

# ECLO Operations Report

## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### SITUATION UPDATE as of 19 November

The Desert Locust situation remained relatively calm in Africa and along the eastern side of the Red Sea during the first half of November. A small immature swarm was seen in Darfur, **Sudan** in early November but since then there have been no further reports. There is a risk that a few more small swarms could form in Darfur and move towards the winter breeding areas along both sides of the Red Sea where, so far, only scattered adults are present on the Sudanese coast. Intensive surveys are underway along the Red Sea coast in **Saudi Arabia** to follow up on an unconfirmed report of a swarm last month and recent sightings of a few locusts near Taif. In West and Northwest Africa, the situation remains calm. Small-scale breeding by scattered adults continues in western **Mauritania**, in limited areas of northern **Niger** and in parts of southeast **Algeria**. Although ecological conditions are improving in northern Mauritania, so far only solitary adults have been seen near Bir Moghreïn. The most active region in the whole Desert Locust distribution area at the moment is the **India/Pakistan** border, where small hopper bands, adult groups and swarmlets have formed and are being treated. Small swarms could form in the area and move west into the Indus valley in Pakistan.

In view of the favourable conditions for locust breeding in some parts of Chad, Mali, Mauritania, Niger and Sudan, FAO's donor-funded emergency projects continue to support ground survey operations of the Desert Locust in these countries. A helicopter is on stand-by in Mauritania for possible survey or control operations in December. Timely and effective locust surveys, and rapid control if required, will reduce the risk that new locust outbreaks develop such as those experienced in the past two years.



Locust samples being incubated to test for infection by *Metarhizium* (see article next page)

### Independent Multilateral Evaluation of the 2003-2005 Desert Locust Campaign

#### THE EVALUATION STARTS

In August 2005, a meeting was convened by the FAO Director-General that brought together more than 40 donor and affected-country representatives with FAO management to discuss the organization of the Independent Multilateral Evaluation of the 2003-2005 Desert Locust Campaign. Following that meeting a Steering Committee for the evaluation was established, composed of representatives of donors, locust-affected countries and the FAO Emergency Centre for Locust Operations (ECLO).

The overall objectives of the evaluation are captured in its title: "Towards a More Effective Response to Desert Locusts and Their Impacts on Food Insecurity, Livelihoods and Poverty". The evaluation report will provide operational findings and recommendations to all partners in order to strengthen future work to prevent and counter future locust outbreaks and upsurges.

Two meetings of the Committee were held in September 2005 to agree on the terms of reference and discuss issues of concern, including the financing of the evaluation. On 14 November, the Steering Committee discussed the work plan and approach to be taken by the evaluation with the evaluation team leader, Dr Lukas Brader. The evaluation team also began its work in November with a meeting with peers and diverse stakeholders to inform the team. This was followed by briefings from concerned units in FAO, including ECLO.

The evaluation team will now visit locust-affected countries and hold discussions with donors. Questionnaires will also be sent shortly to the affected countries and donors.

Evaluation results are expected by April 2006.

#### Evaluation Team Members

- Brader Lukas (Netherlands), Team Leader Organization, institutions, coordination and information issues
  - Djibo Hadiza (Niger), Social analysis and gender
  - Faye François Gabriel (Senegal), Environment, health and natural resource management
  - Ghaout Said (Morocco), Locust operations
  - Lazar Mohamed (Algeria), Locust operations
  - Luzietos Philippe Nguala (DRC), Rural economics, poverty, food security and maintenance of livelihoods
  - Ould Babah Mohamed Abd (Mauritania), Locust operations
- FAO's Evaluation Service acts as the secretariat for the evaluation.

## Desert Locust surveying in the Sahelian countries

In October, the Forecasting Officer of the FAO Locust Group carried out a backstopping mission to **Niger**. Together with the Head of the *Centre national antiacridien* (CNA) at Agadez and a field officer from the Plant Protection Directorate (DPV), he joined one of the CNA survey teams for a 2 000 km ground survey. A further 2 000 km was covered by helicopter. All of the important Desert Locust breeding areas in the Aïr Mountains and the Tamesna Plains were surveyed over a period of nine days. On-the-spot improvements were made in communications, Internet connection, data management and analysis, reporting and other operational issues. The results of the survey were used to decide that aerial surveys could be terminated and to direct an environmental team to an appropriate site for a biopesticide *Metarhizium* trial.

Together with the Head of the *Centre de lutte antiacridienne* (CLAA) in **Mauritania** and the National Professional Officer of the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES), the Senior Officer of the FAO Locust Group carried out a 2 500 km tour of the eastern and central parts of the country in mid-October, visiting many of the 25 survey teams that Mauritania has currently deployed to potential locust breeding habitats. Despite extensive and green vegetation, exceptional for the time of year, very low numbers of solitary hoppers and adults were seen except in one area in the north of Trarza where scattered adults were copulating and laying eggs. The area and those adjacent to it need to be carefully monitored over the next few weeks. The Senior Officer was particularly impressed by improvements that the CLAA has made in communications, thanks to donor support for mobile radios. Each survey vehicle was in contact with all the other vehicles in each region and information on any locusts found was immediately available.



### International and national technical expertise for the Sahelian and Maghreb countries

Most of the FAO consultants who have been assisting the Sahelian countries in their emergency locust survey and control operations have now completed their contracts and departed for home. ECLo would like to acknowledge their efforts and extend its warm appreciation for their dedicated and effective work, often under very harsh field conditions. By working side-by-side with the national authorities, the consultants contributed to strengthening national capacities which, it is hoped, will ultimately lead to successfully establishing effective preventive control.

## Testing of the biopesticide Green Muscle® in Niger

On 21 October, two studies were initiated at Aguelioug, 15 km east of Arlit in northern Niger. The first study aims at investigating the role of birds as predators of the Desert Locust; in particular to find out if there is a synergistic effect between predation and the use of the biopesticide Green Muscle® on Desert Locust populations. An international consultant ornithologist recruited by FAO found that, at the study site, which was covered by dense *Schouwia thebaica* vegetation in various stages of drying out, predation on immature and adult locusts was mainly done by falcons. Kestrels dismember locusts in trees; the collected remains show that they have a preference for the larger female locusts. Lanners and Saker falcons consume locusts in flight and regurgitate pellets in which the remains can be quantified. Another avian predator, the Southern Great Grey Shrike, uses the thorns of Acacia trees to conserve the locusts for later consumption.

The second study relates to treatment with Green Muscle® of the Desert Locust population at Aguelioug, where about 80 percent of the insects are in the transient phase and the rest in the solitary phase. Mainly immature locusts and adults are present, but small numbers of L3, L5 and L6 hoppers were also found. Overall densities are 1 500–2 000/ha, with locally more than 10 000/ha. During the treatment, numbers were still around 1 000/ha. The aerial treatment, conducted using an aircraft of the Plant Protection Directorate (DPV) of Niger, took place on 5 November. Given the dense vegetation, the treatment was done at a height of 5 m with 50 m intervals between swaths. About five days after treatment, locusts which were trapped in the field and kept in cages started to become ill and died due to the effect of the bio-pesticide, turning red after they had died, which is typically the first visible sign of *Metarhizium* infection. Insects have been incubated subsequently to show sporulation. An intensive search for dead and dying insects was done on day 11 after treatment. Transect counts showed that two weeks after treatment the population of locusts had been reduced by more than 90%. Transect counts continue in order to follow population developments. Light traps have been placed several kilometres outside the plot to verify if insects are leaving or entering the area. A team of experts of both DPV and the Agrhymet Regional Centre is closely following the developments for three weeks after treatment. FAO's Coordinator of the Subregional Desert Locust Office in Dakar is on the spot to closely follow developments of both studies.



Aerial treatment with Green Muscle®



Cages in the field to monitor the effects of Green Muscle® on locusts



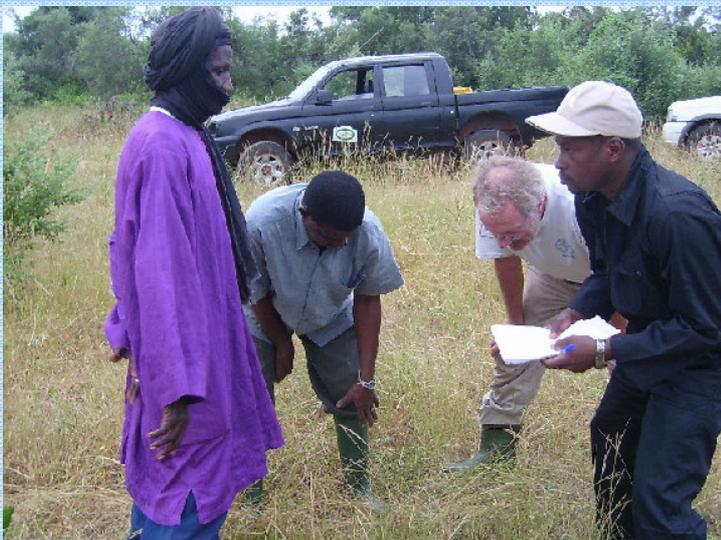
Falcons are predators of locusts



Locust samples being examined

## Quality and Environment Survey Team (QUEST) in Mali: First Field Practice

On Sunday 30 September at 5 am, the first field operation of the Malian national QUEST team, which was trained in Bamako from 29 August to 2 September 2005, started in the dark quiet streets of Bamako. Four pickup trucks loaded with camping material as well as delicate research equipment took off to Mourdiah, about 300 km north of the capital. There, the 15 team members were well housed, partly in the open air, partly in the "chambres de passage" of the Plant Protection Service. In the next five days, all members practised in a real field situation what they had been taught a month earlier in the classroom. They also repeated it as many times as necessary to fully master the task. While there were a lot of shaky hands at work in the beginning, at the end each team member felt reasonably capable in his/her own field, be it blood cholinesterase measuring, handling of a GPS, calibrating sprayers, or analyzing the effects of a treatment on soil fauna. Important conclusions could be drawn for follow-up action, such as the need for substantial improvements of the standard reporting forms as well as complementing the required field equipment. For instance, a small generator is essential for functioning in the field. Action is being taken to fill the gaps.



Field practice on monitoring pesticide effects in the environment

New FAO brochure

### ***Fighting the locusts ..... safely Pesticides in Desert Locust control: balancing risks against benefits***

A new FAO brochure on environmental aspects of locust control will be published on 23 November 2005. The brochure focuses on the correct application of pesticides to control Desert Locust swarms or hopper bands while minimizing the adverse effects on human health and the environment.

A brochure on FAO guidelines for aerial control of the Desert Locust will be published soon.

## **Drum crushers at work in Mauritania and Mali to eliminate used pesticide drums**

Domestic use of empty pesticide containers after locust control operations is a serious problem in the region. FAO promotes the collection and elimination of empty drums as they can endanger human health and the environment. In July, a drum-crusher was installed in Mauritania that rinses and crushes 100 barrels a day. Since then, half the collected empty pesticide drums (over 2 000) have been rinsed with a special solvent to clean out pesticide residues and crushed. It is expected that the crushed drums will soon be sent for recycling at a local factory. A second drum-crusher, funded by the Netherlands, has now been installed in Mali and is operational. The installation was assisted by ECLO's pesticide specialist and by the head of the drum-crushing operation in Mauritania who was able to transfer the experience he had gained in his own country.

The provision of more drum-crushers is planned for Algeria, Chad, Morocco, Niger, Senegal and Tunisia. However, the procurement through FAO depends on donor concurrence to use locust emergency funds for this purpose.

The collection of empty pesticide drums has been completed in Mali, Mauritania, Morocco, Niger and Senegal and is underway in all the other countries.



Preparation and crushing of an empty drum in Mauritania



Stacked crushed drums

### ***Country briefs on the locust situation and emergency assistance provided through FAO***

Country briefs have been updated and are available for Algeria, Burkina Faso, Cape Verde, Chad, The Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Morocco, Niger, Senegal and Tunisia at:

<http://www.fao.org/ag/locusts/en/info/tce/cbriefs/index.html>

## Achievements of Desert Locust control in 2005 and prospects for 2006

During **2005**, emergency assistance was concentrated on the Desert Locust-affected countries in West and Northwest Africa, but also targeted some countries around the Red Sea: Egypt, Eritrea, Sudan and Yemen. Towards the end of the summer, Desert Locust infestations increased along the Indo-Pakistan border where ground control operations were carried out against hopper bands and small swarms that formed. So far, the situation is not threatening the Eastern Region because the infestations are limited in size and sufficient control measures are in progress.

As the Desert Locust infestations declined during 2005, mainly because of the intense control campaign during the winter and early spring and to the unfavourable conditions for locust breeding which prevented a reinvasion of the Sahel, FAO's emergency assistance provided through donor funding has shifted. The emphasis has changed from funding control operations, mainly pesticides and contracts for aerial spraying, to training and preparing well for the summer 2005 season, cleaning up the effects of the 2004 campaign, and installing better health and environmental monitoring systems. Substantial progress has been made to strengthen national locust units which should help the longer term efforts to implement the preventive strategy for locust management. Field trials on more environmentally friendly locust control products and methods have been supported, and FAO is promoting the improved management of pesticide stocks, including disposal of empty pesticide drums that threaten both human health and the environment.

An important achievement on a coordinated approach of donor assistance for locust control was the joint country and donor contingency planning for locust emergency control, organized in April/May jointly by FAO and the World Bank. The seven Sahelian countries most seriously affected by the Desert Locust and benefiting from a large-scale World Bank loan for a project on locust emergency assistance and prevention of locust outbreaks, participated in the workshop.

To foster the regional approach of Desert Locust control, particularly in West Africa, FAO established in October 2004 the FAO Subregional Desert Locust Office in Dakar, Senegal, as part of the Commission for Controlling the Desert Locust in the Western Region (CLCPRO). In early 2006, this office will evolve into the CLCPRO/EMPRES Subregional Office that aims to strengthen the national capacities for controlling locusts in this region, thereby reducing the risk of large-scale locust infestations. In the event of another locust emergency, the office will assist the coordination process and also give special attention to the countries of the Southern Circuit, including Cape Verde, the Gambia, Guinea and Guinea-Bissau.

As the end of 2005 approaches, there has been a remarkable decline in Desert Locust populations throughout the Sahel and the Maghreb, even though there is always the possibility that populations may grow again if the forthcoming winter and spring conditions are very favourable and national units do not remain vigilant. In the meantime, the results of the 2003-2005 locust control operations are now being evaluated in depth by an Independent Multilateral Evaluation, with a view to identifying improvements for future emergency operations.

For **2006**, FAO's donor-funded emergency assistance aims to continue to identify alternative, more environmentally friendly products to control the Desert Locust through field testing, strengthening of national capacities in quality and environmentally safe handling of pesticides, management of pesticide stocks and disposal of empty pesticide drums by the use of drum-crushers being introduced into the key locust-affected countries. With the phasing out of the locust emergency crisis, FAO's ECLC short-term emergency operations are to evolve progressively into the more medium-term locust prevention programme through EMPRES. The results of the locust evaluation, expected by March/April 2006, should enhance the link between the emergency and the preventive phases of locust management.

## Removal of obsolete pesticides in Mali

Thanks to funding from the European Commission through ECLC, FAO plans soon to start removing 66 tonnes of dieldrin, derived from previous locust campaigns in the 1980s, from Gao in Mali, through cooperation with a specialized environmental agency. The safe removal of the pesticides from Mali should be completed within one to two months for subsequent safe elimination of the product.

## Pesticide stores in the Sahel

Assistance is being given to the Sahelian countries to rehabilitate pesticide stores and construct storage facilities for the safe and effective storing of pesticides for locust control. Chad, Mali, Mauritania, Niger and Senegal are currently holding significant amounts of pesticides, requiring the improvement of storage facilities to ensure proper storing management. This will safeguard the environment and increase the shelf-life of the product so that it can be used over the longest possible period. FAO intends to fund part of this programme, subject to donor concurrence to use part of the locust emergency funds for this purpose. It is expected that the World Bank will also make a major contribution through the loans it has made to the affected countries.

## Funding update

- To date, funds received amount to US\$74.84 million, of which US\$68.53 million came from donors and US\$6.31 million from FAO.
- US\$54.48 million (73 percent of funds received) has been spent/committed for locust control operations.
- The balance of funds received is US\$20.36 million.
- An additional amount of US\$5.66 million has been pledged by donors but not yet received.
- The total budget allocation for locust control operations is thus US\$80.5 million.
- US\$1.7 million is still being negotiated with donors.

## ECLC contacts

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