



ECLC Operations Report

EMERGENCY CENTRE FOR LOCUST OPERATIONS

SITUATION UPDATE

as of 23
January

Limited breeding is in progress in the winter breeding areas along the Red Sea coast in the Tokar Delta, Sudan, and on the northern Tihama coast in Yemen. Small-scale breeding continues in western Mauritania and southern Algeria. Ground control operations have been conducted in both countries against hoppers and adults. Scattered adults are present in a few places in Tamesna, Niger and near two farms in southern Egypt. Small-scale breeding is expected to commence in the coming weeks in northern Mauritania and Western Sahara where good rains fell in December. Control operations against swarms on the Indo-Pakistan border have ended and only low numbers of solitary adults moved from there to coastal areas in Baluchistan, western Pakistan. These adults will eventually breed if rains fall.

In the Sahel, only northern Mauritania has sufficient favourable conditions and locust activity to justify FAO/donor support for aerial surveys, and currently has a helicopter deployed in the west and north to be sure that no new locust populations are developing during winter. Additional support is being provided to other countries to strengthen the capacity of their national locust teams.

The Multilateral Evaluation of the 2003–2005 Desert Locust Campaign

While field activities of the Desert Locust Campaign are now being focused on the remaining critical areas, the Independent Multilateral Evaluation is assessing the impact of activities undertaken in the participating countries. The Evaluation is concerned with execution and results, and also with investigating whether the applied pesticides have had a negative effect on the environment and human health. Linkages between locust-inflicted damage and food security will be considered as well.

Field evaluations began in December 2005 with missions to Egypt, Libya, Saudi Arabia, Sudan, Tunisia and Yemen. Evaluation missions are now being undertaken to Algeria, Burkina Faso, Chad, Mali, Mauritania, Morocco, Niger and Senegal. Country impact studies are also envisaged. FAO representations in the concerned countries are facilitating local contacts with concerned authorities, as well as with private and civil society organizations involved in locust control.

Evaluation results are expected by April 2006.

Monitoring of the Desert Locust continues in key regions of Mauritania and Niger

Small-scale Desert Locust breeding continues in western Mauritania and in a few places in the Tamesna district of Niger, requiring limited ground control operations. By mid-December, 452 hectares had been treated in the Trarza region in central Mauritania, where hoppers and young adults (winged locusts) had been spotted.

Between 8 and 30 November, a mission to observe the activities related to strengthening national capacities for monitoring the Desert Locust was fielded to Niger, visiting the three teams mobilized in November for surveys in the mountains of Aïr and the plains of Tamesna, which are important breeding areas of the Desert Locust. The mission included the Coordinator of the Desert Locust unit in Niger, the Director of the Desert Locust Centre (CNA), the Project Support Officer from FAO headquarters and the National Professional Officer of the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES)/Western Region (NPO - Mauritania). The mission gave special attention to evaluating the logistics of the operations and to improving the methodology of the survey teams.

In December, Trarza region in central Mauritania was visited by the Locust Officer of the FAO Locust Group, together with staff from Mauritania's Locust Control Centre (CLAA), the NPO of EMPRES and the Director of FAO's Liaison Office for Japan. In addition to carrying out surveys in the centre and west of the country, in an area of about 2 200 km², the visit was part of FAO's continuing support to national teams engaged in locust monitoring. At that time, CLAA had deployed 25 survey teams throughout Mauritania. One other specialist Quality and Environment Survey Team (QUEST) is in the field for human health and environment monitoring and there are two logistics/maintenance teams that provide support to them all.

Strengthening preparedness for locust invasions - National QUEST training in Senegal

After the massive effort to mitigate the upsurge in Desert Locust numbers that occurred in 2003–2005, the focus of FAO's Emergency Centre for Locust Operations (ECLO) is now gradually changing from active locust survey/control to extensive efforts for promoting regional and local preparedness for future re-invasions by the locusts. These preparations include the creation of a system for monitoring human health and the environment during locust campaigns. The Quality and Environment Survey Team (QUEST) approach is innovative in that it has not been previously applied systematically during locust campaigns. QUEST is now operational in several locust-affected countries in the Sahel and will be further extended in Northwest and West Africa, resources permitting.



FAO/W. Mullié

From 21 to 25 November 2005, a national QUEST training programme in Senegal was carried out in Richard-Toll in northern Senegal. Twelve technicians, including two women, from the Ministries of Agriculture and Hydraulics, Environment and Nature Protection, and Health and Prevention were selected for this training session. The majority of the trainees came from regions that had been directly affected by the Desert Locust in 2004–2005, bordering either Mali or Mauritania. The site was chosen because it contained a wide variety of semi-arid to aquatic habitats, close to sites which had been heavily sprayed against the Desert Locust in 2004, thus offering an opportunity to do field work in a truly Sahelian environment.



FAO/W. Mullié

Demonstration of spraying treatment

The field work contained the usual elements of calibration of spraying equipment, execution of a treatment with a pesticide, monitoring of side effects on non-target species and the use of a GPS to automatically add coordinates to survey records. Participants were shown how a GPS could be used to monitor spraying parameters such as speed and distance between passes and how to evaluate the quality of a treatment. Back in the classroom, blood testing to detect contamination by organophosphate pesticides was practiced as well as interpretation of the obtained results. In an improvised laboratory, the participants practiced the selection and identification of captured arthropods.

Various FAO forms, such as those for monitoring of treatments and on incidents of poisoning, were tested and validated by the participants. Despite the intensive programme, the participants suggested additional training on the use of GPS and spraying equipment, on entomology and on the use of blood testing equipment. The national QUEST training in Senegal was funded by Sweden.

National QUEST training in Burkina Faso

Training in Burkina Faso was conducted from 13 to 17 December 2005 at Ouahigouya and was attended by 12 participants from three Ministries: Agriculture, Hydraulics and Fisheries; Health; and Environment. The topics covered included the bio-ecology of the Desert Locust, principles of quality control, personal protective equipment, use of the GPS, types and formulations of pesticides used for Desert Locust control, pesticide management, ecotoxicity of the products, familiarization with treatment equipment, follow-up action after the use of pesticides, pesticide poisoning and analysis of blood samples for contamination, and environmental chemistry. The training started with a theoretical phase and was followed by practical exercises in the field. The knowledge and experience gained during this training will enable the team to carry out Desert Locust control operations effectively in full compliance with the principles of safeguarding human health and the environment. The national QUEST training in Burkina Faso was funded by Italy.



FAO/G. Van De Klashorst

Visiting a pesticide store in Burkina Faso



FAO/G. Van De Klashorst

Demonstration of sprayers used against the Desert Locust

Regional training programme for West Africa on applied ecotoxicology and biostatistics for QUEST teams

Senegal hosted, from 5 to 15 December 2005, a regional training course on ecotoxicology and biostatistics. Fourteen participants from five countries that had previously received QUEST training (Chad, Mali, Mauritania, Niger and Tunisia) were offered additional training in applied ecotoxicology (the ecological effect of toxic chemicals) and biostatistics. The trainees, generally coming from the Ministries of Environment in their respective countries, were trained in the field in aquatic and terrestrial sampling methods, identification of captured arthropods, execution of acute toxicity tests in the laboratory and methods of statistical analysis and reporting of the obtained results.

The training was held in Pout, Senegal, and was led by staff of the CERES-Locustox Foundation, an ecotoxicological research centre that has evolved from a former FAO Locustox project (<http://www.fao.org/ag/locusts/oldsite/Locustox/Ltoxhome.htm>). The foundation is an important partner of FAO in the development of environmentally friendly methods of locust control and in the training of QUEST teams.

Part of the practical work was done under real field conditions, where participants were shown how pelagic (related to the water above the sediment) or benthic (from the water sediment) macro-fauna could be sampled and how to take water samples for residue analysis. These new elements enrich the previous national QUEST training programmes. Aquatic organisms were taken back to the training centre in Pout for toxicity testing.

Treatment with a chemical pesticide was conducted in experimental fields of the training centre during which both the captured aquatic organisms placed in aquaria and free-living terrestrial organisms (ants, termites, coleopterans, etc.) were exposed to sprayed pesticide. During the second part of the training, the trainees analyzed the results of the field experiment using both univariate and multivariate statistical methods.

The participants appreciated the training but expressed further need for knowledge on statistics. This will be provided in future courses. Regional QUEST training is funded by Germany, the Netherlands, Sweden, IFAD and the European Commission.



FAO/Locustox

Testing samples under a microscope



FAO/W. Mullié



FAO/Locustox

Identification of terrestrial organisms

Field trials with Green Muscle® biopesticide continue to prove successful on the Desert Locust in Niger

As part of the aftermath of the locust emergency operations, FAO has continued field trials of the biopesticide Green Muscle® in a further effort to develop alternatives that are more environmentally friendly than conventional pesticides. Green Muscle® consists of spores from a fungus that kills locusts. It takes 6 to 20 days for treated locusts to die. As locusts become weakened, they eat less and most of them become victims to predators. The product is used like chemical pesticides, but is much safer and may thus be applied close to water courses. Tests carried out under field conditions do not demonstrate negative effects on non-target insects, mammals, birds or fish. A further advantage of Green Muscle® is that it survives in sprayed vegetation for several weeks, provoking infection of healthy locusts over a period of time.

Tests with Green Muscle® aim to monitor its efficiency in controlling the Desert Locust and its effects on the environment. Given the successful first field trial with Green Muscle® in April/May 2005 in eastern Algeria, further field trials were continued in Niger in October 2005.

The latest news from trials in Niger is that in the daytime, avian predation was less important than it had been in Algeria, although falcons captured considerable numbers of weakened locusts. Birds, foxes and gerbils entered the site at night and were likely responsible for an important nocturnal removal of affected locusts. This made it difficult to find dead insects, although remains such as wings, elytra and legs were recovered.

Field tests showed that, three weeks after treatment, the Desert Locust population was only 10-15 percent of its original size. Insects captured and held in cages, as a control, became ill and died within one week; moreover, light traps operated during several nights did not capture any Desert Locusts, indicating that the reduction in activity was caused by the fungus and not through nightly migration.

Preliminary results indicate that Green Muscle® is effective against immature and adult Desert Locusts, and that significant population reductions can be obtained within two weeks, even at sites with very dense vegetation, as was the case in northern Niger.



FAO/A. Monard

Predation on dead locusts

Assessing Desert Locust control in West Africa related to the Japanese-funded emergency and medium-term project – Field visit of the Director of FAO's Liaison Office for Japan

The Government of Japan has donated US\$3 million to fund a large Desert Locust control project managed by FAO. In addition to establishing national monitoring teams to develop a comprehensive control methodology of the Desert Locust, the Japanese-funded programme will assure that alternative control methods are pursued whenever feasible and that such methods are being further developed for operational use. The objective is to manage the locust control operations in a responsible manner, protecting the crops and pastures of rural communities.

In December 2005, the Director of the FAO Liaison Office for Japan (LOJA), Mr Yasuo Endo, visited Mauritania and Senegal to monitor the progress of the project, which was initiated in September 2005 to be implemented during a period of three years.

In Mauritania, besides visiting the Locust Control Centre (CLAA) in the capital, Mr Endo joined the Locust Officer of the FAO Locust Group in a locust monitoring mission. He observed the locust field work and how team members, equipped with protective clothing and gas masks, sprayed minimal amounts of pesticide over locust breeding habitats. Environmental personnel investigated potential adverse effects of the pesticides on flora, birds and insects, while health employees periodically checked the blood of field operators.

The Mauritanian experience provided an insight from the field on how national locust monitoring teams operate and how the Government of Mauritania is now successfully applying a closely monitored process from early detection of locusts to campaign completion, including the assessment of possible damage and the cleaning, crushing and recycling of empty pesticide containers.

Regarding experimental field trials with biological agents, FAO's Coordinator of the Subregional Desert Locust Office in Dakar briefed Mr Endo about trials that were implemented in 2005 in Algeria and Niger to identify the efficacy of treatment with Green Muscle®.



FAO/W. Mullié

In the CERES-Locustox laboratory in Dakar, Senegal



FAO/A. Monard

Warning sign against the use of empty pesticide drums in Mauritania



FAO/M. Monard

Human health team in Mauritania

Pesticide removal in Mali – Safely protecting the environment

Preparation for the safe containment and removal of leaking obsolete pesticides derived from previous locust campaigns in Gao, Mali, is well advanced. Thanks to funding by the European Commission, FAO could order UN-approved drums for the containment of the pesticides, and a contract has been awarded to a European company that will provide the necessary expertise to supervise the repackaging work in Mali. The contractor will then arrange for the repackaged waste to be transported for destruction in Europe by April 2006. About 60 tonnes of waste chemicals, containers and contaminated soil will be safely removed from Mali.



FAO/C.H. Sylla

Inspection of barrels



FAO/C.H. Sylla

Loading and dispatch

Drum crushers for Niger and Senegal

Drum crushers are being procured for Niger and Senegal, thanks to the generous funding by Germany and France, respectively. The collection of empty pesticide drums left over from locust control operations has been completed in the two countries. The drum crushers will now rinse the empty drums with a special solvent and crush them, making them ready for safe recycling, thereby preventing their use for domestic purposes and protecting human health and the environment.

Strengthening national capacity for preventive Desert Locust management: the EMPRES programme in the Western Region becomes a fully fledged field programme

The Desert Locust component of FAO's Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) was established as a collaborative programme aimed at strengthening national locust survey and early control capacities, with a view to preventive management of Desert Locust populations. The programme also intends to improve regional coordination and international cooperation. The specific goals of EMPRES are:

- improve locust surveying and reporting, so that better forecasting and early warning are achieved;
- introduce modern technologies to aid information collection and the rapid transmission of data to each national locust headquarters and to FAO headquarters;
- improve early control capacities in key affected countries, including the provision of efficient organizational structures and well-trained staff;
- develop more cost-effective and environmentally friendly methods and strategies; and
- develop effective rapid deployment plans and contingency arrangements.

The EMPRES Desert Locust programme has been successfully introduced to countries in the Central Region around the Red Sea and Gulf of Aden. Due to the recent and past serious Desert Locust infestations in West/Northwest Africa (Western Region), the programme is now in the process of being established in this region as well.

EMPRES/Western Region is coordinated by the Secretary of the FAO Commission for Controlling the Desert Locust in the Western Region (CLCPRO), from its office in Algiers. In order to improve coordination and reinforce implementation within the Sahel, a Subregional Office has been established in Dakar, Senegal. On 24 December, the Senior Officer in charge of the new office assumed his duties. The office is hosted by the FAO Representation in Dakar and is gradually replacing the emergency function required during 2004–2005 with the long-term approach of EMPRES. EMPRES/Western Region is financially supported by the African Development Bank, France, Libya, the United States and FAO.

FAO's new brochure "**Fighting the locusts safely - Pesticides in Desert Locust control: balancing risks against benefits**" that focuses on the correct application of pesticides to control Desert Locusts while minimizing the adverse effects on human health and the environment was published on 23 November 2005. Arabic and French versions of the brochure are under preparation. The English version may be viewed at:

http://www.fao.org/ag/locusts/common/ecg/812_en_FightingDLsafelyE.pdf

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

New country briefs have been prepared for Egypt, Eritrea, Libya, Sudan and Yemen. Country briefs of the other locust-affected countries have been updated and are available at:

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

Budget approved for the FAO locust programme as of 23 January 2006

Donor	Contribution US\$
European Commission	30 311 520
Food and Agriculture Organization of the UN	6 313 568
France	5 847 809
Netherlands	5 662 050
Canada	5 030 572
Italy	4 053 539
United States of America	3 349 041
Kingdom of Saudi Arabia	3 000 000
Japan	2 978 339
United Kingdom	2 675 250
African Development Bank	2 000 000
International Fund for Agricultural Development	1 371 000
Islamic Development Bank	1 214 069
Sweden	1 000 000
Spain	930 944
Germany	907 410
Finland	680 900
Belgium	649 017
Norway	642 389
Austria	533 200
Portugal	331 900
Agence intergouvernementale de la francophonie	265 182
Luxembourg	255 400
Australia	218 537
Ireland	122 910
Greece	65 359
UNDP	52 800
Czech Republic	40 004
Total	80 503 990

ECLO contacts

Operational

Hilde Niggemann-Pucella
Coordinator and Locust-Related Emergencies,
Emergency Operations and Rehabilitation Division, FAO
Tel. 0039 06 57053286

E-mail:
Hilde.Niggemann@fao.org

Technical

Clive Elliott
Senior Officer, Locusts and Other Migratory Pests Group, Plant Production and Protection Division, FAO
Tel: 0039 06 57053836

E-mail:
Clive.Elliott@fao.org

Funding update

- To date, funds received amount to US\$74.8 million, of which US\$68.5 million came from donors and US\$6.3 million from FAO.
- US\$55.7 million (74.5 percent of funds received) has been spent/committed for locust control operations.
- The balance of funds received is US\$19.1 million.
- An additional amount of US\$5.7 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\$1.25 million is still being negotiated with donors.