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**Emergency Prevention System for  
Transboundary Animal and Plant Pests and Diseases**

**- Desert Locust Component -**

**Central Region Programme**

**EMPRES/CR**

**Progress Report**

December 2000 – December 2001

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**Food and Agriculture Organization of the United Nations**

## A Introduction

The Desert Locust component of EMPRES (Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases) was initiated in mid 1994. Its purpose was to strengthen the locust management capacity of locust-affected countries with the aim of minimising the risk that Desert Locust plagues will develop. It was designed as a collaborative programme in which affected countries, regional organizations, donors, and FAO, participate in the development of improved preventive control strategies. Preparatory activities started in 1995 in the Central Region, comprising nine countries around the Red Sea (Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan and Yemen). This area is considered to be the origin of most Desert Locust outbreaks.

The **primary development objective** of the EMPRES Central Region Programme (EMPRES/CR) is stated as:

*“To minimise the risk of Desert Locust plagues emanating from the Central Region of the Desert Locust distribution area through well-directed surveys and timely, environmentally sound interventions in order to mitigate food security concerns in the Central Region and beyond.”*

The overall **Programme goal** was re-defined in February 2000 as:

*“To strengthen the capabilities and capacities of the national, regional, and international components of the Desert Locust management system to implement effective and efficient preventive control strategies based on early warning and timely, environmentally sound, early control interventions.”*

A full donor-assisted programme began in 1997 with the recruitment of the EMPRES/CR team in duty stations at Asmara, Sana’a, Khartoum and Addis Ababa.

Since then the EMPRES/CR activities focus on five main areas:

### **Early Detection**

Desert Locust survey and forecasting methodologies and systems are being strengthened and improved. Timely action relies on efficient information networking.

### **Early Reaction**

Technical assistance and advice is being provided to affected countries in order to increase their early intervention capacity, and to assure more effective and environmentally safer control operations

### **Research**

EMPRES provides the platform for joint national and international research programmes on improved Desert Locust control tactics and strategies. Initial topics being covered include biocontrol, population dynamics, survey methodology, barrier treatment, economic impact, and environmental impact. These involve, for example,

field trials on insect growth regulators (IGR), botanical insecticides, and mycopesticides.

### **Campaign Planning and Contingency Arrangements**

Campaign planning procedures and contingency arrangements are being developed in close co-operation with Central Region countries. The aim is to improve preparedness for Desert Locust interventions so that the necessary resources can be mobilised early enough when critical situations arise.

### **Capacity Building**

Apart from improvements in technical and organizational areas, EMPRES concentrates on the development of human capacity through intensive international, regional, and national training programmes for different target groups and on relevant subject matters. Database and information management, training of national trainers and field staff, and training of scouts, farmers and nomads, are being addressed.

Following the approval of the EMPRES Programme by the FAO Council in mid-1994, a number of donors provided support to FAO for EMPRES/CR, namely the Netherlands, the USA (through USAID) and Germany/Switzerland (through GTZ). Other development agencies such as those from the U.K., Belgium, Japan and Norway provided assistance bilaterally or to specific areas of the Programme. All in all, including FAO funds from the Regular Programme, an amount of about US\$ 5 million has been allocated to the 4-year Phase I of the Programme (1997 – 2000). Following the Programme Planning Workshop for Phase II held in El-Tur (Egypt) in March 2000, the contributions required to fund Phase II were estimated at US\$ 5.52 million to cover staff salaries, operational expenses, equipment and contracts, research programmes, training and support costs.

A 3-year Phase II of the EMPRES/CR Programme (2001 – 2003) started in January 2001, following the direction recommended by the EMPRES evaluation mission (mid 1999) and the implementation document developed by participants at the EL-Tur Workshop.

The Purpose of Phase II was formulated as:

*“Components of preventive Desert Locust control management developed and adopted.”*

The following eight results are anticipated to contribute to the above purpose:

- R-1: Operational mandate of different regional organizations in Desert Locust management harmonized.
- R-2: National and regional communication networking enhanced.
- R-3: Desert Locust early warning and information systems improved.

R-4: Desert Locust survey procedures of the member countries improved.

R-5: Desert Locust technicians and officers qualified.

R-6: Contingency plans available and implemented.

R-7: Efficient and environmentally safer control methods introduced.

R-8: Systematic methods of campaign evaluation developed.

By the end of 2001, only four FAO-EMPRES staff remained, based in Khartoum, Sana'a, and Cairo. The position of EMPRES/CR Coordinator having become vacant in October 1999, and having been covered in an Acting capacity by the Senior Field Officer, was filled again in August 2001. With the start of Phase II the Coordination post was transferred from Asmara to Cairo as recommended by the 1999 EMPRES evaluation mission. The move was expected to enhance and stimulate collaboration with the Commission for Controlling the Desert Locust in the Central Region (CRC), and ultimately to contribute to the sustainability of EMPRES activities. The former EMPRES National Professional Officer (NPO) for Control was appointed as Secretary of the CRC in August 2001. The NPO post has been vacant since then, but a suitable replacement is being sought. The EMPRES UN Volunteer based in Hargeisa finished his assignment after more than seven years on duty in June 2001. He will not be replaced, but his work will be covered by Somali staff in collaboration with the Desert Locust Control Organization for Eastern Africa (DLCO-EA). The Associated Professional (APO) for environmental assessment has been on post since November 2000 in Khartoum. The posts of the International Research & Development Expert and NPO-Survey (both Sana'a) remain unchanged. As before, EMPRES/CR is supported by national Liaison Officers in each of the member countries including DLCO-EA and Somalia, where an EMPRES "Link-Person" has been nominated in December 2001. In addition, GTZ seconded one staff as Visiting Scientist to the EMPRES/CR Programme based in Cairo to assist in conducting applied field testing of new control technologies.

## B. Status Report

### B.1 Achievements of Outputs

**Result 1:** Operational mandate of different regional organizations in Desert Locust management harmonized.

**Indicator 1.1:** At least 1 EMPRES country joins CRC as a new member by 2002

**Indicator 1.2:** A draft MoU between CRC/DLCO (supported by EMPRES) on implementation of sustainable DL management concepts in the CR formulated by 2003

Under Result 1 it is expected that coordination and collaboration between the two regional organizations, the CRC and the DLCO-EA has increased by the end of Phase II. This will support the development of effective preventive control at the regional level. EMPRES is facilitating the harmonization of the technical mandates of these organizations and the integration of the activities of EMPRES/CR.

In addition it is expected that at the end of the Phase II, the discussion between CRC and DLCO-EA will have resulted in a Memorandum of Understanding between these two organizations. This memorandum will outline collaboration between CRC and DLCO-EA as part of a concept of sustainable preventive Desert Locust management in the Central Region.

It is also targeted that by the year 2002 at least one of the Central Region countries, which is not yet a member of the CRC, will join the Commission and submit a formal application to FAO. The countries eligible for membership, in accordance with an earlier decision of Commission members, are Djibouti, Eritrea, Ethiopia and Somalia.

Planned Activities	Status / Reasons for Deviation
<p><b>1.1 Support a working group consisting of staff from CRC, DLCO-EA (IGAD)</b></p>	<p>Because the position of the Secretary of the CRC was vacant until August 2001, the first meeting of the <i>Joint FAO / CRC / EMPRES / DLCO-EA Technical Advisory Committee (TAC)</i>, planned for April 2001, did not take place. It was agreed to postpone the meeting until a new Secretary has been appointed. Eventually the first meeting was held from 12 –13 December 2001 in Addis Ababa at the DLCO-EA HQ.</p> <p>As a first step the modus operandi and the roles and responsibilities of the two regional organizations have been defined in the context of the joint approach. Secondly, an agreement has been reached on the objectives of the collaboration with regard to the outlined items and the modalities for further action. The following potential areas for enhanced regional collaboration have been identified:</p> <ul style="list-style-type: none"> <li>• Development of standard training curricula and methodologies, emphasizing practical field exercises, to strengthen the capacities of the national agencies for regular training of new staff and retraining mechanisms.</li> <li>• Promotion of environmentally safer and effective technologies for controlling the Desert Locust, with emphasis on bio-pesticides and barrier treatment.</li> <li>• Strengthening the Desert Locust information management capacities of the member countries and international networking.</li> </ul>

Planned Activities	Status / Reasons for Deviation
	<ul style="list-style-type: none"> <li>• Implementation of common standard Desert Locust reporting schemes.</li> <li>• Development of standard campaign monitoring mechanisms.</li> <li>• Strengthening the survey capacities in northern Somalia.</li> <li>• Development of a common approach towards improved preventive control strategies.</li> </ul> <p>Due to the already may meetings planned for 2002 it has been agreed to meet at least once a year to assess the achievements in the harmonization process. The next meeting of the TAC has temporarily been fixed for end of 2002. Furthermore, it has been proposed to change the title of the meeting into <i>Joint CRC / DLCO-EA / EMPRES Forum</i>.</p>
<p><b>1.2 Organize inter-governmental exchange on legal issues on DL regional organizations</b></p>	<p>Information on CRC constitution and set-up has been distributed to the relevant authorities in Eritrea, Ethiopia and Djibouti as a first step to encourage non-CRC EMPRES/CR member countries to join the CRC.</p>
<p><b>1.3 Promote CRC membership of non-member countries of the Central region</b></p>	<p>Several opportunities have been taken at Department and Ministry level in Djibouti, Eritrea and Ethiopia to discuss EMPRES sustainability aspects with regard to the membership to the CRC. After joint efforts from FAO and the EMPRES Liaison Officer in Djibouti, the Government of Djibouti agreed formally to become member of the CRC in Sept. 2001. Hereby the number of the CRC member countries increased to 14. Also the Governments of Eritrea and Ethiopia showed high interest in joining the CRC. A positive response from one of the remaining non-CRC EMPRES/CR countries is likely to be expected by mid 2002. In order to further stimulate the integration process it has been agreed to invite representatives of Eritrea and Ethiopia to attend the next CRC Meeting in Damascus (March 2002) as observers.</p>
<p><b>1.4 Develop joint approaches between CRC, DLCO-EA and EMPRES towards creating sustainability</b></p>	<p>At regional level the 2001 EMPRES/CR work plan has been fine-tuned in consultation with the CRC and DLCO-EA. Joint activities with shared responsibilities were agreed by March 2001. Various training, research and survey activities have been co-funded and jointly carried out over the past months. Amongst others, EMPRES/CR also supported the participation of Sudan and FAO HQ in Virginia Tech. / DLCO-EA Pan African workshop on harmonization of registration process of bio-pesticides. The workshop report has until now not been published.</p> <p>At the national level the approach of the Country Focus Programmes (CFP) was further supported. However, some mixed results have been observed during the reporting period:</p> <ul style="list-style-type: none"> <li>• In Sudan the implementation of the CFP is further progressing successfully. A sound basis for improved survey and control operations has been laid. As a result, the Government of Sudan agreed to increase their support to the Locust Control Section of the PPD and provided funds to build up three Centres in the winter- and summer breeding areas and for the procurement of vehicles. The emphasis of the CFP will now be laid on improving the organisational aspects of locust management in particular on improving locust information handling and networking.</li> <li>• In Eritrea the implementation of CFP was much affected by the political circumstances at the Horn of Africa over the past years and by many changes in staff at the Plant Protection and Quarantine Unit of the MoA. Amongst others, the position of the ELO in Eritrea is vacant again after being filled only a short period. However, efforts have been undertaken to realize at least some of the components such as organizing a national survey and control training course (February</li> </ul>

Planned Activities	Status / Reasons for Deviation
	2001) and training for nomads and farmers (November 2001).
	<ul style="list-style-type: none"><li data-bbox="597 317 1399 510">• The implementation of the CFP in Yemen was hampered by unresolved questions regarding the provision of counterpart funds for the renovation of the substations of the DLC-Centre and the outbreak of the Rift Valley Fever (RVF) in 2000. In a meeting at the MoA (June 2001) it was agreed that the MoA will make funds for this purpose available and to initiate the CFP as soon as possible. However, no signs of concrete commitment have been observed so far.</li><li data-bbox="597 527 1399 663">• Saudi Arabia showed interest in the CFP approach and it was proposed to organize a planning workshop during 2001. EMPRES/CR was not able to carry out this workshop due the involvement of the Locust Centre in control operations of the RVF. It has been agreed to postpone it until 2002.</li><li data-bbox="597 680 1399 816">• The Crop Production and Protection, Technology and Regulatory Department (CPPTRD) of Ethiopia also requested support in the context of the CFP. A planning workshop has successfully been conducted in Addis Ababa in December 2001. It is expected that first activities will start in early 2002.</li><li data-bbox="597 833 1399 1024">• During the 9<sup>th</sup> EMPRES/CR Liaison Officers Meeting (Khartoum, October 2001) it has been discussed that the national institutions should undertake efforts to better plan for their activities and to use a harmonized reporting system. EMPRES/CR agreed to provide support in these aspects and to develop a standard reporting format on the progress made in the attempt to introduce improved locust management components into the national system.</li></ul>

**Result 2:** National and regional communication networking enhanced.

**Indicator 2.1:** Timeliness of sending DL reports to DLIS improved by 20% by 2001, 50% by 2002, 80% by 2003

**Indicator 2.2:** Fixed radio schedules defined and made standard communication procedures at 5 DL units by 2003

Considerable progress has already been made during Phase I in designing and establishing an efficient communication network in the Central Region. However, as technology advances and some equipment requires replacement, the network needs to be upgraded, maintained and advanced technology introduced. In addition, further efforts need to be made to ensure that the network is used regularly by the stakeholders in the region for exchanging Desert Locust reports, and for communication with the Desert Locust Information Service (DLIS) at the FAO HQ.

The timeliness and quality of locust survey reports submitted to the DLIS at FAO HQ is considered to be a useful benchmark for improved information exchange. These reports should be submitted within 5 days after completion of a survey carried out by national Locust Control Units (LCUs). Even if no surveys have been done, DLIS needs to receive a national report once a month and this report should be received not later than on the 25th of that month, so that the information can be incorporated into the monthly bulletins.

The establishment of schedules for radio contacts between the different units of the national locust services is considered another important factor for improved communication on locust aspects within the affected countries. Furthermore, EMPRES/CR will consider updated or new computer software and support the repair of equipment if needed.

Planned Activities	Status / Reasons for Deviation
<p><b>2.1 Stimulate proactive attitude in information exchange among stakeholders</b></p>	<p>Eight of the nine counterpart institutions including northern Somalia now have direct email access and likewise have their staff trained in operating standard software programmes. Smooth communication is in some cases hampered due to instability of the telephone lines as well as of the providers in some countries, which leads sometimes to long lasting communication failures with negative impact on the joint activities and the interaction between the various stakeholders.</p> <p>Within the context of its CFP, the PPD Sudan has reviewed the national DL information system, including the Locust Information Unit at its own HQ. As a result, fixed schedules for radio contacts have been defined including frequencies used, and the timing for each station and sub-station. Ten radio operators have been trained during a 2-day course on receiving and transmitting locust information from the field to the HQ and also on the use of the standard survey and spray monitoring forms. Also Eritrea and Ethiopia agreed to undertake efforts introducing standard radio communication schemes with technical support from EMPRES/CR.</p>
<p><b>2.2 Maintain and update communication and radio equipment</b></p>	<p>Office and communication equipment has been provided for the EMPRES / DLCO-EA office in Hargeisa to improve the networking and interaction with EMPRES/CR and DLCO-EA HQs.</p> <p>With support from GTZ two Codan Radios and modems have been ordered for Sudan, two for Yemen and one for DLCO-EA office in Hargeisa. A new technology, eLocust, is being tested in Mauritania as one potential way to improve data recording in the field and its transmission to the LCU. In collaboration with GTZ, EMPRES/CR is undertaking efforts to introduce eLocust also in Sudan and Yemen.</p>

**Result 3:** Desert Locust early warning and information systems improved.

**Indicator 3.1:** RAMSES installed and being used in at least 5 countries by 2003

**Indicator 3.2:** Remote sensing images incorporated into surveying decisions in at least two countries by 2003

EMPRES/CR considers the improvement of early warning and information systems at the DLCUs as a key prerequisite for efficient preventive control and has given high priority to this aspect since its inception. Phase II will further contribute to this area and will pay special attention to defining and meeting information needs. This includes further efforts to introduce access to satellite images in the region as well as to continue the development of appropriate data management systems such as RAMSES for forecasting as well as for other data management purposes.

New technologies, in particular remote sensing, have gradually improved the assessment of Desert Locust breeding areas and forecasting at the FAO HQ. It is expected that further efforts will be made to make advanced technologies available to the locust-affected countries so that surveys can be planned and directed more effi-

ciently and the locust population level can be assessed more reliably. Further efforts will be made to harmonize and streamline the flow of Desert Locust information within the region.

Planned Activities	Status / Reasons for Deviation
<p><b>3.1 Build up national and regional DL information systems</b></p>	<p>The member countries were expected to define their national information systems, requirements and needs by May 2001. So far, only the LCUs in Sudan, Eritrea and Yemen have begun work on this topic. The slow response by the LCUs has delayed the development of recommendations for improved information systems, as well as the work on standard information exchange procedures. In particular Eritrea and Yemen have not yet identified their specific needs so as to improve their systems. The ELOs have been encouraged to provide EMPRES/CR with their suggestions for improving the national information systems by early 2002.</p>
<p><b>3.2 National locust information routinely dispatched to DLIS</b></p>	<p>During the 9<sup>th</sup> ELO Meeting the survey and information system and the need to improve it has been discussed. One method of measuring progress in this area is to analyse the reports received at FAO DLIS in terms of quality, timeliness and frequency. A country-by-country analysis revealed that while good progress has been made, it varies from country to country and there is a need for further improvements. Specific examples were provided of less than complete reports. It was reiterated that field data should not only be passed on to FAO DLIS but it should be analysed by the LCU and used for planning national surveys and control operations. In order to improve the quality of survey data, the FAO Desert Locust Survey and Control Form should be used by all field officers, and training may still be required in the completion of this form.</p>
<p><b>3.3 Harmonize DL information systems between CRC, DLCO-EA and DLIS</b></p>	<p>A consensus has been reached between CRC, EMPRES/CR and DLCO-EA in using and respecting the standard information procedures as recommended by FAO in context of their mandated countries. As DLCO-EA is not only providing information on Desert Locust events but also on <i>Quelea</i> birds and Armyworm it has been agreed with DLCO-EA to pass monthly reports to the CRC, DLIS and EMPRES/CR on locusts and grasshoppers only. The discussion on harmonizing the information systems at regional level will be followed further during the next meetings.</p>
<p><b>3.4 Incorporate DL data management systems at the LCUs</b></p>	<p>The RAMSES system has been installed in three countries (Eritrea, Ethiopia and Yemen), and has been used for the production of maps and statistical series on past DL events. There have been constraints associated with technical problems as well as with a lack of expertise available at the LCUs to operate the system in particular in Yemen and Eritrea. Some of the obstacles were resolved during the past months. A new Information Officer has been appointed at the PPD in Yemen after the RAMSES system has eventually been transferred to the DLC-Centre in March 2001, and the system in Eritrea is operational again.</p> <p>The suspension of DFID assistance for Desert Locust management through NRI affected the introduction of RAMSES in the Central Region negatively. Within the retrenchment process at NRI in July 2001, the key RAMSES expert staff have left NRI. For this reason a planned intensive RAMSES training programme at NRI for 2nd half of 2001 for two Information Officers from Sudan and Ethiopia with the aim to assist other LCUs in the use of RAMSES could not be realized and has been postponed until January 2002. For the same reason the long awaited introduction of RAMSES in Sudan is still pending.</p> <p>The Information Officer from the PPD Sudan benefited from eleven months on-the-job training at DLIS in Rome and returned to his duty station in September 2001. During his stay he improved his skills on locust data management and forecasting and is also competent in using complex GIS software. He will assist the PPD Sudan in further improving the data management system in Sudan and other EMPRES countries.</p>

Planned Activities	Status / Reasons for Deviation
	Due to the value of this component for rational decision making in the context of improved DL management, it is important that the LCUs give specific attention to regular use of RAMSES and staff development on this technology. It has been recommended also that the Information Officers using RAMSES should provide their Department Heads with regular reports on the DL situation.
<b>3.5 Introduce new technology including remote-sensing into early warning information system</b>	DLIS and EMPRES/CR are in agreement that the calibration of satellite images has not yet reached the stage at which it can be operationally used for locust surveys, and thus the regular provision of remote sensing images to the LCUs has yet not been initiated. However, FAO will recruit a remote sensing expert at DLIS with effect from January 2002, to further develop the technology for use by the LCUs better to direct surveys.
<b>3.6 Carry out ground truthing operations</b>	Ground surveys have been undertaken (Sudan and Eritrea) to provide ground truthing information for the calibration of satellite images. In respect of meteorological data, the envisaged establishment of close links between LCUs and national meteorological agencies did not yet materialize as planned. The main reason appears to be a general “user pays” principle adopted by national meteorological services which makes the cost of data prohibitive for LCUs.

**Result 4:** Desert Locust survey procedures of the member countries improved.

**Indicator 4.1:** Survey plans developed and made integral procedure of the PPD in at least 4 member countries by 2003

**Indicator 4.2:** Key breeding areas of at least 2 member countries identified and described by 2003

**Indicator 4.3:** Up to 2 joint border surveys conducted on two borders in the CR by 2003. (Other than the Egyptian – Sudanese borders)

Exploring the possibilities for improving survey procedures is a long-term process, which has already started during Phase I. This result will be achieved through a combination of applied research (e.g. in respect of survey methodology and the assessment of survey results), data collection on important breeding areas, surveys, which are jointly conducted by EMPRES countries along their border areas and training of technical survey staff.

It is expected that by the end of Phase II, comprehensive survey plans, including mechanisms to activate and modify the plans depending on environmental conditions, will have been developed in at least four EMPRES/CR countries. More accurate description and mapping of the key breeding areas will be in place in at least two countries by 2003.

The distribution and density of locust populations that may occur will be recorded. These data will be analysed together with data available from past assessments. The analysis will contribute to improved and more targeted surveys as well as to better forecasting. This activity is a joint collaboration between the national Locust Units, EMPRES/CR and the University of Wageningen. Information will be collected on the delimitation and ecology of important locust breeding areas. These data will

be analysed against historical records and meteorological/remote sensing data, and will be incorporated into survey plans.

Planned Activities	Status / Reasons for Deviation
<p><b>4.1 Develop sustainable and targeted survey procedures</b></p>	<p>In the context of the CFP, the PPD Sudan drafted a first national survey plan for the summer and winter breeding seasons, which includes also experiences from the PPD Mauritania. The targeted survey plan for Eritrea is delayed due to the slow response from the PPQS.</p> <p>The NPO-S and two ELOs from Sudan and Yemen have been sponsored by GTZ to gain further practical field experience from the example in Mauritania. During this visit (November 2001) the trainees also participated in demonstrations on the use of ultra-light aircraft, GT (<i>Getting there</i>) low-maintenance vehicle that could be used in difficult terrain and metarhizium application organized by the Norwegian Project under EMPRES/WR.</p>
<p><b>4.2 Define and describe potential breeding areas in the CRC</b></p>	<p>Historical records, meteorological and remote sensing data as well as other sources have been used to produce a preliminary identification of some of the most important breeding areas in the Central Region; a draft report is under review. Also an inventory of high DL frequency and distribution areas in Eritrea, Sudan and Yemen has been prepared.</p> <p>To date, three population dynamics studies have been conducted in collaboration with the Wageningen University (WU) along the Red Sea coast in Sudan. Also another EMPRES/CR and CRC-supported research project of the University of Khartoum works on the same topic. Vegetation and soil maps of the coastal areas of Eritrea have been received from NRI, while a report on the methodologies used to characterise the vegetation is still being awaited from NRI.</p>
<p><b>4.3 Carry out joint surveys</b></p>	<p>From the experience of the Egyptian-Sudanese joint border survey conducted in early 2000, a joint cross-border survey along the Sudanese-Eritrean border was proposed for early 2001. It was agreed that DLCO-EA would assist in the coordination and facilitate the operations between the two Governments. After much effort from all parties involved and after postponing the survey until the winter breeding season 2001-2002, it has been agreed to halt this activity temporarily until the security situation has improved significantly. However, it has been recommended that both LCUs should liaise closely with their armed forces to obtain information on the ecological conditions and the locust situation in this area.</p> <p>As a follow up of the Egyptian-Sudanese joint border survey, a joint Sudanese-Egyptian in-country survey was successfully conducted in North Kordufan in August 2001 also using satellite imageries to direct the survey team.</p>
<p><b>4.4 Strengthen self-reliant survey capacity in Somalia</b></p>	<p>A joint DLCO-EA / EMPRES mission visited Somalia in March 2001 to assess the sustainability of survey operations in this area and the feasibility for handing over survey activities to the responsibility of the MoA in Hargeisa after the end of assignment of the EMPRES UNV (July 2001). On the basis of a short-term action plan, geared towards a more self-reliant modality, office and communication material has been procured for two EMPRES/DLCO offices at the MoA. A training course on locust survey for local experts was conducted in Hargeisa in June 2001. However, the implementation of the action plan was overshadowed by the unexpected death of the DLCO Caretaker in Hargeisa (April 2001), who was intended to take over activities from the EMPRES UNV and to assist in building up the survey capacity at the MoA. A new DLCO Caretaker was appointed in July 2001.</p> <p>As a consequence of the new developments and the interruption of survey reports from this important area, the former UNV and the DLCO Information Officer were assigned (December 2001) to review the situation again and to further instruct the DLCO and MoA staff on survey and reporting matters.</p>

**Result 5:** Desert Locust technicians and officers qualified.**Indicator 5.1:** At least 50% of DL technicians trained in each CR country by 2003**Indicator 5.2:** At least 2 trainers trained according to agreed standards for each country by 2002

Training of different personnel involved in locust control aspects is an important component of strengthening the preventive control capacities of the EMPRES/CR countries. EMPRES/CR has already given considerable attention to this subject during Phase I. However it is not only necessary to organize additional training courses which meet given training standards but also to develop these standards, training materials such as manuals, guidelines and curricula, explore new training approaches as well as to develop and introduce appropriate procedures for identifying training needs. In addition, monitoring procedures need to be introduced, which provide feed-back on how effective the training events have been and also on how they translate into an improved performance of trainees when they work in their Desert Locust control unit. Attention also needs to be given to collaboration with universities and with other organizations conducting training events in the field of locust management (e.g. donor agencies sponsoring bilateral training).

It is expected that at least 50 % of the combined total of Desert Locust control officers and technicians in the Central Region will be trained during the Phase II. Furthermore by 2002 each of the member countries will have designated at least two trainers in Desert Locust management and they will have received special training from EMPRES/CR.

It is anticipated that the LCUs of the member countries will increasingly incorporate specialized training courses for the different groups involved in Desert Locust in their own national training programmes and will be able to maintain such a system. Success will become apparent when national training courses are organized on a routine basis.

The University of Khartoum, with support from the CRC, has developed a special Diploma course on Desert Locust management. The use of the Diploma course in locust management at the University of Khartoum is promoted through DLCC and CRC fellowships.

Planned Activities	Status / Reasons for Deviation
<b>5.1 Define training standards</b>	The participants of the ELO Meeting in Oman in 2000 adopted a standard training approach outlined in January 1999, which aims at strengthening national training schemes and incorporating DL aspects into training materials for technicians, extension workers and other staff potentially involved in DL operations.
<b>5.2 Define training needs on technical DL subjects at different levels</b>	<p>The specific training needs in Eritrea have been identified. The major gaps have been identified on subjects such as:</p> <ul style="list-style-type: none"> <li>• Map reading including the use of compass.</li> <li>• The use of GPS.</li> <li>• ULV and EC calibration.</li> <li>• Types of pesticides and their toxicity.</li> </ul>
With regard to Sudan the training needs and impact assessment proce-	

Planned Activities	Status / Reasons for Deviation
<b>5.3 Develop training curricula / manuals for ToT-courses</b>	<p>dures have been discussed with the ELO and a tentative assessment protocol developed.</p> <p>A cornerstone of the unified training approach is a standard training manual, which provides reference materials as well as didactic guidelines for national trainers. An outline of the training manual has been drafted and discussed but work on the training manual has not advanced due to difficulties to find financial support. Finally it has been agreed that EMPRES will cover the costs for the development of the manual and that it also will be adopted by EMPRES/WR. A Letter of Agreement has been drafted to contract NRI soon to complete the work.</p> <p>The revised and updated FAO Desert Locust Guidelines, which should make a major contribution as a reference handbook for locust officers, were published in September 2001, in English. French and Arabic versions are under preparation.</p>
<b>5.4 Assist universities in DL curricular development and involve students in EMPRES activities</b>	<p>A Training Curriculum has been developed in collaboration with NRI in 2000 and adopted as standard ToT protocol. In the EMPRES attempt to make training on locust matters more self-sustained it has been agreed with CPPTRD to introduce the training curriculum at the Agricultural Training Centres for Diploma students in Ethiopia as part of their recurrent training programme. The standard training curriculum will be made available and introduced as part of the CFP in Ethiopia in 2002.</p>
<b>5.5 Organize different training courses</b>	<p>The CRC and EMPRES/CR-sponsored diploma course on Desert Locust Management at the University of Khartoum began in September 2001 with six students enrolled from Sudan, Eritrea and Ethiopia.</p> <p>In the context of the CFP in Sudan a national training course on Survey &amp; Control aspects has been conducted in El Obeid in February 2001. 16 participants from different states of Sudan attended together with the EMPRES APO and the M.Sc. Student from Saudi Arabia. The trainers were the Head of DL Section of the PPD, the Director of PPD North Kordofan, and the NPO-C.</p> <p>A second national S&amp;C training course in the context of the CFP Eritrea has been conducted in Dubarwa in February 2001. 16 trainees from different zones in Eritrea attended the course. The trainers were EMPRES NPOs for Survey and Control and five national co-trainers.</p> <p>A survey course has been conducted in Hargeisa, Somalia in June 2001 for 10 trainees involving also staff from local NGOs.</p> <p>A regional ToT training course has been supported by CRC and EMPRES/CR in Port Sudan in October 2001. In total 15 trainees from the EMPRES and CRC non-EMPRES countries attended the course and three national trainers from Sudan, Eritrea and Ethiopia participated as co-trainers.</p> <p>A farmers' training in Eritrea has been planned for November 2001, but so far no feedback on its realization has been received.</p> <p>The planned regional Information and Forecasting seminar did not materialize due to the unavailability of the DLIS expert. Alternatively it has been proposed to send two Information Officers from Sudan and Ethiopia for a comprehensive RAMSES training to NRI and on-the-job training provided by DLIS during country visits.</p> <p>The planned regional DL Campaign Management and Planning seminar did not take place as the invited consultants withdrew at short notice. It is now scheduled for 2002.</p>
<b>5.6 Develop and introduce regular training impact mechanisms</b>	<p>A training assessment scheme to evaluate the training impact and action in the field has been incorporated into the work plans of the CFP of Sudan and Ethiopia.</p>

**Result 6:** Contingency plans available and implemented.**Indicator 6.1:** National contingency plans for recession monitoring and control for outbreaks, upsurges and plagues adopted in up to 6 countries by 2002

Contingency planning is a vital component during the prevention of Desert Locust plagues. The national LCUs in the individual member countries not only need to prepare plans covering scenarios from recession to plague situations, but also need to ensure that arrangements for implementation of these plans are in place and regularly reviewed. Such arrangements should cover the provision of manpower, equipment, supplies and financial resources. For upsurges or plague situations it is likely that additional resources will be needed from the Ministries of Agriculture and from other departments of the Governments. Arrangements for the supply of these additional resources will be made and will be reviewed periodically to ensure that the other government units can supply such resources at short notice. In some cases external assistance will be needed to fill gaps in resources. These gaps will be specified and discussed at the regional and the international levels. Possibilities for meeting these requirements will be identified and mechanisms for mobilization reviewed. A modelling tool developed by the University of Wageningen and GTZ is considered to be an important element for the development of contingency plans.

Planned Activities	Status / Reasons for Deviation
<b>6.1 Introduce national contingency and rapid deployment plans into the locust management system</b>	<p>Sudan developed and submitted draft contingency plans for the summer and winter breeding seasons 2001, which were drafted as part of the CFP. Ethiopia and Yemen had earlier agreed to develop contingency plans as well. Ethiopia has developed an outline contingency plan but no progress was made in Yemen.</p> <p>The topic is very complex and requires careful guidance in order to enable the LCUs to be prepared for a possible locust scenario with at least a certain degree of likelihood of being able to deal successfully with it. The skills required to prepare scenario-based arrangements and to put the vital resources in place are being addressed in a regional Contingency Planning seminar scheduled for early 2002.</p>

**Result 7:** Efficient and environmentally safer control methods introduced.**Indicator 7.1:** At least 1 new additional control technology introduced in at least 3 countries by 2003

Research on new pesticides and application technology has opened up the prospect of introducing new methods for Desert Locust control, which are both more economical as well as safer for humans and the environment. In particular the application of environmentally safer chemical pesticides in barriers and the use of mycopespicides has become attractive. However, more testing under operational conditions on a large scale and registration is required in the EMPRES/CR countries before these new technologies can be made part of the national control strategy.

During Phase II at least one new and environmentally sound control technology should be introduced and used on an operational scale. Relevant registration procedures for pesticides are expected to be completed during the 3-year period. It should be noted that the ability to conduct field trials in the Central Region will depend on the presence of sufficient locust infestations.

To facilitate the testing of new technologies, EMPRES/CR and the CRC in collaboration with national institutions and with assistance from GTZ, field trials of mycopesticides and environmentally friendly chemical pesticides will be organized.

The impact on the environment of new and traditional control technologies will be studied with assistance from SIDA, through the Universities of Uppsala and Gothenburg. These studies will produce recommendations on the types of pesticides which should be used in various habitats (e.g. rangeland, nature reserves or wetlands).

Planned Activities	Status / Reasons for Deviation
<p><b>7.1 Facilitate development and testing of new technologies taking into account human health and the environment</b></p>	<p>GTZ agreed to associate the GTZ Desert Locust Project with the EMPRES/CR programme during Phase II as a contribution to the development of environmentally safer control means. The GTZ Expert/FAO Visiting Scientist, based in Cairo since April 2001, has drafted a discussion paper on field-testing of bio-pesticides, insect growth regulators (IGR), and the semiochemical Phenyl-aceto-nitrile (PAN). However, the implementation of the proposed trials depends very much on the locust situation. In order to be more flexible, advance arrangements have been made with EMPRE/WR to take advantage of the opportunities in the greater region once a suitable situation occurs.</p> <p>ICIPE has conducted laboratory tests on the effects of PAN on the Desert Locust for many years. The results have been assessed as very promising in particular for controlling hopper bands in combination with metarhizium products or with reduced conventional pesticide application rates. EMPRES/CR has made arrangements, through the Swiss Trust Fund, to support ICIPE in facilitating field-testing of PAN involving also staff from the LCUs or other research institutions in the trials. So far the locust rearing facilities at the ICIPE station in Port Sudan has been build up and trial protocols drafted. It is expected that at least semi- field trials will be conducted 2002 and 2003, using reared locusts, and full field trials will be carried out if wild locust populations develop.</p> <p>DGPS equipment has been ordered in December 2001 for installation in a DLCO-EA aircraft in 2002 for demonstration purposes. The process was delayed while technical specifications were clarified. There is insufficient space in DLCO Beavers to fit the equipment, but it will be fitted to an Islander.</p> <p>With regard to testing of new spraying equipment, contacts have been made with NRI on their participation in a workshop planned for September 2001. The preparation of the workshop was delayed due to slow response from the invited sprayer companies as well as the nomination of the former NPO-C as CRC Secretary. It is planned to organize the sprayer testing in 2002. It would update the previous testing carried out in 1994.</p> <p>The procurement of field trial equipment for Egypt, Eritrea, Yemen and Sudan has been completed in June 2001. Some of the equipment could not be shipped to Eritrea due to embargo restrictions. These items are kept at the coordination office in Cairo until the sanctions are lifted.</p>

Planned Activities	Status / Reasons for Deviation
<b>7.2 Assess environmental impact of locust control operations</b>	<p>A comprehensive blood-testing programme was planned to be carried out by DLCO-EA in collaboration with the Sudanese PPD during the summer pre-campaign in 2001. Due to the prevailing US embargo on Sudan, it was not possible to provide the PPD with the necessary equipment. DLCO-EA now agreed to conduct the programme in Eritrea by 2002.</p> <p>The EMPRES APO carried out studies on the effects of Desert Locust control on the biodiversity in the mangrove areas along the Red Sea in Sudan. A base line study was conducted from March-April 2001. A second study site has been chosen in the Atbara riverine system, where investigations are currently on-going. The records included mud and soil samples, sweep netting, plant collection and other observations for example on bird species in addition to collecting meteorological and geomorphologic data.</p> <p>The analysis of the soil samples has been finished. The Centre of Environment in Khartoum and the NRI are assisting in the identification of microorganisms. The analyses are currently taking place. The literature review has been finalized, and a list of indicator organisms and their sensitivity to pesticides has been compiled.</p>
<b>7.3 Support operational research projects</b>	<p>Under the joint CRC / EMPRES/CR programme to support national DL research, a more concise research grant application format has been developed and introduced, as well as a new reporting format. Two projects are currently being conducted by the Universities of Khartoum (population dynamics) and Aden (effect of metarhizium on non target species). A third project in collaboration with the University of Alemaya on DL population comparisons in different recession periods in Ethiopia resulted in the award of an MSc degree in May 2001.</p> <p>Fourteen proposals were received in 2001 of which five have been short-listed:</p> <ul style="list-style-type: none"> <li>• Potential of botanicals (University of Kordofan, Sudan),</li> <li>• Biological control (Cairo University, Egypt),</li> <li>• Population dynamics (Sana'a University, Yemen, and Assiut University, Egypt)</li> <li>• ULV spraying techniques (PPRI, Egypt),</li> <li>• Locust infestations and environmental factors (King Faisal University, Saudi Arabia).</li> </ul> <p>The proposals are currently being reviewed by the CRC and EMPRES/CR and assessed for support.</p>
<b>7.4 Promote the use of proven technologies</b>	<p>In order to promote the registration process of bio-pesticides such as metarhizium, an expert consultation was arranged by AGPP for December 2001 to assess the risks and acceptance of bio-pesticides in relation to their importation and registration by the affected countries. Consultants/Authors' Contracts were hired/issued to cover the preparatory work and the findings were presented at the consultation meeting at FAO HQ (December 2001). The final report is expected to be released by February 2002.</p> <p>As a first step for registration of metarhizium products in Sudan, an agent has been appointed to handle all related matters of registration.</p> <p>An investigation has been carried out to obtain information on the different types of vehicle-mounted sprayers used by the LCUs and DLCO-EA for locust control. The result shows that Exhaust Nozzle Sprayers (ENS) have largely been replaced by modern ULV sprayers in most of the countries.</p>

**Result 8:** Systematic methods of campaign evaluation developed.**Indicator 8.1:** Two case studies conducted by 2002**Indicator 8.2:** Models to identify efficient control strategies via scenarios completed by 2003

The process of developing an improved preventive control strategy requires long-term attention and support. Until the end of Phase I, EMPRES/CR has been active in the collection of data and has been looking into various components of preventive control. However it was seen necessary to assemble and to collate more data and then to develop analytical tools and methods such as socio-economic case studies and theoretical models.

With regard to the achievement of result 8, it is expected that at least two case studies on the efficiency and socio-economic impact of national control campaigns will be conducted by 2002. Furthermore, it is expected to complete the work using a computer-based model, which comprises elements of population dynamics and campaign organization as a tool for better contingency planning.

Planned Activities	Status / Reasons for Deviation
<b>8.1 Develop suitable campaign evaluation mechanisms</b>	<p>An internal FAO-EMPRES staff workshop on how to conduct evaluations has been conducted and new reporting system developed to allow EMPRES staff to evaluate their own progress. The reporting system is in use since 2nd Q. 2001. This differs from the original expectation as it is only an internal progress monitoring system which has been developed due to the complexity of the EMPRES programme. However, in order to monitor the efforts made by the individual EMPRES/CR member countries to put improved Desert Locust management components into practice, the participants of the 9<sup>th</sup> ELO Meeting agreed to participate in the reporting process.</p> <p>The spray-monitoring-form developed in collaboration with NRI has been reviewed and recommended, on a trial basis, by the 36<sup>th</sup> DLCC meeting (September 2001) as standard format for good spraying practices during control operations. The form and the guidelines have been distributed to all EMPRES/CR countries for testing.</p> <p>A draft review of current survey and control operations in the Central Region has been prepared, as well as a DL bibliography. A consultant has been contracted by the GTZ Desert Locust Project to compile all identified DL bibliographies on CD ROM. The CDs will be made available to the partner institutions by 2002.</p>
<b>8.2 Analyse socio-economic impact of campaigns</b>	<p>Due to insufficient understanding of the social and economic issues in DL control a socio-economic study in Sudan to assess farmers' reaction and the impact of the locust threat at farm level has been initiated in collaboration with researchers from the University of Hanover, who also supervise an Ethiopian economist from the Alemaya University. The field investigations started in August 2001. The final report is expected soon. A similar study has been initiated by DFID in August 2001 in Mauritania and Eritrea. The results of the study will be used to decide if DFID will resume its assistance to improved Desert Locust management or suspend it permanently. The study will also contribute to assessments of the socio-economic importance of DL.</p> <p>The University of Gothenburg conducted a survey in Eritrea (May 2001) to evaluate the feasibility of insurance schemes to compensate for locust</p>

Planned Activities	Status / Reasons for Deviation
<b>8.3 Investigate scenarios on survey and control operations to improve strategies</b>	<p>damage at a lower cost to the community than fighting the pest. The preliminary results are expected by 2002.</p> <p>A preliminary discussion paper on improved preventive control strategies has been prepared by EMPRES/CR with inputs from WU. It was seen necessary to review the paper again with the help of a consultant.</p>

## C. Staff status and Inputs

### C.1 Staff situation

#### a. Professional staff

1 Programme Coordinator (Cairo, Egypt)	Newly appointed as from August 2001, under FAO Regular programme funds.
1 Senior Field Officer	Project-funded post, for which the funding ended at the end of May 2001. The post was maintained until August 2001 by a FAO Regular Programme for a temporary post.
1 Senior Expert for Research & Development (Sana'a, Yemen)	Post planned at least until June 2002
1 National Professional Officer for Control	Post planned until at least 2003; vacant since August 2001.
1 National Professional Officer for Survey (Sana'a, Yemen)	Project funded post. Post planned until December 2002 current contract until November 2002.
1 Associate Professional Officer (Khartoum, Sudan)	Contracted until 24 November 2002.
1 UN Volunteer (Hargeisa, Somalia)	Contract ended 30 June 2001.

#### b. Support staff

1 Administrative Secretary in Asmara, Eritrea, fixed-term contract ended 30 Dec. 01
1 Driver in Addis Ababa, temporary contract ended 30 Sept. 01
1 Secretary in Sana'a, fixed-term contract
1 Driver in Sana'a, fixed-term contract

## C.2 Equipment ordered since January 2001 (Phase II)

- Djibouti:**
- 1 Toyota Pick up double cabin
  - 1 Desk-top computer incl. accessories
- DLCO-EA**
- 1 Blood testing kit
  - 1 Codan Radio (DLCO station Hargeisa)
  - 1 DGPS gear
- Egypt:**
- 2 Land Rover Discovery (1 EMPRES Office, 1 GTZ Project)
  - 2 Desk-Top computers incl. Accessories (EMPRES Office)
  - 1 Lap top computer (EMPRES Office)
  - 1 Scanner (EMPRES Office)
  - 1 Photocopier (CRC/EMPRES Office)
  - Various office furniture (EMPRES Office)
  - Various survey equipment incl. 20 GPS hand sets
  - Various field trial and camping equipment
- Eritrea:**
- Various field trial and camping equipment
- Ethiopia:**
- Oman**
- Somalia:**
- 1 Desk-Top computer incl. Accessories
  - 1 Fax machine
  - Various office furniture
- Saudi Arabia:**
- Sudan:**
- Various field trial and camping equipment
  - 1 eLocust field data transmission system (Incl. 2 Codan Radios, modems, GPS and hand-held computer)
- Yemen:**
- Various survey equipment incl. 20 GPS hand sets
  - Various field trial and camping equipment
  - 1 eLocust field data transmission system (Incl. 2 Codan Radios, modems, GPS and hand-held computer)

### **C.3 Training activities during the reporting period**

- 2 National S&C training courses (Sudan, Feb. 2001; Eritrea, Feb. – March 2001), total 32 trainees.
- 1 Survey training in Somalia, July 2001, 10 trainees
- 1 on-the-job training, DLIS Rome, for 11 months, 1 trainee
- 1 Regional ToT training course in Sudan, Oct. 2001, 15 trainees.
- 1 on-the-job training, survey systems and demonstration of new technologies, Mauritania, November 2001, 3 trainees
- 1 DL Diploma course, University of Khartoum, 6 students (on going)

### **C.4 Meetings, workshops, seminars attended by EMPRES/CR staff during the reporting period**

- EMPRES/CR staff meeting, Addis Ababa, 22-26/01/01
- VT Pan African workshop on mycopesticide registration, Cotonou, 29/01–02/02/01
- EMPRES/WR programme planning workshop, Nouakchott, 10–15/02/01
- WU workshop, Wageningen, 21-23/05/01
- 36<sup>th</sup> DLCC Meeting, Rome, 24-28/09/01
- 9<sup>th</sup> ELO Meeting, Khartoum, 13-18/10/01
- Experts Consultation Meeting on mycopesticide importation/registration, Rome, 3-7/12/01
- CF Planning workshop, Addis Ababa, 04-07/12/01
- FAO/CRC/EMPRES/DLCO Meeting, Addis Ababa, 12-13/12/01

### **C.5 Visits to the EMPRES/CR during the reporting period**

- Dr. Judith Pender (NRI), backstopping of MSc student, Addis Ababa, 03-15/02/01
- Dr. Staffan Wiktelius (SIDA): backstopping of APO, Sudan, 13-21/03/01
- Mr. Jeremy Stickings (DFID): DFID support to EMPRES, Addis Ababa, 04/04/01
- Dr. A. Hafraoui (FAO-AGPP): Backstopping, Consultation with MoA Yemen, Sana'a, June 01
- Mr. Bernd Bültemeier (FAO), Mr. Laury McCulloch (FAO consultant): EMPRES Evaluation, Egypt, Sudan, Yemen, Eritrea, and Ethiopia, 12-29/08/01
- Dr. Staffan Wiktelius (SIDA): Consultation with EMPRES, backstopping of APO, Cairo and Khartoum, 27- 29/11/01 (Cairo)
- Dr. A. Hafraoui (FAO-AGPP): CRC – EMPRES/CR Backstopping, CRC-EMPRES DLCO meeting, Cairo and Addis Ababa, 08-14/12/01

## D. General Assessment

Conclusion whether the programme purpose can be achieved  
Recommendations on necessary steps to be taken  
Future action required

As pointed out during the 3<sup>rd</sup> Consultative Committee Meeting, the work plan developed at the 8<sup>th</sup> ELO Meeting for the first year of Phase II was very ambitious. On top of this, the implementation of the activities during 2001 was much influenced by the recruitment of the former EMPRES/CR NPO for Control as Secretary of the CRC and of the new EMPRES/CR Coordinator hand in hand with the transfer of the former Acting-Coordinator from Addis Ababa to the new Coordination Office in Cairo. In addition, on special request of the Director General of FAO the overall EMPRES Programme including its Desert Locust Component in the Central Region has been evaluated during August 2001, two years after the last evaluation. Despite all external factors, which contributed to a delay in some of the activities, it was possible to realize most of the outlined work plan with satisfactory results even with reduced capacities regarding time and manpower. Also the Evaluation Mission observed significant improvements in all aspects of the various EMPRES/CR programme components over the past years.

With filling the posts of the CRC Secretary and the EMPRES/CR Coordinator it can be expected that the initiated internal co-ordination and collaboration between the two bodies will further improve towards sustainability during the remaining period of Phase II. Already joint work planning and joint support to various activities such as training and research has become a routine practice. The harmonization and synchronization process of standard DL management aspects such as training, survey and reporting, research and campaign evaluation has also been extended to DLCOEA and EMPRES/WR and will be developed further. An important milestone to ensure continuity of EMPRES/CR approaches once the Programme terminates was the decision of the Government of Djibouti to join the CRC. The non-CRC EMPRES/CR countries Eritrea and Ethiopia also expressed their interest to become members of the CRC soon.

With regard to the incorporation of EMPRES/CR approaches into the national programmes of member countries, the variation in the level of achievements continued to be apparent over the past months. The reasons for this observation are on the one hand the reduced capacity of the FAO-EMPRES/CR staff to encourage and support counterpart staff in all aspects as directly as might be expected. In some other cases a reluctance to use modern communication facilities such as email to keep up regular contacts has led to slow progress in this respect. The components mainly affected are the introduction of improved survey approaches and DL reporting. External factor such as the Rift Valley Fever outbreak and military conflicts contributed to a reduction of national EMPRES activities in some countries. The latter are in the process of being resolved, with the likely result that national EMPRES programmes in those countries will probably gather momentum again during the next months.

Equally important is the achievement of the active involvement of the ELOs into the decision-making process and hence the design of the EMPRES/CR operations

through participatory meetings and other joint activities. The increasing contribution of national programmes and of the regional bodies to the progress and success of the EMPRES/CR programme is becoming increasingly evident. However, the aspect of shared responsibility has not yet been entirely assimilated by all ELOs. This is mainly reflected in the country reports. A reason for this might be insufficient skills and tools to systematically plan and the lack of a standard reporting format. It has been agreed during the last ELO Meeting to address these points through extending the CFP approach and the provision of a standard reporting format. Nevertheless, much is depending of the individual efforts of the ELOs to collaborate with the FAO-EMPRES/CR staff and to make appropriate use of the facilities and concepts provided by EMPRES/CR.

With regard to the bilateral contributions to the EMPRES/CR Programme, collaboration did not improve much compared to the previous reporting period. Policy changes, internal decisions not always being well coordinated with the EMPRES/CR programme, lack of transparency and changes of interests and development goals etc. make it very difficult to harmonized the activities of the bilateral projects in line with the EMPRES/CR work plan. In certain areas, they are jeopardizing the successful accomplishment of entire components. It is recalled that the EMPRES/CR programme has been designed as “joint” effort of FAO, the affected countries, the donor community and other institutions. The individual efforts are focused on *“...strengthening the capabilities and capacities of the national, regional, and international components of the Desert Locust management system to implement effective and efficient preventive control strategies...”* with FAO as mediator to coordinate the various individual contributions and activities in a balanced and systematic way directed to the well-being of the locust affected countries and farming communities in particular. In order for FAO to fulfil its roll as expected it is essential that all stakeholders play their part equally, bearing in mind the long-term objectives of the Programme in a complex and sometimes difficult milieu and the erratic nature of the pest.

The lack of locusts has without doubt had a negative impact on most of the research activities, which are aiming at introducing new control technologies as part of improved DL management strategies. The persisting recession period makes it difficult to conduct the expected large-scale field trials as perceived necessary to facilitate the registration process of mycopesticides and the introduction of barrier treatment in particular. EMPRES/CR has made advance arrangements in collaboration with EMPRES/WR to set up trials wherever the locust situation appears suitable to conduct field trials. However, the logistical dimension of such undertaking has to be looked into carefully as well as the costs factor due to long distance travelling to participate in such joint activities.

## List of Acronyms

AGPP	Plant Protection Service (FAO)
APO	Associate Professional Officer (FAO)
CFP	Country Focus Programme
CRC	FAO Commission for Controlling the Desert Locust in the Central Region
DGPS	Differential Global Positioning System
DL	Desert Locust
DLC	Desert Locust Control
DLCC	Desert Locust Control Committee
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DLIS	Desert Locust Information Service (FAO HQ)
ELO	EMPRES Liaison Officer
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (FAO)
EMPRES/CR	EMPRES Central Region Programme
EMPRES/WR	EMPRES Western Region Programme
FAO	Food and Agriculture Organization of the United Nations
GIS	Geographical Information System
GPS	Global Positioning System
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)
ICIPE	International Centre for Insect Physiology and Ecology, Nairobi
IGR	Insect Growth Regulator
LCU	Locust Control Unit (National)
MoA	Ministry of Agriculture
NPO	National Professional Officer (FAO)
NRI	Natural Resources Institute (UK)
PAN	Phenyl-Aceto-Nitrile
PPD	Plant Protection Department (National)
RAMSES	Reconnaissance and Monitoring System of the Environment of Schistocerca (GIS data management and aid to decision-making)
RVF	Rift Valley Fever
S&C	Survey and Control
ToT	Training of Trainers
ULV	Ultra Low Volume
USAID	United States Agency for International Development
WU	Wageningen University