



# **FAO-EMPRES/CR**

**Report on**

**3<sup>rd</sup> Ad Hoc Emergency Prevention Meeting,  
Cairo, Egypt**

**22-24 March 2005**

**by C. Pantenius**

### **3<sup>rd</sup> Ad Hoc Emergency Prevention Meeting, Cairo, Egypt 22-24 March 2005**

**Participants:** Mr. Mohamed M. Abdel Rahman (Director of the General Department for Locusts & Agro-Aviation Affairs), Egypt,  
Mr. Rabie Khalil (Director of the Central Institution for Desert Locust Research and Control), Sudan,  
Mr. Ghazi Hawari (Director General of the National Centre for Desert Locust Control), Kingdom of Saudi Arabia,  
Mr. Abdu Farea Al Romaih (Director of the Desert Locust Monitoring and Control Centre), Yemen,  
Mr. Ghebrehiwet Teame (Director of Technical Service Division), Eritrea,  
Mr. Munir Butrous, Secretary of the Commission for Controlling the Desert Locust in Central Region (CRC), FAO  
Mr. Christian Pantenius, EMPRES/CR Coordinator, FAO

**Programme:** - Evaluation of the past season and actions, precaution measures taken since October 2004, and verification of the recommendations by the second meeting.  
- Predictions for the coming season - summer campaign 2005.  
- Basic principles for preparedness.  
- Assessment of the available resources.  
- Preparation of recommendations for the summer campaign.

#### **Preface:**

As a reaction on the Desert Locust emergency situation in Northwest Africa and the Central Region since October 2003, two Ad Hoc Emergency Prevention Meetings have been conducted by EMPRES/CR in collaboration with CRC in Khartoum, Sudan in March and September 2004. In these meetings possible counter measures and pre-emptive actions to deal with the emergency have been discussed with the immediately affected countries in the Central Region, namely Sudan, Saudi Arabia, Yemen and Eritrea. Short and mid-term scenarios of the likely Desert Locust developments and movements during the summer season 2004 and winter season 2004/2005 have been discussed and regional mid-term action plans prepared. Encouraged by this approach, the Kingdom of Saudi Arabia provided bilateral support to Sudan to fill the most urgent needs of the Locust Centre and a TCP Project was prepared by FAO to support the limited intervention capacities of the Locust Control Units of Sudan, Yemen and Eritrea in terms of training, pesticides, sprayers and HF radio equipment. National action plans have been prepared in the context of the contingency planning approach and successfully followed in most parts.

As a result of the joint efforts, the developing upsurge in the Central Region was contained by May 2004. However, an invasion of the Central Region by swarms arriving from the Sahelian countries through Darfur, Sudan and proceeding further to the breeding areas along the Red Sea coast was considered as a possible scenario for the late summer early winter season 2004/2005. A probable invasion of swarms arriving from North Africa was not predicted to happen earlier than in the summer 2005. In fact, the feared invasion through the insecure areas of Darfur did not take place, whereas the second scenario occurred earlier than expected. Consequently the contingency plans had to be adjusted rapidly to the new conditions.

Unusual strong and persisted south-westerly winds across Libya during October 2004 caused immature Desert Locust swarms moving from southwest Libya towards the northeast near Tubruk and the Egyptian border. On October 28th, first swarms were reported in northwest Egypt. By mid of November the north-westerly winds drifted the swarms southeast and a large swarm of medium density appeared over Cairo on October 17th which moved further southeast towards the Red Sea coast. As soon as the swarms arrived in the Western Desert of Egypt, the General Department for Locusts and Agro-aviation Affairs launched intensive ground control operations. But some of the immature swarms escaped the control operations and moved further down the Red Sea coast to the

border area between Egypt and Sudan in January 2005 where they matured and formed a second generation.

### **Summary of the actions taken during the winter season 2004/2005:**

**Egypt:** From October 28<sup>th</sup> until end of November 2004 about 74 detected immature swarms arrived from Libya on Egyptian territory. Some of them reached the Mediterranean coast and Sinai (Al Arish) where they were controlled by ground teams. But some of the swarms escaped the control operations and headed south towards the winter breeding areas at the Red Sea coast. Heavy rainfall by the end of October early November 2004 in the border area between Egypt and Sudan and the irrigated areas around Lake Nasser as well as Sharq El Ouainat provided suitable breeding conditions for the arriving swarms. By January 2005 the locusts started to mature, copulated and laid eggs, and first immature adults were detected by the second half of March. With the exception of the irrigated areas the vegetation started to dry up in March, causing concentration of the locusts on Acacia trees close to the Red Sea and further moved into the green areas of Wadi Diib in Egypt, as well as in Sudan.

Ground control operations by staff of the General Department for Locusts & Agro-Aviation Affairs, strengthened by teams from the Agriculture Departments, started immediately after the first swarms arrived in Egypt. By end of December 2004 - January 2005, control operations started against the 2<sup>nd</sup> generation hoppers in southeast of Egypt. As a reaction to the emergency, the Ministry formed a High Consultative Desert Locust Committee chaired by H.E. the Minister of Agriculture and Land Reclamation, with members from the army, police, meteorological department, agricultural research and FAO. In December 2004 the Ministry requested FAO's assistance for the on-going control operations and EMPRES/CR and CRC assisted in the formulation of a TCP Project worth USD 193,000. The African Development Bank also showed interest in supporting the operations with USD 500,000. The GoE supported the Centre with USD 1 million.

In total about 200.000 ha have been treated, using approximately 20 t of pesticides of different formulations (dust, EC and ULV). About 70 vehicles have been mobilized by the Locust Centre for survey and control operations.

The efficiency of the control operations in the Nile Delta was much affected by swarms landing on top of windbreaker trees, which made it difficult to reach the locusts by ground control means, and could have had adverse effects on the environment (overdosing). In addition, farmers burned old tires to protect their fields, causing distribution of the locusts over large areas, which consequently did no longer provide suitable control targets. In the remote areas the control teams faced resistance from the nomads, who categorically refused the application of liquid pesticides on pasture land. Also, the controversial publicity in the mass media as a result of the invasion severely affected the management of the Locust Centre with negative consequences on steering the campaign. During the field operations it was observed that some survey and control teams required more intensive training on recommended standard pesticide application techniques and locust reporting.

Since intervention by aircraft was not allowed during the operations, it was impossible to follow the fast moving swarms in difficult terrain by ground control teams and hence contributed to the escape of an unknown number of swarms to Jordan, Sudan and Saudi Arabia. Consequently, the restriction on aerial survey and control should be reviewed and permitted in remote areas outside the agricultural lands. Furthermore, efforts should be undertaken to intensively train the staff on standard survey, reporting and control procedures. The outstations of the Centre should be provided with enough copies of recommended survey forms and instructed by the management to make regular use of the forms for data recording during all field operations. More and better efforts are needed to correctly inform the public of the Desert Locust threat by providing monthly Desert Locust Bulletins and conducting awareness meetings with the press. The need was felt to move away from dust and EC application techniques in favour of the ULV technology in locust control. For this reason, the Centre will require additional pick-up cars and vehicle mounted ULV sprayers. With regard to the control operations along the border area between Egypt and Sudan the meeting recommended to find an agreement between the two countries to facilitate joint and

better coordinated operations in the border areas. A copy of a referring protocol between Saudi Arabia and Yemen should be provided as a reference. Also, the border troops should be involved in the operations, particularly as far as locust reporting is concerned.

Sudan: The central sector of the Red Sea Coast received unusual high rain in October early November 2004; and the Tokar Delta (southern sector) received floods from Kor Baraka. In the northern sector, between 19N and 22N, only moderate rainfall was observed in late October, whereas in the area of Durdeib, as part of the summer breeding belt, unusually low rainfall was received. As a result of the unfavourable ecological conditions in November, only very few crops in confined areas of Wadi Diib were grown with patchy natural vegetation. By March soils were dry and vegetation started to dry out.

By late December 2004 - early January 2005 immature and mature swarms of medium density were detected in Wadi Diib and the nearby mountains. Control operations against the swarms arriving from Egypt were launched immediately. However, it was not possible to detect all incoming swarms. Consequently, escaped maturing adults started laying eggs and first hatching of a second generation took place in February 2005. During the following weeks about 4,700 ha were treated against forming hopper bands/groups and additionally incoming swarms. By March 21<sup>st</sup> the situation started to improve. The locust situation in Tokar Delta remained calm. By this date in total 9,239 ha were treated during the winter campaign as a whole.

The Locust Centre deployed five survey & control teams to the area north of Port Sudan by early November 2004 and sent an additional team to strengthen the control capacities in the area of Wadi Diib by early March 2005. A joint cross border survey with Egypt was conducted from 22-26 February. All teams were making regular use of the survey and control monitoring forms. One aircraft was deployed by early December 2004 for controlling the 1st generation swarms and was kept on stand-by in Suakin during the following months. Two teams were deployed to the Northern state in November 2004 in order to detect incoming swarms through the Nile Valley and were kept on stand-by until December.

For the winter campaign at the Red Sea coast, the Centre mobilized 11 vehicles, 1 truck, 7000 L ULV and 1700 L EC pesticides. As strategic reserves, 40 vehicles, 336,000 L ULV, 196,000 L EC and 232,000 kg dust were kept at the HQ in Khartoum. The inventories of the pesticide stocks were updated every month, other resources twice a year.

Field information was received by the Information Office twice per day. Every 2-3 days situation updates were produced, summary reports were prepared every fortnight and monthly bulletins distributed to the concerned national authorities and international bodies. The Desert Locust Steering Committee met four times since December 2004.

The GoS provided the Locust Centre with USD 150,000 for operations and USD 5 million for pesticides and avgas. In addition to that, the Locust Centre received assistance from UNDP (USD 50,000), FAO (USD 225,000), IFAD (USD 200,000), and a second portion of the bilateral contribution from Saudi Arabia (worth USD 1,300,000).

At the beginning of the campaign, the Locust Centre was affected to a certain extent in its operations by the delayed release of funds from the GoS and FAO. But these difficulties were solved relatively fast and allowed in the following smooth implementation of the operations.

More crucial was the incomplete information received from Egypt to develop a better picture of the possible threat to Sudan. Likewise, the quality of field information received from the new recruited staff was in many aspects insufficient, and the need was felt to organize intensive refresher training for new staff particularly on survey and reporting subjects and to assign a more experienced senior locust officer with the campaign organization. It was also noticed that the Locust Information Office was not always functioning as needed and recommended to have at least two permanently appointed skilled Information Officers operating the RAMSES system.

Some technical difficulties have been observed with the vehicle mounted ULVA mast sprayers and recommended to produce a comprehensive report to be forwarded to the manufacturer. As a consequence of the observed shortcoming it is planned to organize a campaign evaluation workshop with the locust staff.

Saudi Arabia: As a result of the invasion of Egypt in October/November 2004 some swarms crossing the Sinai also reached Saudi territory by November. It was estimated that three immature swarms of medium density infested an area of about 500 ha which were controlled rapidly by the national control teams already on stand-by. Since then the situation remained calm despite heavy rainfall that occurred around Makkah in January 2005. By the end of the winter season the vegetation along the Red Sea coast dried up whereas the spring breeding areas in the interior started greening.

During the winter campaign 18 survey teams and 12 control teams were mobilized and 30 vehicles provided, each vehicle equipped with one mounted ULV sprayers. The Ministry of Agriculture made contracts for 600 flying hours and kept a stock of 300 t of ULV pesticides. USD 450,000 had been allocated for operation.

In order not to affect the honey production, contact persons have been appointed to coordinate the movements of the nomadic community in cooperation with the Locust Centre and to inform the bee keepers of possible control operations in advance.

Survey plans have been prepared to regularly monitor the coastal plains and the spring breeding area by 12 ground teams and one aircraft in order to spot incoming swarms crossing the Red Sea from Egypt/Sudan. In case of emergency, strategic resources are kept to mobilize USD 5 million and to hire 7 aircraft, in addition to the existing resources of the Locust Control Centre and those of the Agricultural Departments.

The Locust Information Office of the Locust Centre was not fully operational as expected. The management decided to appoint new staff in support of the Information Office.

Yemen: Unusual heavy rainfall in the Tihamah area in August/September 2004 continued until October. The vegetation became green and soils were wet from September until early November. In the following months until the first decade of March 2005 only few showers were received in Tihamah and the Gulf of Aden areas, and the ecological conditions became unfavourable for locust breeding. Early rainfall occurred in the summer breeding areas by mid March.

By the end of September 2004 survey teams detected transiens 3<sup>rd</sup> – 5<sup>th</sup> instar hopper bands of 3-10/m<sup>2</sup> density on an area of 175 ha in north Tihamah. This infestation was controlled by ground means in October 2004. Since then, the situation remained calm with only few solitary locusts observed.

During the winter breeding season the Locust Centre deployed four survey & control teams to the Tihamah in October – November and removed two teams after the situation improved. One survey & control team was continuously monitoring the Gulf of Aden area.

After swarms from Northwest Africa invaded Egypt, the Centre immediately alerted various government authorities and public agencies, and mobilized its resources in case the situation affects Yemen also. An Assistant Information Officer was recruited to strengthen the Locust Information Office and trained on RAMSES, eLocust and reporting. Information on the ecological conditions and locust situation was received regularly from the field and the national authorities were kept informed of the national, global Desert Locust developments through monthly Locust Bulletins. One training course on survey principles was conducted in November 2004 to prepare the staff for the winter campaign, and a self-reflection workshop with all staff was organized by the Locust Centre by end of January 2005. The store management and inventory system recognized by March 2005 and updates of the inventory are being produced every other month. Currently 23,000 L ULV pesticides are in stock, 14 vehicles, equipped with vehicle mounted ULV sprayers and 3 vehicles for survey purposes only. 37 micronair vehicle mounted sprayers, 57 ULVA+ sprayers, and 8 motorized knap sack sprayers are kept in the store.

In January 2005 a ministerial decree was issued to establish a special Desert Locust Steering Committee. The Director of the Locust Centre was also elected as Assistant Chairman of the Consultative Committee of the High Commission for Disaster Management (Ministry of Interior) in Yemen. The GoY made USD 16,000 for operation for the period October – December 2004. Unfortunately no replenishment has been received for the following months until March 2005. FAO supported the Locust Centre with USD 30,000 for operation, training, provided various equipment and 15,000 L ULV pesticides.

Eritrea: The locust situation in Eritrea remained calm during the winter season. However, in view of the global developments and the reinvasion of the Central Region through Egypt in October 2004, the GoE established a National Steering Committee chaired by H.E. the Minister of Agriculture. Also FAO and DLCO are members of the Committee. The National Steering Committee is governing six technical Sub-Committees at Zoba (regional) level headed by the Regional Administrator<sup>1</sup>. The same set-up is followed through also at Sub-Zoba and village level and allows keeping the community informed and to rapidly mobilize additional resources in case the country is facing an emergency. The National Committee met twice involving also staff from the Zobas. The GoE kept two spray aircraft on stand-by and allocated USD 900,000 for emergency operations.

One survey team at the HQ level joined the local teams in the Eastern and Western Lowlands to monitor locust breeding areas.

Regarding the general experiences made by conducting the operations based on the previous Ad Hoc Meeting for the preparation of the winter campaign, the participants from the concerned countries were of the opinion that the approach:

- Provided good guidance for the locust management,
- Provided convincing arguments to generate funds from the governments and the donor community in support of the operations,
- Helped to sensitize the authorities,
- Made it easier for the teams to understand the rationale behind the necessary activities with hence better results and more effective operation,
- Provided a wider scope and understanding of the regional efforts.

### **Short- and medium-term forecast of the Desert Locust situation in the Central Region form March to October 2005**

Spring (April – June):

A limited number of adult groups and swarms are expected to form along Wadi Oko and Wadi Diib in northeast **Sudan** and southeast **Egypt** from mid March, during most of April and perhaps into early May. Unless additional rains fall, ecological conditions will become unfavourable, encouraging the adults to move out of the current breeding areas. Although it is difficult to predict with accuracy the timing and direction of migration because of the complex nature of the weather conditions along the Red Sea Trench, **groups and swarms could move across the Red Sea to the coastal plains of Saudi Arabia between Al-Lith and Al-Wajh** from March until May. This will most likely occur when the Red Sea Convergence Zone (RSCZ) is located between 20N and 24N or when there are atmospheric depressions over the Red Sea located at about 20N. In both cases, the resulting westerly and south-westerly winds will carry locusts from the breeding areas across the Red Sea in one day.

**There is a risk** that if swarms cross the Red Sea, some could continue towards the **interior of Saudi Arabia**. Locusts could also move during periods of easterly winds inland towards the **Nile River Valley** and appear between River Atbara, Sudan and Aswan, Egypt. As temperatures increase during

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<sup>1</sup> Members are:

- Army,
- Police,
- Local Ministry of Agriculture,
- Local Ministry of Finance,
- Ministry of Local Government,
- National Student Union Association,
- National Women Union Association.

the spring, this movement is likely to shift towards the southwest to Northern and Northern Kordofan provinces in Sudan.

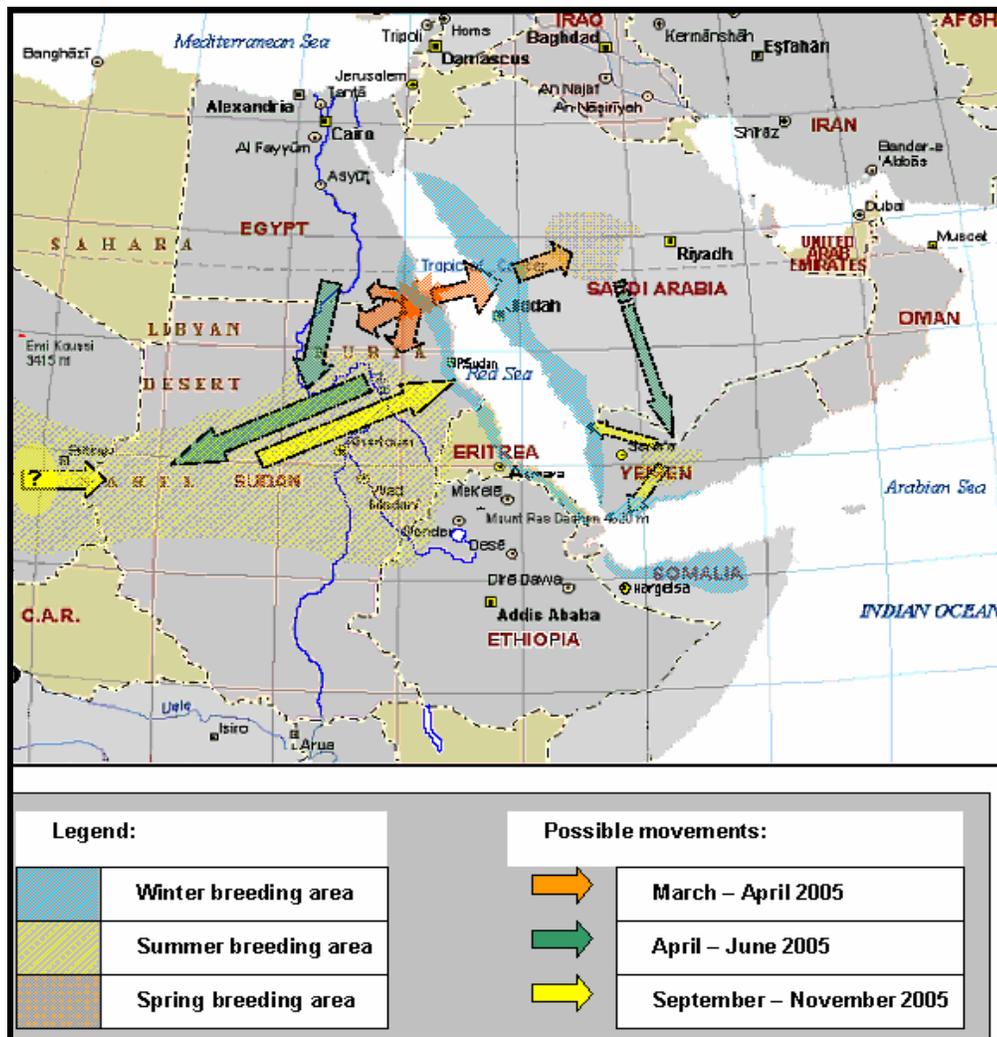
Insignificant numbers of adults are likely to persist in those places where ecological conditions are favourable along the Red Sea coastal plains in **Yemen** and adjacent areas of Jizan, **Saudi Arabia**. Very limited breeding might occur, but locust numbers will remain well below threatening levels.

Summer (July – October):

In case that groups or adults appeared during the spring in northern Sudan, these would move into **Northern Kordofan** and **North Darfur** and will start breeding once the seasonal rains commence. Consequently, the initial number of locusts available for breeding could be higher in 2005 than in previous years.

Winter (October and beyond):

The scale of winter breeding along the coastal plains on both sides of the Red Sea will be a function of the size and success of breeding during the summer in the **interior of Sudan**. Given that swarms from Northwest Africa are not expected to invade these areas and that local breeding will probably not lead to a significant increase in locusts (unless unusually heavy rains fall and survey and control operations fail), there is no reason to expect at this point that winter breeding will be any different in 2005 than in other years during recessions.



## **Agreed actions to be performed in the key countries of the Central Region by the Locust Control Units**

### **April 2005:**

Intensify ground survey and control operations in southeast Egypt and northeast Sudan. Surveys should start immediately in Upper Egypt, northern Sudan, and along the Red Sea coast in Saudi Arabia. The ongoing control operations should be maintained until the situation returns to normal in April/May. Ground surveys along the Red Sea coast in Yemen and Jizan, Saudi Arabia should be maintained until June.

**Egypt:** 21 survey and control teams will continue operating in Haliieb, Abu Ramad, Mersa Alam, Hamata, Shazily, and Lake Nasser throughout the whole month of April. The teams will be fully equipped with GPS, maps and other survey equipment including survey and control monitoring forms. The Director of the Locust Control Centre will coordinate the operations along the border to Sudan with the Director of the Locust Control Centre of Sudan. The teams should keep close contact with the Sudanese teams operating on the other side of the border. Sufficient resources (pesticides and sprayers) should be positioned at the Red Sea coast. The newly trained staff will join the teams in field. The teams will report on a daily basis on the survey and control results to the Locust Information Office at the HQ, and the Locust Information Office will prepare one summary report in Arabic and English every week.

Additional 5 sets of survey equipment will be provided by FAO EMPRES and CRC.

**Sudan:** The Director of the Locust Control Centre will coordinate the operations along the border to Egypt with the Director of the Locust Control Centre of Egypt. The teams should keep close contact with the Egyptian teams operating on the other side of the border.

The existing four survey & control teams in Wadi Diib area will be reinforced by additional two teams from HQ. One team in Suakin and one in Tokar will be maintained to continue monitoring the areas. Sufficient resources (pesticides and sprayers) should be positioned at the Red Sea coast. One aircraft should be kept on stand-by in Suakin and another positioned in Gezira.

The timely and regular reporting from the field to Locust Information Office at the HQ as established should be maintained

Additional five sets of survey equipment will be provided by FAO EMPRES and CRC.

For the preparation of the summer campaign, one training course will be conducted in Fashir.

**Saudi Arabia:** 12 survey teams will be deployed to the Red Sea coast area and the spring breeding area to conduct regular surveys to check on any incoming swarms. Two teams each will be based in Al Qasim, Riyadh, North Jeddah and Madina, one each in Al Dawadmy, Tabouk, Al Gouf, Hail South Jeddah. One aircraft will continuously monitor the green vegetation along the Red Sea coast and the spring breeding area.

In total 66 control teams including all equipment and 7 aircraft will be kept on stand-by in Jeddah.

One training course will be conducted for the officers of the Agricultural Department in the spring breeding area.

**Yemen:** Two survey & control teams in the Tihamah area and one team in the area around Aden will continue monitoring.

In view of the early rainfall in summer breeding area (Shabwa and Hadramaut), two local teams will monitor the rainfall and vegetation development.

**Eritrea:** Because of extended rainfall along the Red Sea coast, one survey team will follow up the further developments in cooperation with the agricultural offices.

**Somalia:** Regular surveys will be conducted in the area between Berbera and Karin.

## **May 2005:**

**Egypt:** Continue surveying the areas around Lake Nasser with six survey & control teams and initiate control operations in case of gregarious infestation. Four teams should be maintained in Shelateen and Halaib to check on any remaining infestation.

Regular reporting from the field should be closely followed up by the HQ. Also close cooperation with the Locust Centre in Sudan should be maintained.

**Sudan:** Reduce the number of survey & control teams operating in the northeast of Sudan to two teams and transfer two teams to the Northern State and two to River Atbara to reinforce the local teams (One each). Eight survey & control teams should be kept on stand-by at the HQ, ready to intervene in case the situation in the Northern State and River Atbara deteriorates. The HQ will replenish the pesticide stocks of the two States with additional 3,500 L each and will supply additional spray equipment.

Maintain the teams in Suakin and Tokar as in April to continue conducting regular surveys.

The aircraft based in Sakakin can return to base in Gezira.

**Saudi Arabia:** Intensify survey operations in the spring breeding areas namely in areas northeast of Madina, northeast Taif, southeast Tabouk/Al Jawf, Al Qasim, Al Dawadmy, Afif and Hail to monitor hatching of 2<sup>nd</sup> generation of gregarious hopper bands. Two survey teams will be deployed to Al Qasim, one to Hail and two will monitor the area between Tabouk and Madina.

Up to 20 control teams and two aircraft will be kept on stand-by in Al Qasim to control emerging gregarious hoppers and forming swarms in case the situation requires.

The HQ will ensure the regular use of the survey and control monitoring forms and regular reporting.

**Yemen:** The HQ survey & control team, monitoring the Tihamah area, will join the two local teams surveying the summer breeding zone to cover sectors Marib and Al Jawf for monitoring the ecological conditions and any local breeding.

One training course will be conducted on survey and control matters for the extension staff in Marib.

Four HF radio stations will be installed in Shebwa, Hadramaut, Marib and Lahij.

**Eritrea:** The survey team in the Eastern Lowlands will return to the HQ and material and other logistics transferred from the HQ to the Western Lowlands.

Three training courses will be organized by the HQ for Plant Protection technicians (1) and farmers (2) for the preparation of the summer season.

Two agricultural aircraft will be based at Tessenai.

## **June 2005:**

**Egypt:** Keep the six survey & control teams around Lake Nasser as in May to detect and to control hatching and early swarm formation. In case the pesticide stock is not sufficient, additional pesticides should be provided by the HQ.

The four teams based at El Shalateen will return to their bases.

**Sudan:** One HQ survey & control team and one local team each will continue monitoring the irrigated areas at River Atbara and the Northern State and to control any gregarious developments.

Commence regular surveys in summer breeding areas of North Kordufan by air and ground teams.

Strategic stocks are already in place in North Kordufan and White Nile States since March 2005. Start pre-positioning material and equipment to North and West Darfur.

Make the necessary arrangements with NGOs and other humanitarian organizations to cooperate with the government teams operating in North and West Darfur in obtaining information on ecological conditions and locust developments.

Request one aircraft for July from DLCO-EA.

Saudi Arabia: Based on the scale of infestation in the spring breeding area, the deployed teams could be reduced by 50 %. The remaining teams will continue searching for possible remaining infestation and will control it.

Two aircraft will be kept on stand-by in Al-Qasim and Madina.

Yemen: Maintain the three survey & control teams in the summer breeding area (Shebwa region) to continue monitoring the ecological condition and to detect any local breeding.

Eritrea: One survey team from the HQ will be deployed to the Western Lowlands to start regular survey operations.

### **July 2005:**

The survey operations in summer breeding areas in Sudan initiated in June should be maintained on a regular basis until the end of the summer. At least one survey per month should be undertaken in Northern Kordufan and North Darfur (if possible). If significant infestations are found, additional surveys teams should be deployed.

Egypt: The campaign in Egypt is likely to cease in July. The remaining teams around Lake Nasser will return to their bases, but one local survey & control team should continue monitoring the situation around Lake Nasser.

Sudan: In case immature swarms from Lake Nasser arrive in Northern State, support survey & control teams will be moved from the HQ to join the local forces. One team from the HQ will be sent to White Nile State and two teams to North Kordufan (total number of teams now present in White Nile State: 3. Total number of teams in North Kordufan: 5).

Two experienced staff from the Centre will be sent to Darfur to join the two local teams in North Darfur to monitor incoming swarms from Chad and possible local breeding.

In case the campaign in the summer breeding belt requires additional resources, the Locust Centre should replenish the stocks in North Kordufan, North Darfur and White Nile States from the strategic reserves in Khartoum.

Aerial surveys should be conducted to monitor the ecological conditions in North Kordufan and White Nile States.

Repair the six airstrips in North Kordufan and prepare the seasonal camps.

Saudi Arabia: Maintain two survey teams in the spring breeding areas to detect remaining gregarious infestation. Two aircraft will be based in Madina (Khaiber and Riyadh (Afif).

In case that swarms from the spring breeding areas escaped the control operations, more spray aircraft based in Jizan and Makkah could be deployed within 8 hrs.

Yemen: The already existing three survey and control teams in the summer breeding belt will be strengthened by additional three teams from the Locust Centre in order to detect local breeding and possibly incoming swarms originating from the spring breeding areas in Saudi Arabia. These teams will be supplied with an initial amount of 1,000 L of pesticides. Additional pesticides could be mobilized by the Centre within 6 hrs in case the situation requires replenishment of the stocks.

Eritrea: In case necessary, deploy up to three additional teams to the Western Lowlands. Pesticides could be mobilized by the HQ within 5 hrs.

### **August 2005:**

- Egypt: No operations in August. But one survey & control training course will be conducted in Borg El Arab for newly recruited staff.
- Sudan: In case of persisting favourable ecological conditions in White Nile State, North Kordufan and North Darfur, and breeding takes place the following action will be required:
- North Darfur: Two additional survey & control teams will be deployed by the Centre to strengthen the already existing forces, and to join the humanitarian organizations. **Whatever possible information should be passed immediately to the HQ in Khartoum!**
- West Darfur: Regular surveys will be conducted by the local teams.
- North Kordufan: Four additional survey & control teams will be mobilized by the Centre to join the campaign.
- One team will closely survey the area in Qoz Abu Dolu (North Omdurman) to monitor the ecological conditions and possible local breeding.
- Two aircraft will be deployed to serve also in the White Nile State if required.
- Saudi Arabia: No operations expected. Maintain and repair equipment.
- Yemen: Maintain the same operations as in July.
- Eritrea: Continue monitoring the Western Lowlands as in July and strengthen the control capacities in case needed.

### **September 2005:**

- Egypt: No operations in September are likely.
- Sudan: The survey & control teams in North Kordufan will continue their operations to detect and control breeding and early swarm formation, and should be further strengthened by the Centre in case the situation requires. Also the team based in Qoz Abu Dolu should be maintained.
- The operations in White Nile State will remain the same as in August.
- One survey & control team will be ordered to River Atbara to detect swarms from North Darfur / North Kordufan moving towards the winter breeding areas.
- The aerial intervention capacity in North Kordufan will be kept and should be strengthened by additional two aircraft in case needed.
- Saudi Arabia: No operations in September are likely. Maintain and repair equipment and prepare for the winter season.
- Yemen: Maintain the same operations in the summer breeding belt as in July/August.
- Eritrea: Continue monitoring the Western Lowlands as in July/August and strengthen the control capacities by one aircraft from DLCO-EA in case needed.

### **October 2005:**

Close the summer campaign and start initiating ground surveys on the Red Sea coastal plains in **Egypt, Sudan, Eritrea and Saudi Arabia** in October.

- Egypt: Commence monitoring the Red Sea coastal plains.
- Sudan: The vegetation in the summer belt will dry up. The four HQ teams from North Kordufan will be transferred to the Red Sea coast. The two staff sent to North Darfur should be

called back to the HQ, and one survey and control team in White Nile State will also return to the HQ. The local survey & control teams will continue monitoring the area.

Two survey & control teams from the Centre will reinforce the teams operating at River Atbara.

The two aircraft based in North Kordufan will return to base in Gezira and kept on stand-by for possible interventions at River Atbara and Tokar.

Saudi Arabia: Commence monitoring the Red Sea coastal plains.

Yemen: The four survey & control teams from the Centre will return to base, but the remaining two local teams should continue monitoring the summer belt.

Two survey & control teams will be moved by the Centre to the Tihamah and Gulf of Aden to detect any possibly unchecked swarms originating from the summer areas.

Maintain and repair equipment.

Eritrea: The HQ survey team will be moved from the Western Lowlands to the Eastern Lowlands. The local teams in Western Lowlands will continue routine surveys.

For the preparation of the winter season, one survey and control training course will be conducted for the local staff in Eastern Lowlands.

**Status of the available resources (figures in <> = pledged material):**

| Equipment              | Egypt                  | Sudan                    | Saudi Arabia             | Yemen           | Eritrea         |
|------------------------|------------------------|--------------------------|--------------------------|-----------------|-----------------|
| <b>Pesticides:</b>     |                        |                          |                          |                 |                 |
| ULV                    | 17,000 L<br><30,000 L> | 336,000 L<br><150,000 L> | 260,000 L<br><300,000 L> | 23,000 L<br><0> | 34,000 L<br><0> |
| EC                     | 3,000 L<br><20,000>    | 196,000 L<br><100,000>   | 12,000 L<br><0>          | 0<br><0>        | 0<br><0>        |
| Bio-products           | 0                      | <400 KG>                 | 0                        | 0               | 0               |
| <b>Sprayer:</b>        |                        |                          |                          |                 |                 |
| Vehicle mounted ULV    | 19<br><30>             | 62<br><0>                | 66<br><0>                | 51<br><0>       | 11<br><0>       |
| Hand-held ULV          | 160<br><0>             | 77<br><50>               | 30<br><0>                | 57<br><0>       | 79<br><0>       |
| Motorized Knap-sack    | 2,500<br><0>           | 167<br><0>               | 5<br><0>                 | 8<br><0>        | 279<br><0>      |
| <b>Spray Aircraft:</b> | 0                      | 7                        | 7                        | 0               | 2               |
| <b>Vehicles:</b>       |                        |                          |                          |                 |                 |
| Trucks                 | 28<br><0>              | 14<br><0>                | 8<br><0>                 | 1<br><0>        | ?<br><?>        |
| 4Wheel-drive           | 35<br><20>             | 87<br><0>                | 96<br><30>               | 17<br><0>       | 2<br><0>        |
| <b>GPS:</b>            | 35<br><0>              | 31<br><25>               | 85<br><0>                | 21<br><0>       | 30<br><0>       |

**Rating:** The currently available and pledged resources are likely to be sufficient to deal with the predicted situation for the summer season 2005.

### **Recommendations:**

- Based on the above agreed regional action plan, **detailed national action plans** should be prepared by the participating countries for the next six months and to be adjusted according to changes in the Desert Locust situation.
- These **national action plans** should be submitted to national authorities and Steering Committees and distributed through the CRC/EMPRES to all member countries by end of April 2005,
- The Heads of the LCUs should make sure that high quality locust reports are **sent timely** to DLIS,
- Maintain regular surveys in the Desert Locust breeding areas **even if** the situation improves,
- The Heads of the LCUs should make sure that all locust and ecological information from inside the country, the Central Region and beyond is regularly being used by the Locust Information Offices,
- The Heads of the LCUs should continue producing monthly **Desert Locust bulletins** in order to keep all national and international parties (incl. the mass media) informed of the Desert Locust situation and the availability of resources,
- In collaboration with EMPRES/CRC and DLIS The LCUs should closely observe the Desert Locust developments outside the Central Region,
- Bilateral technical and financial collaboration between countries should be further strengthened,
- EMPRES and CRC should be kept closely informed of the locust situation and the activities carried out in the countries,
- The governments of Egypt and Sudan should find a modus to facilitate joint and better coordinated operations in the border areas between the two countries,
- The border troops should be involved in the operations as far as locust reporting is concerned,
- A copy of a referring protocol between Saudi Arabia and Yemen should be provided to EMPRES/CR and CRC as a reference.