/2006.....	9
IX.	PRESENTATION OF FINDINGS OF THE PHASE III EVALUATION MISSION	9
X.	THE FINANCIAL SITUATION OF EMPRES/CR PROGRAMME	9
XI.	EMPRES/CR FUTURE MEETINGS	10
XII.	PLANNING FOR YEAR 2006	10
XIII.	ADOPTION OF THE MEETING THE REPORT	10
XIV.	CLOSING.....	10
	Annex 1: List of Participants	12
	Annex 2: Meeting Agenda.....	14
	Annex 3: Key elements for the EMPRES/CR work plan in 2006.....	16
	Annex 4: Function and role of the Commission in the context of preventive Desert Locust management	25
	Annex 5: Function and role of the member countries in the context of preventive Desert Locust management	26

I. OPENING

1. The 13th EMPRES/CR Liaison Officers meeting took place in Sana'a, Yemen during the period 11-15 December 2005.
2. On behalf of the Director General of the Food and Agriculture Organization of the United Nations (FAO), the Senior Officer of the Locust and Other Migratory Pests Group, Mr. Clive Elliott welcomed the participants to the 13th ELO meeting and expressed his thanks to the Government of Yemen for hosting this meeting. He stated that the Director-General has taken a great personal interest in the Desert Locust problem and has given EMPRES the status of a Special Programme of FAO. In the recent FAO Conference it was proposed to create a new Division in which the animal diseases and Desert Locust (DL) components of EMPRES will be brought together, giving EMPRES further impetus. He also added that the Director-General chaired a number of meetings during last year's locust emergency which mainly affected Western Africa and used his influence in numerous other ways to support the control campaign.
3. Mr. Elliott informed the participants that the 13th EMPRES Liaison Officers Meeting is taking place at an important moment in the 9-year existence of the Programme and that from next year on the FAO Commission for Controlling the Desert Locust in the Central Region (CRC), will take over joint responsibility for maintaining preventive DL management with the participating countries in the Central Region. He added that this change in structure was the objective of the third phase which began in January 2004 and that the objective of the change was to ensure the sustainability of preventive control. He pointed out that the success of EMPRES has been founded on the efforts of the participating national Locust Control Units (LCU), the commitment of the Heads of the LCUs, and the support provided by their Governments. Taking Yemen as an example he pointed out that the improvements made during the past years have been remarkable and that it has become one of the best organized Locust Units in the Region. However, lack of national funds for routine locust surveys could quickly undermine the progress made. He reminded the meeting that one of the objectives of EMPRES is to develop and maintain the components of preventive locust control especially during recessions and that a failure to support preventive control will increase the risk of locust emergencies developing at high costs to the affected countries.
4. Mr. Elliott added that this meeting would also look at which of the EMPRES activities and meetings should be maintained in the future and how they could be funded. Finally, he asked the meeting to concentrate on these issues which will have a major impact for the future of Desert Locust management in the Region.
5. H.E. Mr. Abdel Malek Al Arashi, Deputy Minister of Agriculture and Irrigation, on behalf of the Minister of Agriculture, welcomed the participants in Sana'a. He informed that the Government of Yemen considers the policy of preventive DL management as one of the best means to sustain food security, in particular, for the poorer communities of Yemen. He reminded the participants of the impact of DL plagues on food production and pastures and the negative side-effects caused by excessive application of conventional pesticides to control the pest.
6. He added that it was the accepted policy of the government to establish an early warning system which includes regular surveys in the breeding areas as recommended by the EMPRES Programme. This was considered a suitable solution for preventing outbreaks of the Desert Locust as had been experienced in September and October 2004. Locust control teams conducted rapid control operations against the build up of the locust, and had successfully stopped the DL development at a minimum cost. H.E. Mr. Al Arashi emphasized the importance of the close collaboration between the countries of the Region under the umbrella of CRC. This regional collaboration was necessary to jointly prevent swarm developments. The Deputy Minister stressed the need to continue the activities established by EMPRES to maintain capacities, support training courses and introduce new technologies. Finally, he wished everyone a fruitful meeting, a pleasant stay in Sana'a and declared the meeting officially open.

7. H.E. the Minister of Agriculture and Irrigation visited the meeting on the second day and delivered a speech pointing out the importance of this meeting in view of the serious damage to agriculture caused by the Desert Locust and its contribution to the poverty of the affected countries. He welcomed the participants to Yemen, encouraging them to develop solid and crucial recommendations in order to combat the locust and ensure food security in the member countries of the Central Region and beyond. Finally he wished the participants a successful meeting, a happy stay in Yemen and a safe journey back to their home countries.
8. The EMPRES/CR Coordinator introduced the new representative from Eritrea, Mr. Zerisenay Okube on behalf of the ELO, and welcomed Mr. Felege Elias, Base Manger in the Desert Locust Control Organization for Eastern Africa (DLCO-EA) who attended the meeting on behalf of the Director. The Coordinator informed the meeting that the EMPRES Link Person of Somalia, Mr. Jama Dahir was absent because of a serious accident. The participants were sorry to hear this news and expressed their best wishes to Mr. Jama Dahir for a speedy recovery.
9. A list of the participants is given in Annex 1. The provisional meeting agenda was presented by the EMPRES/CR Programme Coordinator, Mr. Christian Pantenius and was adopted without changes (Annex 2).
10. Mr. Felege Elias (DLCO-EA), Mr. Fuad Bahakim (EMPRES NPO), Mr. Rabie Khalil (ELO Sudan) and Mr. Mamoon Al-Alawi (ELO Oman) were elected as the drafting committee.

II. NEW TECHNOLOGIES FOR IMPROVING EARLY WARNING

11. The FAO Locust Information and Forecasting Officer, Mr. Keith Cressman, presented five new technologies that should contribute to the improvement of Desert Locust early warning in the Region: eLocust2, Seasonal Forecasts, Rainfall Estimates, Locust Mapper and Locust Chaser. A comparison was made of the advantages and disadvantages of the first eLocust version and **eLocust2** in terms of map display, data transmission, practicality, availability, data checking, team location and built-in GPS. The introduction of eLocust2 will address the current shortcomings of eLocust1. Data transmission is via satellite at a cost of approximately \$1.30 per survey or control location, or by direct connection to a PC (no cost). eLocust2 was tested in the field by locust officers in two countries in the Central Region (Yemen and Egypt) and three countries in the Western Region (Mauritania, Morocco and Niger). He mentioned that a sufficient number of eLocust2 units will be distributed to countries in early 2006 to improve monitoring of the DL in the Region. **It was agreed that FAO would cover the transmission costs of the first year while the Regional Commissions should cover these costs thereafter.**
12. DLIS was testing the use of **seasonal forecasts** of rainfall and temperature up to six months in advance. So far, this product is inconsistent from month to month and is difficult to interpret. Consequently, the information should be used very cautiously when forecasting climatic conditions, and will not be provided to the countries. New **rainfall estimates**, developed by IBIMET (The Italian Bio-meteorological Institute), can be used to estimate the location and quantity of rainfall at the national level. For the past year, these products have been tested for Mauritania and Senegal under a pilot project funded by IBIMET. Both countries indicated that these products were very useful in detecting the locations where rain has fallen in their territory. This product proved suitable for planning locust survey operations. In order for it to become available in other countries, approximately US\$ 91,000 are required for initial development and data provision for four years to at least 10 countries in Western and Central Regions. The rainfall estimate maps will be provided via Internet and can be displayed in RAMSES.
13. The other two resources, **Locust Mapper** and **Locust Chaser**, are available free of charge on the Internet. Locust Mapper was developed about six years ago and has recently been

updated. The new version has improved maps and a better interface in English and in French. Locust Chaser is an Internet-based trajectory model that estimates Desert Locust movement up to one week in advance, if the initial location and date are known. Users can enter the altitude of flying swarms and their estimated speed. Based on the inputs, the tool will display the predicted migration route on a map that can be printed or downloaded.

14. In conclusion, it was emphasized that these new technologies represent very useful tools that, if used sensibly and in a responsible manner, could help to improve early warning and decision-making in the countries.

III. BETTER NATIONAL INFORMATION SYSTEMS: RAMSES AND ELOCUST IN YEMEN

15. A presentation on better National Information System by using RAMSES and eLocust in Yemen was given by EMPRES/CR NPO, Mr. Fuad Bahakim and the Locust Information Officer in Yemen, Mr. Adel El-Shaibani. Mr. Bahakim explained the components of the information system in Yemen such as survey teams, information sources in the field, web-sites on rainfall prediction, SPOT vegetation images, reports from other CR countries, RAMSES data and eLocust. The Locust Information Officer mentioned that eLocust2 has been tested in Yemen and Egypt and provided some comments regarding the new equipment.
16. A demonstration of wireless data transfer by using eLocust1 at the DLMCC in Yemen was made by EMPRES/CR NPO and the Locust Information Officer. In addition, application of eLocust2 was demonstrated by the FAO Information and Forecasting Officer. A number of technical queries were raised by the participants and clarification was given.
17. After an intensive discussion on the new technologies, particularly regarding eLocust2 and the rainfall estimates, it was agreed that FAO would cover the cost for the first year of the subscription and operation of eLocust2. **It was recommended that both Commissions seek approval from their member countries to cover the cost of eLocust2 in the following years, provided that the equipment proved its practicality.** With regards to rainfall estimates, it was evident that IBIMET would not develop the product further for free and that funds should be sought. **Mr. Elliott suggested that the developmental and the subscription fees for four years should be incorporated in the proposed Saudi project in the Central Region and the ADB project in the Western Region.** The participants showed high interest in this product and suggested that the Commissions should discuss of taking over the cost at their next sessions with the objective of covering all their member countries.

IV. PRESENTATION OF COUNTRY REPORTS ON PROGRESS

18. Each ELO presented a country report on the progress made in introducing improved Desert Locust management components into the national programmes. Most of the reports were prepared in accordance to the standard format proposed by EMPRES/CR.

DLCO-EA

19. On behalf of the Director of DLCO-EA, Mr. Felege Elias presented the activities carried out by the Organization during the reporting period. He mentioned that the Organization, in collaboration with EMPRES/CR, conducted two surveys in northern Somalia and one survey in Ethiopia. In his presentation he pointed out that aerial survey was conducted in northern Ethiopia in June and July. On-the-job training was given to various staff in Somalia and RAMSES training was provided to the ELO in Ethiopia and three plant protection officers of the Crop Protection Department.
20. Mr. Felege informed the meeting that DLCO-EA conducted a trial to test the effectiveness of *Metharhizium anisopliae* var. *acidum* against mixed grasshopper populations and mentioned that a first progress report has been submitted to EMPRES/CR and CRC.
21. Because of the unfortunate accident of the EMPRES/CR Link Person, Mr. Jama Dahir, a special meeting was held between Mr. Clive Elliott, Mr. Keith Cressman, Mr. Munir Butrous, Secretary of the CRC, Mr. Felege Elias and Mr. Christian Pantenius to discuss the future

of the DL survey operations in Somalia. **The meeting recommended that Mr. Felege Elias should travel to Hargeisa as soon as possible with the objectives:-**

- **To discuss with the Minister of Agriculture and Plant Protection Department how the locust survey operations could be maintained in the absence the EMPRES Link Person, and to plan a survey for January 2006.**
 - **To provide information on the health of the EMPRES Link Person.**
22. In order to support Mr. Felege's mission to Hargeisa **it was agreed to advance funds through EMPRES/CR and to provide a satellite mobile telephone from FAO HQ, during future survey operations.**

Djibouti

23. The ELO from Djibouti, Mr. Haissama Ali, gave an overview on the climatic conditions in Djibouti in the period from October 2004 to November 2005 and mentioned that the conditions were not favourable for DL breeding. He informed the meeting that survey operations were undertaken every month by district teams and that information was transmitted by mobile phone to the HQ in Djibouti. He added that monthly bulletins were issued on a regular basis. The ELO pointed out that there is currently a need to have additional field equipment for district teams.

Egypt

24. The ELO from Egypt, Mr. Mohamed Abdel Rahman, reported on the climatic developments, the locust situation and the operations conducted by the Locust Centre during the reporting period. He briefed the meeting of the swarm invasion to Egypt on October 28, 2004, as a result of unusual strong and persistent south-westerly winds from Mali, Niger and Libya.
25. These immature swarms moved gradually south along the Red Sea ridge and after maturation laid eggs in the area of Abu-Ramad and Shalateen and produced a second generation. The ELO informed the meeting that the total area treated was 227,000 ha using 127 tons of different types of pesticides, at a cost of about 1 million US\$. Control operations were all conducted by ground control teams. He added that the Desert Locust situation has remained calm since March 2005.
26. The ELO summarized a number of other activities that were believed to have improved effectiveness of the DL control capacity in the country, such as preparing action plans, and using satellite imagery. He also informed the participants that a new base has been established at Wadi Al-Natron.

Eritrea

27. The representative from Eritrea, Mr. Zerisenay Okube, gave an overview of the ecological conditions and the Desert Locust situation in his country. He mentioned that 11 surveys have been carried out along the Red Sea coast and detected an area of 80,000 ha infested with transient and gregarious mature DL adults and hoppers. He reported that around 23,530 ha were treated with 16,146 litres of pesticides. He also reported that 24 plant protection officers based at the summer breeding areas and 25 based at the winter breeding areas were trained on survey and control operations. The representative of Eritrea expressed his appreciation for the support received in this critical situation from the Kingdom of Saudi Arabia, Sudan, Senegal and FAO.

Ethiopia

28. The ELO from Ethiopia, Mr. Solomon Admasu reviewed the ecological conditions over the past 12 months. He mentioned that his country received normal rainfall in most parts of the locust areas. About 5,050 ha were surveyed in suspected areas, of which 264 ha were found to be infested by Desert Locust adults and hoppers as a result of small swarms arriving from Sudan in Amhara and Tigray regions. In the following control operations 323L of ULV insecticides were used. He reported that one training course was conducted on the use of RAMSES program, in which the ELO and three plant protection officers participated. He further added that one national training course was conducted on survey and control subjects for 15 plant protection officers from Tigray and Amhara regions. The ELO was ad-

vised by the meeting to attach RAMSES maps when reporting on the DL situation in the future.

Oman

29. The ELO from Oman, Mr. Mamoon Al-Alawi, reported that only low to moderate rains were received in the different regions of the country. Hence, vegetation remained dry and conditions were not favourable for locust breeding. He informed the meeting that 45 survey teams surveyed 172 locations in the last 12 months. All survey teams were equipped with FAO standard survey forms and national DL bulletins were sent regularly to DLIS, EMPRES, CRC and the neighbouring countries. He further mentioned that, with support from CRC, 9 DL officers have been trained on control operations. The ELO informed the participants that DGPS equipment was installed in two spray aircraft which have been used also in other pest control operations and proved to be very successful. Hence, the ELO recommends other countries to make DGPS as standard equipment in their aerial DL control operations. Finally, the ELO stated that no particular difficulties had been experienced during the reporting period.

Saudi Arabia

30. The ELO from Saudi Arabia, Mr. Ghazi Hawari reported that during the past 12 months the ecological conditions were dry in most of the Desert Locust breeding areas. He mentioned that monthly surveys were carried out in the main DL breeding regions of the Kingdom by 40 survey teams. Scattered individuals and a few swarms of immature DL were reported in coastal areas of Tabuk and groups of hoppers were reported in Mecca region. He reported that about 18,165 ha were infested and 10,602 ha were sprayed with 10,602 litres Malathion 96% ULV, by ground teams and one helicopter. He mentioned that 24 plant protection officers were trained on DL survey and control operations. Recommendations have been made by the meeting to support and to strengthen the Locust Information Unit at the Locust Centre.

Sudan

31. The ELO from Sudan, Mr. Rabie Khalil gave a summary of the ecological conditions during the season 2004/2005. He informed that rainfall was normal to above normal in most of the winter and summer breeding zones, with the exception of heavy rains in Darfur, which caused flooding. A first DL swarm arrived by the end of December 2004 at the Egyptian – Sudanese border during the winter campaign. He further added that at the end of May 2005, several small swarms arrived from Chad in West Darfur. The total infested area was 60,180 ha of which about 23,800 ha were treated, using 6,240 litres ULV, 3,680 litres EC and 14,470 kg of dust pesticides.
32. The ELO mentioned that for the first time 400 litres of bio-pesticides (Green Muscle) were purchased by the GoS to be used in case of a DL outbreak.
33. In view of the dangerous DL situation, the GoS has released about 3,053,000 US\$. The ELO added that a total of 1.6 million US\$ were made available by IFAD, FAO and other bilateral assistance. The ELO thanked particularly the Kingdom of Saudi Arabia for its significant support to Sudan. He also mentioned that the National Desert Locust Steering Committee greatly helped to create awareness among the concerned bodies and the public.
34. Due to the insecure situation in Darfur, the ELO mentioned that great efforts have been made to facilitate survey and control operations despite the difficult conditions in this area. He also highlighted other activities such as training conducted for 84 plant protection officers, technicians and 72 labourers. In addition to that, one refresher course for 10 plant protection officers and one training course on GIS for six officers had been organized.
35. He also informed the meeting of the difficulties faced by using the financial support provided by FAO, such as delays in the release of the funds, the short period between the release of the funds and the deadline of the projects, and inability to have more than one advance payment at the same time for different projects, unless one was cleared first.

Yemen:

36. The ELO from Yemen, Mr. Abdu Farea, reported that unusual rainfall in August and September 2005 was recorded in DL winter breeding areas and that in the summer breeding

areas. Heavy rain was received in April, which caused flooding in Shabwah, Mareb and Hadhramout. He mentioned that the general climatic conditions from October 2004 to November 2005 had been favourable for Desert Locust breeding.

37. The ELO highlighted that targeted surveys were conducted by using the action plan, satellites imagery, rainfall information and RAMSES. He further stated that 7 teams were currently conducting surveys in Yemen. He concluded that an area of about 45,923 ha had been surveyed during the period of October 2004 - November 2005. Currently the locust situation was considered as calm, except for small patches of transient hoppers observed in September 2005 in Shabwah.
38. He stated that the Locust Information Office at the Desert Locust Monitoring and Control Centre (DLMCC) was functioning properly and reports regularly sent to DLIS, CRC and the EMPRES member countries, and that a national DL bulletin was prepared monthly and distributed to the concerned internal and external institutions.
39. Financial problems regarding the availability of funds for conducting regular surveys were discussed by the meeting and the recommendation was made,
 - **that the Head of the DLMCC should discuss the issue regarding the national budget for locust control operations with the Minister of Agriculture and Irrigation to obtain a budget separate from the Plant Protection Department to allow the Centre to carry out regular survey operations and rapid reaction in case of any DL infestation.**
40. In the following discussion the participants agreed that it was desirable that each LCU should be given more autonomy in particular in financial aspects.

V. FAO LOCUST GROUP WEB PAGES

41. The FAO Locust Information and Forecasting Officer, Mr. Keith Cressman, presented the Locust Group's new web site, **Locust Watch**. The new version provides improved navigation and information in English and French and, to a limited degree, in Arabic. The possibility to provide complete information in Arabic was still in the process of being sought. A link will be made to the Commission websites which includes EMPRES as soon as they are online.

VI. THE CRC-EMPRES WEBSITE

42. The Secretary of the Commission for Controlling the Desert Locust in the Central Region (CRC), Mr. Munir Butrous, presented the proposed CRC/EMPRES Website. He demonstrated the objective of the website, its different applications and links, and highlighted all relevant documents such as reports, references and guidelines as well as country profiles. He further mentioned that this website is complementing and is not duplicating the DLIS Locust Watch webpage. At the end of his presentation, he raised the point of covering the cost of establishing a domain for the website and the need for obtaining clearance from AGP for the website to be online.
43. The participants appreciated the efforts made in preparing this website and acknowledged its usefulness in order to be fully up-to-date as far as the various on-going activities and upcoming events are concerned.

VII. ASSESSMENT OF DESERT LOCUST REPORTING DURING 2005

44. The FAO Locust Information and Forecasting Officer, Mr. Cressman, presented an assessment of reporting during 2005. As in previous ELO Meetings the locust reports from the countries were assessed in terms of their quality, timeliness and frequency, and of the development achieved during the last five years.
45. In general, good progress has been made in all aspects of reporting by the countries. Nevertheless, small improvements are still required, mainly regarding the quality. It was noted

that several countries (Egypt, Eritrea, Ethiopia, Saudi Arabia and Sudan) faced difficulties in maintaining quality and timeliness during periods of increased locust activity because of the higher volume of data that needs to be managed. It was recommended that more efforts should be made to strengthen the Locust Information Officers with qualified staff.

VIII. OVERVIEW OF THE 2003-2005 UPSURGE AND OUTLOOK OF THE DESERT LOCUST SITUATION, WINTER SEASON 2005/2006

46. The FAO Locust Information and Forecasting Officer presented an overview of the 2003 to 2005 upsurge that mainly affected the Western Region. Four outbreaks developed in October 2003 as a result of unusually heavy rainfall, as a result of which green vegetation extended about 100 km further north in to the Sahel than in normal years. The upsurge declined again due to intensive control operations carried out in Northwest Africa, combined with cold weather and failure of rains during the winter and spring of 2004-2005.
47. The most significant DL developments in the Central Region occurred in October 2003 starting with an outbreak in Sudan. Swarms then migrated further from Sudan across the Red Sea and produced a new generation in Saudi Arabia in December 2003. Later, in December 2004 – March 2005, swarm invasion took place in Egypt from West Africa followed by a second generation breeding along the Red Sea coast in May 2005. Southern Circuit swarm invasion of Darfur from West Africa occurred in May-June 2005. Local breeding on the Red Sea coast in Eritrea took place in July 2005. In total 13 million ha were treated during this upsurge of which 3% (354,000 ha) was in the Central Region.
48. Small-scale breeding, typical of a recession period, is expected to occur along both sides of the Red Sea from December 2005 to about March 2006. Locust numbers are likely to remain low and no significant developments are expected. Nevertheless these areas should be carefully checked.

IX. PRESENTATION OF FINDINGS OF THE PHASE III EVALUATION MISSION

49. The EMPRES/CR Programme Coordinator, Mr. Christian Pantenius, presented a summary of the findings and recommendations of the EMPRES/CR Evaluation Mission that was conducted from 12th September to 11th October 2005 in six of the nine EMPRES/CR member countries (Egypt, Eritrea, Ethiopia, Saudi Arabia, Sudan and Yemen).
50. The Mission had concluded that important achievements have been made in integrating preventive management components into national programmes in a sustainable way and that the member countries attach high importance to prevention of Desert Locust outbreaks. Various other achievements of the Programme were identified but the Mission had also highlighted some observed constraints, concerning the under use of some of the technologies and approaches provided by EMPRES/CR by some of the countries. This variation requires further attention and follow up in the future when the EMPRES Desert Locust component is being coordinated by the Secretary of the Commission. The mission recommended appointing a Regional Technical Officer to assist the Secretariat of the Commission in ensuring that standards of preventive Desert Locust management in the member countries are maintained. The mission also recommended that CRC member countries should in their next meeting determine the required level of support to be provided by the Commission to EMPRES participating countries.

X. THE FINANCIAL SITUATION OF EMPRES/CR PROGRAMME

51. The current status of EMPRES/CR funding was presented by Mr. Clive Elliott, Senior Officer, Locust and Other Migratory Pests Group. It was noted that during 2005, EMPRES/CR was supported from six sources of funds: the Netherlands, Switzerland, the United States, the Trust Fund of the Central Region Commission, the Trust Fund of the Desert Locust Control Committee (DLCC), and FAO's Regular Programme. The estimated total expenditure in 2005 from these sources was expected to reach US\$ 958,156. The estimated funds available for 2006, as the last year of Phase III, were derived from the final contribution of Switzerland of US\$ 191,021, the final contribution from the USA Capacity-building Grant of US\$108,016, US\$ 200,000 from the new USA Grant, US\$ 200,000 from the CRC Trust

Fund, US\$ 5,000 from the DLCC Trust Fund, and US\$ 100,000 from FAO's Regular Programme – a total of US\$ 804,036. Given the expenditure level in 2005, the funds available for 2006 appeared to be adequate to complete Phase III. By contrast, with the end of the Swiss contribution and USA Capacity-building Grant in 2006, only about US\$ 505,000 was available for 2007 and for each year thereafter (2008, 2009) of Phase IV. This would not be sufficient to maintain EMPRES activities nor to provide funding for a technical post to assist the CRC in implementing these activities.

52. Mr. Elliott said that a proposal had been submitted by FAO to Saudi Arabia for US\$ 2,760,000 which was estimated to be the total cost of a three-year EMPRES/CR Phase IV. Given the funds available, as described above, the shortfall was more precisely US\$ 1,245,000. If these funds could be secured from Saudi Arabia or other donors, EMPRES activities as integrated into the CRC would be fully realizable.

XI. EMPRES/CR FUTURE MEETINGS

53. In view of the Commission and EMPRES member countries taking over EMPRES activities with regard to sustaining preventive strategies for combating DL in the Central Region, the future of ELO and Consultative meetings were discussed in details. Since the objectives of the ELO and CRC meetings were similar, as for example monitoring the implementation of the preventive control strategy and regional work planning, **it was suggested to merge the two meetings. The participants agreed to address the suggestion in the next Commission Session for approval. As a result of this, the meeting recommended that the next ELO would be the last meeting in its current form. The meeting also recommended that the Consultative Committee Meeting would be terminated as there will be only one donor remaining, who should be invited instead to the ELO meeting. The meeting further suggested that EMPRES countries which are not members of the CRC Executive Committee should be invited as observers.**

XII. PLANNING FOR YEAR 2006

54. Based on the Phase III implementation document and the recommendations that evolved from the findings of the Phase III evaluation of the EMPRES/CR programme, the year 2006 work plan was drafted by two groups using the participatory card method. The findings are presented in Annex 3, 4 & 5.

XIII. ADOPTION OF THE MEETING THE REPORT

55. The draft minutes of the meeting were discussed and adopted by the participants after minor changes.

XIV. CLOSING

56. On behalf of the Director General of FAO, the FAO Representative in Yemen, Mr. Hashim G. A-Shami officially closed the meeting by addressing his satisfaction that the EMPRES Programme will continue giving support to the countries in maintaining and further strengthening their preventive DL control capacities, and stressed that the governments should grant financial autonomy to the LCUs separately from other plant protection activities in order to allow them to react more adequately to the locust threat. He thanked the participants for their constructive contributions to the success of the meeting and officially closed the meeting.
57. The Senior Officer of the Locust and Other Migratory Pests Group and the EMPRES/CR Coordinator thanked the Government of Yemen for the excellent support provided to the meeting which allowed the participants to fully concentrate on the topics, and hence contributed to the success of the meeting. They also thanked the ELOs for their active involvement and their contributions to the findings. It was pointed out that the work plan, which will be prepared based on the findings of the meeting for year 2006, is an important reference for everybody participating in the EMPRES/CR Programme: FAO, the donors, the regional organizations and the member countries. The EMPRES/CR Coordinator also

referred to his transfer to Dakar to join EMPRES/WR and thanked all ELOs for their excellent collaboration and efforts throughout almost nine years of existence of the EMPRES Programme in the Central Region and stressed that he will do his best to improve and strengthen the collaboration between the two Regions for the benefit of both.

58. On behalf of his Government, the ELO from Sudan invited the EMPRES/CR to hold the next meeting in Khartoum. The participants welcomed this invitation and tentatively agreed to hold the next meeting after Ramadan in 2006. As alternative venues, the ELOs from Saudi Arabia and Oman also offered to host the meeting.

Annex 1: List of Participants

Name	Address	Contacts (Tel., Fax, E-mail)
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Annex 2: Meeting Agenda

11/12	09:00 – 10:00	Welcome and opening addresses: (On behalf of the MoA: H.E. the Deputy Minister of Agriculture and Irrigation, <i>Mr. Abdulmalik Ahmed Al-Arashi</i> ; on behalf of FAO: <i>Mr. Clive Elliott</i> , Senior Officer Locust Group, AGP) Registration (<i>Lidia Naguib</i>)
	10:00 – 10:30	Coffee Break
	10:30 – 10:45	Administrative matters (<i>Lidia Naguib</i>)
	10:45 – 11:00	Introduction, presentation of the objectives and procedures of the meeting, introduction of new colleagues (<i>Christian Pantenius</i>)
	11:00 – 11:15	Adoption of the agenda; selection of secretariat (<i>Christian Pantenius</i>)
	11:15 – 11:45	New technologies for improved early warning (<i>Keith Cressman</i>)
	11:45 – 12:30	Better national information systems: RAMSES and eLocust in Yemen (<i>Adel El-Shaibani, Fuad Bahakim</i>) <ul style="list-style-type: none"> • Power-point presentation (meeting venue)
	12:30 – 13:30	Break
	13:30 – 15:30	Better national information systems: RAMSES and eLocust in Yemen (cont.) <ul style="list-style-type: none"> • Demonstration of wireless data transfer systems (Locust Centre)
	15:30 – 16:00	Coffee Break
	16:00 – 17:00	Discussion on improving national early warning systems
12/12	08:30 – 10:00	Presentation of country reports on progress (<i>ELOs</i>)
	10:00 – 10:30	Coffee Break
	10:30 – 12:30	Presentation of country reports on progress (<i>ELOs</i>)
	12:30 – 13:30	Break
	13:30 – 14:00	FAO Locust Group web pages: a guided tour (<i>Keith Cressman</i>) The CRC-EMPRES Website (<i>Munir Butrous</i>)
	14:00 – 15:30	Presentation of country reports on progress (<i>ELOs</i>)
	15:30 – 16:00	Coffee Break
	16:00 – 17:00	Presentation of country reports on progress (<i>ELOs</i>), and general discussion.
	19:00	Invitation for dinner by FAO
13/12	08:30 – 09:30	Assessment of Desert Locust reporting during 2005 (<i>Keith Cressman</i>)
	09:30 – 10:00	Overview of the 2003-2005 upsurge and outlook of the Desert Locust situation, winter season 2005/2006 (<i>Keith Cressman</i>)
	10:00 – 10:30	Coffee Break
	10:30 – 11:15	Presentation of findings of the Phase III Evaluation Mission (<i>Christian Pantenius</i>)
	11:15 – 12:30	Financial situation of the EMPRES/CR Programme (<i>Clive Elliott</i>)
	12:30 – 13:30	Break
	13:30 – 14:00	Planning for 2006 – Introduction (<i>Christian Pantenius</i>) Two groups: <ul style="list-style-type: none"> • Roles and functions of CRC and the EMPRES/CR member countries in pursuing EMPRES strategies of preventive Desert Locust management in the future (<i>Group 1</i>) • Work planning 2006 (<i>Group 2</i>)
	14:00 – 15:00	Pending activities and items for 2006 (<i>Christian Pantenius</i>) Planning for 2006 (cont.)

	15:30 – 16:00	Coffee Break
	16:00 – 17:00	Planning for 2006 (cont.)
14/12	08:30 – 10:00	Planning for 2006 (cont.)
	10:00 – 10:30	Coffee Break
	10:30 – 12:30	Planning for 2006 (cont.)
	12:30 – 13:30	Break
	13:30 – 15:30	Planning for 2006 (cont.)
	15:30 – 16:00	Coffee Break
	16:00 – 17:00	Presentation of findings (Plenary)
	20:00	Invitation for dinner by the Ministry of Agriculture and Irrigation
15/12	08:30 – 12:30	Write-up of Minutes of Meeting (<i>Secretariat</i>)
	08:30 – 09:30	(<i>Others</i>) visit to Desert Locust Monitoring and Control Centre (DLMCC)
	09:30 – 12:30	(<i>Others</i>) visit to Old Town of Sana'a
	12:30 – 13:30	Break
	13:30 – 14:30	Presentation and adoption of Minutes of Meeting (<i>Christian Pantenius</i>)
	14:30	Closure

Annex 3: Key elements for the EMPRES/CR work plan in 2006

Result 1: EMPRES/CR Desert Locust management components gradually taken over by the CRC and the participating countries.

Indicator 1: Improved preventive Desert Locust management component taken over by 2 countries by 2004, 3 more by 2005, 2 more by 2006.

Activities	Milestone	Responsibility	Timeframe	Remarks
1.1 Support member countries to develop sustainable national training programmes, with reduced technical and financial support of EMPRES.				
1.1.1 Conduct survey and control training	1.1.1 At least one training course conducted in each EMPRES/CR country by end of 2006.	ELOs and DLCO-EA	January - December 2006	Including Somalia
1.1.2 Translate the training manual into Arabic	1.1.2 Each Arabic speaking country is provided with Arabic training manual on CD by the end of 2006	CRC	Up to December 2006	
1.1.3 Provide transparencies for colour prints of training overheads for EMPRES/CR countries		ELO and CRC	Up to December 2006	Upon request from the member countries
1.1.4 Support DL management diploma course at the university of Khartoum		FAO and CRC		
1.1.4.1 Follow up on the recommendation of the evaluation of the diploma course	1.1.4.1 At least 30% of the recommendations of the diploma evaluation realized by Sept 2006	University of Khartoum and CRC	January - September 2006	
1.1.4.2 Provide fellowship for diploma students	1.1.4.2 At least 6 students enrolled for the academic year 2006/2007 by August 2006	ELOs, SWAC and CRC	April – August 2006	
1.1.5 Pursue incorporating technical Desert Locust Management subjects into the National teaching programmes	1.1.5 At least 3 countries ERI, SUD and YEM to continue incorporating DL Management subjects into the National teaching programme by Oct 2006.	ELOs	January – October 2006	Provide CRC with copy of the agreement with the agriculture secondary schools

Activities	Milestone	Responsibility	Timeframe	Remarks
1.1.6 Incorporate a budget line for training into the national budget for locust control.	1.1.6 Up to 4 countries (ETH, SUD, KSA, YEM) to conduct a minimum of one national or local survey & control training course to be covered by national budget by Oct 2006.	ELOs	January – October 2006	
1.1.7. Provide training opportunity on aerial control		DLCO-EA	By December 2006	Participants from Saudi Arabia, Sudan, Oman, Yemen, Egypt and Ethiopia
1.1.7.1 Review the draft curriculum and provide feedback to DLCO-EA	1.1.7.1 DLCO-EA to receive feed back from CRC by mid 2006	CRC	January – June 2006	
1.2 Support the national Locust Control Units in improved management and administrative procedures and methods.	1.2 The management of at least 4 LCUs is using appropriate planning, monitoring, inventory and staff management methods by August 2006.			
1.2.1 Include key items of resources into the monthly bulletin.	1.2.1 Vehicles, pesticides, sprayer and HF radios included regularly in the monthly bulletin	ELOs	January - December 2006	
1.2.2 Provide details information on the total resources to CRC	1.2.2. Update the country capacity sheet and provide it to CRC and AGPP at least twice a year.	ELOs	January and December 2006	
1.2.3 Organize self-reflection workshops with locust staff.	1.2.3. Self reflection workshops after each season conducted in SUD, EGY, YEM, and consider ETH< ERI, KSA and OMA.	ELOs	March and October	1.2.3. Report of the results of the self –reflection workshops to be sent to CRC. • The main recommendation of self reflection workshops should be included in the country monthly bulletin.
1.3 Support member countries in initiating bilateral projects on selected Desert Locust management components.	1.3. LCU in up to 4 countries are supported bilaterally by donors by 2006.			

Activities	Milestone	Responsibility	Timeframe	Remarks
1.3.1 Define the minimum requirement for DL activities.	1.3.1 At least 2 countries to identify the minimum requirement to maintain regular DL activities.	ELOs	By September 2006	Depends on the definition of a minimum requirement.
1.3.2 Prepare a project for bilateral support.		ELOs	By September 2006	
1.4 Prepare a Monitoring and Evaluation system in collaboration with CRC.	1.4 An M&E system to follow the process of integrating improved components of DL management into the national programmes beyond 2006 defined by 2006 and adapted by CRC by DEC. 2006		By December 2006	
1.4.1 Develop standard criteria and a rating system for evaluation of DL activities (survey, Info, Training, inventories).	1.4.1 Standard criteria and rating system defined by June 2006 and placed on the CRC –EMPRES website.	CRC	January – June 2006	
1.5 Give support to Country Focus Programmes (CFP).	1.5 CFP support provided to up to 4 countries.			
1.5.1 Improve national information system in North Somalia.	1.5.1 More frequent contact and expand radio system by June 2006. At least one training course on locust reporting for radio operators by Sept 2006.	CRC/, DLCO-EA and EMPRES Link Person	January – September 2006	
1.5.2 Re-establishing DL early warning system in Eritrea.		ELO / CRC		
1.5.3 Investigate possibility to use 6 satellite phones under FAO auspices for DL information reporting (check with FAOR ERI).	1.5.3 Feedback from FAOR ERI by March 2006.	FAO/ELO	By March 2006	1.5.3 If ok procure 6 Thuraya (\$ 7500) by June 2006 (operating cost paid by FAO for 1 year)
1.5.4. Define the sources of information in summer and winter breeding area in ERI.	1.5.4. Report to CRC by Jan 2006	ELOs	By January 2006	
1.5.5. Provide report to DLIS according to the standard.	1.5.5. Good reports to DLIS received at least once a month.	ELOs	January – December 2006	
1.5.6. Prepare monthly DL bulletins according to standards.	1.5.6. Monthly bulletins regularly distributed to governments, DLIS, CRC and neighbouring countries by Feb 2006.	ELOs	February - 2006	

Result 2: Implementation of improved early warning systems supported

Indicator 2: Improved early warning systems (routine survey, functional national information offices etc.) are operational in at least 6 Locust Control Units by 2006

Activities	Milestone	Responsibility	Timeframe	Remarks
2.1 Make routine use of the RAMSES locust database, including the interpretation of results.	2.1 RAMSES outputs are routinely being used for planning of survey operations by the member countries by end of 2006.		On going	
2.1.1. Improve the capabilities of the locust information officers in RAMSES data / remote sensing imagery.	2.1.1. One regional workshop on RAMSES data/remote sensing interpretation organized for 7 IOs in Cairo in March 2006.	DLIS	March 2006	Invite DLCO-EA Information Officer.
2.1.2. Support KSA in making routine use of RAMSES.	2.1.2. Follow up visits by end of 2006.	DLIS/CRC	April 2006	Adel Al-Saibani visit KSA in April 2006
2.1.3 Incorporate RAMSES maps and rain data in monthly DL bulletins.	2.1.3. Routine.	ELOs	January – December 2006	
2.2 Facilitate the interpretation of remote sensing satellite images and their use in directing survey operations.	2.2. Remote sensing satellite imagery is routinely being used to direct survey teams by end of 2006.	DLIS, FAO, IOs		
2.2.1. Regular provision of MODIS imagery to countries.	2.2.1. Every 16 days	DLIS	January – December 2006	
2.3 Support joint cross border surveys.	2.3. At least 3 joint cross border surveys carried out by December 2006.	ELOs, CRC, DLIS		
2.3.1. Continue joint surveys EGY/SUD, KSA/YEM, DJI/SOM.	2.3.1. annual basis (Jan/Feb).	ELO/CRC	January and February 2006	Recurrent activity funded by national resources with some support from CRC - EMPRES/CR.
2.3.2. Organize joint survey OMA/YEM if it rains.		ELO/CRC/DLIS		
2.3.3. Investigate possibility of joint border survey ERI/DJI in Jan 2007.	2.3.3. Inform CRC by June 2006.	ELO (DJI/ERI)	By June 2006	
2.4 Support development of survey practices and technologies through solicited research projects DROPPED.				Activity dropped

Activities	Milestone	Responsibility	Timeframe	Remarks
2.5 Up-date national locust information systems.	2.5 DLIS is linked up to at least 8 of the locust information offices and is receiving field information regularly and without delay by 2006.		By December 2006	
2.5.1 Strengthen national information units.	2.5.1 KSA,+ETH+OMA units are strengthened by June 2006.	ELOs and CRC	By June 2006	
2.6 Support introduction of eLocust.	2.6 At least 8 member countries make use of the eLocust system by mid 2006.		By June 2006	
2.6.1 Provide each country with eLocust2.	2.6.1 By March 2006	DLIS		
2.6.2 Provide training on the use of eLocust2.	2.6.2 Include 1 day of training on eLocust2 at Cairo RAMSES workshop March 2006.	DLIS/ELO	March 2006	Master trainers to provide training to national locust officers on the use of eLocust2
2.6.3 Introduce eLocust2 and use it on an operational basis by all survey teams.	2.6.3 Feedback sent to DLIS every month.	ELOs	April – December 2006	
2.7 Support survey teams.	2.7 All surveys teams of the member countries are fully equipped and operational by mid 2006.			
2.7.1 Establish stock of eLocust2 at CRC for rapid deployment during emergencies.	2.7.1 By end of 2006	DLIS/CRC	By end of 2006	
2.7.2 Prepare field vegetation index card.	2.7.2 By June 2006.	CRC??	By June 2006	
2.8 Prepare national survey plans.	2.8 All LCUs prepare regular survey plans based on RAMSES and Satellite images by mid 2006.	ELOs	By June 2006	
2.8.1 Weekly briefings to be held re: DL, rain, ecological condition (via RAMSES).	2.8.1 EGY, ERI, KSA, SUD and YEM.	ELOs	January – December 2006	Responsibility of locust information officers.

Result 3: Campaign evaluation measures and contingency planning mechanisms in place

Indicator 3.1: National contingency planning mechanisms adopted and operationally assessed and satisfactory for 2 countries by 2004, 3 more by 2005, and 2 more by 2006

Indicator 3.2: Regional contingency planning mechanisms adopted by the CRC and operationally assessed and satisfactory by 2005

Activities	Milestone	Responsibility	Timeframe	Remarks
3.1 Encourage the concerned countries to create national locust management committees (Steering Committees).	3.1 All key countries established steering committee by mid 2006.	ELOs, MoAs		DL steering committees are not applicable for SAU and OMA. LCUs have high financial autonomy in case of emergencies.
3.1.1 Provide CRC regularly with minutes of the steering Committee Meetings.		ELOs	On going	YEM, ERI, ETH, EGY, SUD to immediately provide CRC with copy of Steering Committee Meetings reports.
3.2 Prepare guidelines for national contingency planning mechanisms.	3.2 Guidelines ready and approved by AGPP by June 2006.	AGPP	June 2006	
3.2.1 Organize workshop on preventive control.	3.2.1 One regional preventive control workshop conducted in Cairo by September 2006	CRC / FAO	September 2006	In collaboration with CLCPRO
3.3 Support the national entities in developing national contingency planning mechanisms.	3.3 All key countries have elements of advanced preparedness in place by mid 2006	ELOs, FAO-		Elements are: Close follow up of inventories, national steering committee, national DL bulletins, national action plans, functional Information Office, etc.
3.3.1 Distribute final version of the contingency planning guidelines.		AGPP	June 2006	
3.3.2 Prepare regional action plans.	3.3.2 All member countries received contingency guidelines by June 2006	CRC	June 2006	In the situation of a likely dangerous DL situation developing.

Activities	Milestone	Responsibility	Timeframe	Remarks
3.3.3 Prepare national action (contingency) plans.	3.3.3 All key countries prepare national action plans based on predicted DL developments and distribute them to the local authorities and donor representatives, and CRC by April (summer campaign), October (winter campaign).	ELOs		CRC to place on Website.
3.3.4 Prepare national DL bulletins	3.3.4 Maintain National Locust monthly bulletins (EGY, KSA, SUD, YEM, OMA, and DJI) + expand to ETH and ERI by February 2006.	ELOs	On going	ETH and ERI to start issuing their own monthly bulletin by February 2006. All other key countries to maintain the issuance of their bulletins.
3.4 Assist the CRC in developing regional contingency planning mechanisms in accordance with those of countries and FAO.	3.4 The Commission is in the position to initiate suitable pre-emptive actions in cooperation with the affected countries and AGPP by October 2006.	AGPP, FAO, CRC		Ad hoc meetings to identify the possibility of neighbouring countries providing extra assistance.
3.4.1 Collating information required as part of a contingency plan and to keep it up to date.		CRC	On going	In collaboration with AGPP
3.4.2 Organize ad hoc emergency prevention meetings.	3.4.2 In case of critical DL development, at least 2 meetings to be conducted with the immediately affected countries to agree upon suitable mechanism and timely actions to prevent an emergency.	CRC	March and September 2006	
3.5 Assess the "operationality" of the contingency planning mechanisms.				Regularly assess the "operationality" of contingency planning mechanism in case required.
3.6 Develop guidelines for campaign evaluation.	3.6 Guideline for campaign evaluation ready by July 2005 (Ref to 3.7).			The meeting decided to drop developing the campaign evaluation guideline.
3.6.1 Collect information on quest teams for the western region.		AGPP-CRC	By December 2006	
3.6.2 Investigate the possibility of "QUEST" teams in front line countries.		AGPP-CRC	By December 2006	

Activities	Milestone	Responsibility	Timeframe	Remarks
3.6.3 Organize exchange of visit to the WR.		CRC	By December 2006	In collaboration with CLCPRO/EMPRES/WR
3.7 Develop mechanisms to collect data on the extent of infestation, crop damage etc. during control campaign.	3.7 Mechanisms for routine evaluation of the campaign efficacy defined and put in place by mid 2006.	CRC		In collaboration with ELOs.
3.7.1 Regular use of spray monitoring form.	3.7.1 All LCUs conducting control operations are routinely using the FAO Spray Monitoring forms and enter the records into RAMSES.	ELOs	On going	Hard copies sent regularly to CRC.
3.8 Evaluate the economic advantage of preventive control.	3.8 The relative economic advantage of preventive DL control known and acknowledged by mid 2006.	AGPP		To be considered by EMPRES/WR, in view of the conclusions of the 2003-05 campaign evaluation.
3.9 Assist member countries in developing simulated control campaign in the field.	3.9 At least 2 member countries conducted simulated outbreak campaign exercises during the recession period by mid 2006	ELOs		Supported by EMPRES-CRC with USD 3,000 on request.
3.9.1 Conduct simulated outbreak campaigns.	3.9.1 Up to 3 countries conduct outbreak mock exercise in 2006.	ELOs (YEM+SUD+EGY)	By December 2006	

Result 4: Alternative control technologies supported

Indicator 4: At least one bio-pesticide against the Desert Locust registered in at least 3 countries and ready for operational use by 2006

Activities	Milestone	Responsibility	Timeframe	Remarks
4.1 Participate with member countries and other FAO collaborators to harmonize bio-pesticide regulations.	4.1 At least 1 bio-pesticide registered in at least 3 member countries by 2006.	FAO-EMPRES-CRC, ELOs		Continue to encourage countries to register bio-pesticide.
4.1.1 Support for registration of bio-control products	In up to 3 additional countries (EGY, ETH, KSA and YEM) take significant steps towards registration of GM by October 2006.	ELOs (EGY, ETH in collaboration with DLCO-EA, KSA and YEM.	By October 2006	Registration efforts to be supported in EGY, ETH, KSA and YEM
4.1.2 Encourage producer to submit its dossier to ETH, EGY, KSA, and YEM.	4.1.2 Dossier submitted to ETH, EGY, KSA, and YEM. Permission obtained for conducting trials in YEM and KSA.	ELOs /CRC	By December 2006	
4.1.3 Support harmonization of bio-pesticide registration in the central region.				Decided to drop harmonization as countries preferred to apply their own regulations.
4.2 Support large scale operational trials and small scale demonstrations of the efficacy of bio-pesticides and other novel technologies.	4.2 At least 1 demonstration on the effects of GM supported (in YEM) by Dec 2005.			
4.2.1 Support large scale demo on the use of GM in SUD.	4.2.1 Large scale demo on the use of GM supported in SUD.	ELO/CRC	By December 2006	Depends on availability of suitable target/funds required.
4.2.2 Support eco-toxicological study on PAN in collaboration with ICIPE	4.2.2 LoA prepared by 2006 to be signed by ICIPE.	CRC/ICIPE	December 2006	Independent eco-toxicologist should be involved in the study as part of LoA.
4.2.3 Carry out field trials on PAN and PAN + GM if suitable locust targets available.		CRC/FAO in collaboration with ELO		Depends on availability of locust target.
4.3 Support solicited research projects	4.3 Up to 5 research projects successfully implemented and finalized by end of 2006.	ELOs, FAO-CRC	By December 2006	
4.3.1 Solicit additional research projects.		ELOs/CRC		

Annex 4: Function and role of the Commission in the context of preventive Desert Locust management

STRUCTURE AND MANAGEMENT	PLANNING	TRAINING	COLLABORATION	RESEARCH AND DEVELOPMENT	Consultancies
Encourage the creation of autonomous Desert Locust control units in all front-line countries.	Support the national entities in developing national contingency plan (action plan).	Provide technical, financial and training materials to regional, sub-regional and national short-term training courses.	Ensure close interaction with the other two regions.	Support solicited re-search projects.	Organize consultancies as required.
Monitor and follow up preventive control capacities in the CRC member countries and Somalia pending agreement from CRC members.	Assess the "operationality" of the contingency plan.	Support DL management Diploma course at the U of K.	Provide opportunities for intra and interregional exchange of experience.	Support field-testing of new pesticides.	
Facilitate and support technical backstopping on early warning systems (use of RAMSES, eLocust, NDVI maps. Etc.) as required by the member countries.	Organize ad hoc emergency prevention meetings as required.	Support longer term training programmes (MSc).	Support joint cross border surveys.	Support the member countries in introducing new technologies into their national programmes.	
Identify teams for campaign efficiency assessment in the CR.	Prepare regional action plans.	Follow up of performance of trainees in using best practices for survey and control.			
	Assist member countries in conducting simulated control campaigns in the field during recession periods.				
	Allocate emergency funds for rapid pesticide procurement from CRC.				
	Provide assistance (funds) in the event of emergencies.				
	Assist member countries in preparing bilateral project proposals.				

Annex 5: Function and role of the member countries in the context of preventive Desert Locust management

STRUCTURE AND MANAGEMENT	PLANNING	TRAINING	COLLABORATION	RESEARCH AND DEVELOPMENT	OTHERS
Develop administrative/ financial autonomy for the national locust unit to allow rapid reaction.	Prepare national action plans (contingency).	Organize and conduct regular staff training courses.	Ensure regular collaboration with other important national entities such as meteorological agencies, local plant protection offices, universities/colleges, research institutions, NGOs etc.	Solicit and follow up research projects.	Assist in introducing technical Desert Locust management subjects into the national teaching programmes. ???
Ensure the availability of annual national budgets for operations.	Prepare regularly national survey plans based on RAMSES outputs and NDVI maps.	Maintain at least two master trainers.	Ensure regular interaction with neighbouring countries and the commission.	Support registration and use of bio-control and other environmentally friendly products.	
Ensure proper management of resources (staff development/training, proper stores management, regular maintenance of equipment and vehicles, etc.).	Prepare and send good quality locust report and monthly bulletin regularly and timely to national authorities, DLIS and CRC.	Support mid- and long-term training of locust staff (diploma and M.SC. levels).	Initiate and organize with neighbouring countries joint cross border survey and control operations in case necessary.		
Initiate national Desert Locust steering committee meetings in case required.		Conduct simulated outbreak campaigns during recessions			
Conduct regular staff meetings.					
Ensure capacity for rapid reaction/control of locust outbreaks.					
Carry out regular locust surveys in line with the survey plan and other information sources.					
Make regular use of the FAO survey and control, and spray monitoring forms.					
Maintain functional (well staffed and well equipped) locust information office.					
Maintain and develop further national early warning system.					
Establish an emergency fund.					