Food and Agriculture Organization of the United Nations

The FAO Commission for Controlling the Desert Locust in the Central Region

Annual report
highlighting progress in controlling the desert locust in the central region
2022

Annual report
highlighting progress
in controlling the desert locust
in the central region
2022

Food and Agriculture Organization of the United Nations
Rome, 2024

Required citation:
FAO. 2024. *Annual report highlighting progress in controlling the desert locust in the central region*, 2022. Rome, FAO Commission for Controlling the Desert Locust in the Central Region.

Contents

Foreword

The Commission for Controlling the Desert Locust in the Central Region (CRC) has been active since 1967, providing assistance to member countries.

The Commission's (CRC) role is to strengthen the cooperation and coordination between member states. It supports the strategy of prevention to detect early signs of desert locust populations. The strategy aims to improve the performance of national desert locust Units of the member countries to enable better monitoring, prevention, early detection, and effective and timely control of transboundary desert locust.

In 2022, CRC has been focusing on building national and regional capacity for controlling the desert locust, especially after the latest upsurge (2019–2022).
To this end, CRC has provided training, workshops and meetings to obtain qualified personnel for survey, control operations, maintenance, environment, health and safety and campaign management.

This report summarizes all activities taken place in 2022, highlighting efforts made and achievements gained as well as updates on the desert locust situation in the Central Region. Additionally, a remarkable cooperation has established with the Commission for Controlling the Desert Locust in the Western Region (CLCPRO), supporting the coordination and information and experience exchange.

Acknowledegments

The Commission secretariat team would like to acknowledge all the partners for their valuable support and contributions to the activities implemented in 2022. Special thanks to colleagues at FAO Plant Production and Protection Division (NSP), Commission for Controlling the Desert Locust in the Western Region (CLCPRO), Subregional Offices for the Near East and North Africa (RNE and SNE), FAO Country Offices, governments, ministries of agriculture, regional organizations, project partners, national focal points, FAO consultants, research, and academia.

Abbreviations

AFD	French Development Agency
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement-France (French Agricultural Research Centre for International Development)
CLCPRO	Commission for Controlling the Desert Locust in the Western Region
CNLAA	Centre National de Lutte Antiacridienne- Morocco (National Desert Locust Control Centre in Morocco)
CRC	Commission for Controlling the Desert Locust in the Central Region
DLMTC	Desert Locust Management Training Centre
IGR	insect growth regulator
IRD	Institute of Research for Development
JIRCAS	Japan International Research Center for Agricultural Sciences
KFAED	The Kuwait Fund for Arab Economic Development
NEPPO	Near East Plant Protection Organization
NLCU	National Locust Control Unit
NSPMD	Locusts and Transboundary Plant Pests and Diseases
ULV	ultra low volume

2022 in numbers

4

Publications in English and Arabic languages

8

Interregional and regional training courses and workshops

120

Trainees/Participants

5

National training courses

105

Trainees

2

Rehabilitation of locust control centres

1

Brief on the actual projects

CRC has achieved the financial support in order to carry out its activities in a highly responsive and efficient manner. Hence, the Commission has now three main projects funded respectively by **Kuwait Fund for Arab Economic Development, French Development Agency and the Commission Trust Fund**.

The Kuwait Fund for Arab Economic Development (KFAED)

Project title: Contribution to the programme of the Commission for Controlling the Desert Locust in the Central Region (CRC)
Project symbol: OSRO/GLO/1036/KUW
Budget: USD 1 000 000
Start/end dates: 1 April 2022–31 March 2024

The Kuwait Fund for Arab Economic Development (KFAED) undertakes the Kuwaiti Government initiative to reduce the outbreak frequency of the desert locust, preserving national food security and livelihoods.

To meet its vision, this project contributes to the Food and Agriculture Organization of the United Nations (FAO) Strategic Objective 5, "Increase the resilience of livelihoods to threats and crises", and more specifically, to its "Capacities of national authorities and stakeholders reinforced for emergency preparedness to reduce the impact of crises". The project aims at strengthening the preparedness of the Central Region countries, reducing the spread and outbreak frequency of the desert locust, and preserving national food security and livelihoods, and the environment from the extensive use of chemical pesticides.

Accordingly, the project comprises four main activities until March 2024. These activities are defined as follows:

- strengthen capacities of locust monitoring;
- rehabilitation of the desert locust Control Units and bases in the needy countries;
- maintain the capacity of national locust units and promote their early and rapid reaction;
- supporting training courses and workshops;
- supporting the introduction and use of new tools for locust surveillance and control operations promoted.

Throughout 2022, the CRC has successfully attained many achievements in light of these defined activities. This could be noticed in:

- the rehabilitation of the Locust Centre in Suakin, Sudan;
- the establishment of the Locust Centre in Gadem Helib, Eritrea;
- the procurement of Ultra Low Volume (ULV) sprayers for control operations;
- conducting the regional workshop on the preparing and organizing of the desert locust control campaigns, printing the ULV sprayers standard operating procedures (SOPs) in both English and Arabic languages.

French Development Agency (AFD)

Project title: Promote the sustainability of the preventive control strategy and improve the mechanism to deal with desert locust upsurge/ invasions in CRC and CLCPRO member countries.
Project symbol: GCP /GLO/096/FRA
Budget: 3 521 127 USD
Start/end dates: 01 Jan 2021–31 Dec 2024

The French Development Agency (AFD) is a public French institute that funds various projects focusing on climate, biodiversity, peace, education, urban development, health and governance to support the sustainable development goals in more than 115 countries.

The French Development Agency has signed an agreement with the western region (CLCPRO) as well as the central region (CRC) for achieving its fourth component (Enhancing the sustainability of the preventive control strategy and improving the mechanisms of dealing with desert locust outbreaks in central region countries - the fourth component). The fourth component will focus on strengthening the administrative and financial independence of the national locust control units by supporting the national locust control units to:

- deal with locusts that cause serious damage, unlike other economic pests;
- quick decision-making;
- obtain financial, specialized staff and equipment resources at immediate disposa;
- strengthening communication with relevant regional and international parties and benefiting from their experiences in this field.

In addition, component four of the project is dedicated to the collaboration between the two FAO Commissions for Controlling of the Desert Locust in the Central Region (CRC) and the Western Region (CLCPRO) whose agreement was signed on May 25, 2021 and covers three areas having direct impacts on the improvement of strategic mechanisms for preventive control as well as to cope with locust upsurges/invasions, particularly in the so-called “front line” countries; these are the institutional, financial and operational aspects.

As part of the implementation of component four of the AFD project, the activities carried out to date have focused on:

- participation of the CRC Secretariat in the workshop to update national/regional locust emergency plans in the western region held from 14 to 18 March 2022, in Sally, Senegal;
- joint inter regional organized jointly with Near East Plant Protection Organization (NEPPO) on the use of bio pesticides in locust control, organized from May 16 to 20, 2022, in Agadir, Morocco.
- workshop to set up CRC regional training plan (2022–2025) held during 27–30 June in Cairo, Egypt;
- the two Locust Information officers form Egypt and Sudan had participated in the regional training for desert locust information officers and using the new information transfer devices (eL3M), which took place from 19–26 June in Algeria.
- the Locust Control Units in Egypt, Oman, Eritrea and DLCO-EA have participated in a joint survey by using the drones in Mauritania (14–23 Sep.).
- joint workshop has been organized in Mauritania for used drones for field survey, September 15 to October 4, 2022.

2

Interregional and regional workshops and activities

The regional workshop to update the regional emergency plan

Saly, Senegal
14–28 March 2022

© FAO/CRC

A group photo of the participants in the regional workshop

The Commission for Controlling the Desert Locust in the Western Region (CLCPRO) introduced the regional workshop to update the regional emergency plan. The technical assistant of the CRC Commission, Mr Essam Khalifah, participated in this workshop, which aimed to review the national locust emergency plans in four member countries of (CLCPRO) namely Mali, Mauritania, Niger, and Chad – also known as (frontline countries).These countries were under threat of desert locust attack during 2019–2022 upsurge, and hence, their emergency plans were assessed with regard to organizational, financial, and operational tools such as FIRO[1].

The workshop concluded that bilateral cooperation in joint surveys should be strengthened to help countries update and regularly review their emergency plans. Member countries should also ensure collaboration between research institutions, universities, and parties responsible for locust control - including promoting alternative pesticides. FAO takes responsibility for supporting these countries with ways to dispose of obsolete pesticides; encouraging international partners to develop new anti-locust active ingredients that are effective, accessible and environmentally friendly; their approval; and promoting the establishment of a virtual stock of anti-locust pesticides to better deal with locust invasion situations.

[1] (Western Regional Response Force - Force d'Intervention de la Région Occidentale)

The regional ToT training course for the CRC master trainers

Port Sudan, Sudan
20–27 March 2022

© FAO/CRC

A group photo for the trainees and their trainers at the DL centre

In March 2022, the regional Training of Trainers (ToT) course on desert locust survey and control operations was held following the launch of Phase I of the desert locust Management Training Course (DLMTC) in Suakin. Sudan is considered one of the most important frontline countries, particularly the Red Sea coast containing different and permanent habitats for desert locust breeding and development, which attests to frequent outbreaks of the desert locust.

Sixteen participants from nine countries (Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Sudan, Yemen, and Somalia) attended the training. The training course aimed to build national capacities for the desert locust survey and control operations, so that participants will be certified as national master trainers, and eventually hold national training courses in the future to train crop protection and other department's staff on desert locust biology, survey and control operations.

The training course covered all aspects relating to desert locust biology and behaviour, survey and control operations. Desert locust biology covered life cycles, hopper stages, identifications and appearances, as well as breeding habitats. Survey methods and how to conduct surveys were discussed. The use of field equipment, Global Positioning System (GPS) and eLocust3 and eLocust3m[2] were explained extensively in the classroom and implemented in the field. Interpretation of field data and map reading were practiced in the classroom. The use of drones in the survey was also explained and demonstrated comprehensively in the classroom and applied in the field.

[2] eLocust3m is an app developed by FAO and Penn State University for smartphones. It can be downloaded from Google Play Store. Every field officer can easily enter basic locust data at each survey and control location offline. The data are saved to the phone and transmitted automatically once a network is available to the national locust centre of the country. This allows reports, photos and messages to be shared immediately with all other users in the country to better plan surveys and control operations.

The interregional workshop on the use of bio-pesticides in locust control operations, organized jointly with CLCPRO and NEPPO

Agadir, Morocco
16–20 May 2022

© FAO/CRC

The trainees in the field during the interregional workshop

The interregional training on the use of bio-pesticides in locust control held in Agadir from 16 to 20 May 2022. The training was organized jointly by Locusts and Transboundary Plant Pests and Diseases (NSPMD), Commissions for controlling the desert locust in central and western regions (CRC and CLCPRO), in cooperation with the Near East Plant Protection Organization (NEPPO) and Moroccan National Anti-Locust Centre (CNLAA), with the participation of the bio pesticide producing company (Eléphant Vert). Eighteen participants from fifteen countries, hosting locust-breeding areas: Algeria, Chad, Egypt, Ethiopia, Kenya, Libya, Mali, Morocco, Mauritania, Niger, Oman, Saudi Arabia, Somalia, Sudan and Yemen, in addition to FAO's experts who also took part in the training.

During the event, the trainees acquired both theoretical and practical knowledge on all aspects of handling, transporting, storing and applying the biopesticide, *Metarhizium acridum*. Specific attention was given to methods of fungal spore viability assessment, mixing the bio-pesticide with diesel before application and parameters of ultra low volume (ULV) spraying with the bio-pesticide product. Lessons learned from successful bio pesticide operational use and barrier treatments with insect growth regulator (IGR) in Somalia during the recent desert locust approach were also shared with the participants.

The 32nd session of the Commission for Controlling the Desert Locust in the Central Region

Jeddah, Saudi Arabia
5–9 June 2022

© FAO/CRC

A group photo of the member countries representatives in the CRC 32nd session

The CRC is holding a regular session every two years to discuss all the technical topics of the region as well as all the organizational and institutional aspects of the commission, comprising all member countries (Bahrain, Djibouti, Egypt, Eritrea, Ethiopia, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates, and Yemen).

The meeting was held under the auspices of H.E. Ahmed Bin Saleh AlKhamsi, Deputy Minister of Environment, Water and Agriculture for Agriculture of Saudi Arabia. The meeting was opened by Dr Suleiman Al-Khatib, Assistant Undersecretary of Agriculture, in the presence of H.E Dr Mohammed al-Ghamdi, Saudi Arabia permanent representative to United Nations Rome-based Agencies (RBAs); Mr Ayman Omar, FAO representative to Saudi Arabia, and Mr Shoki Al-Dobai, Locust and Transboundary plant pests and diseases team leader, FAO-HQ. 15 out of the 16 member countries attended the session, in addition to the Executive Secretary of the Commission for Controlling the Desert Locust in the Western Region (CLCPRO) and two observers from Somalia and the Desert Locust Control Organization for Eastern Africa (DLCO-EA).The delegate of Saudi Arabia was unanimously elected as the Chairman of the 32nd Session of the Commission, delegate of Egypt as the Vice-Chairman. The Syrian delegate was elected as the Chairman of the Executive Committee, and the Executive Committee members have been unanimously elected to be: Bahrain, Egypt, Lebanon, Jordan, Kuwait, Sudan and Syrian Arab Republic.

- the 32nd Session of the CRC discussed several technical important topics, including the desert locust upsurge (2019–2022), the lessons learned to improve the countries' response capabilities, climate change impact on locust outbreaks, and new technologies for improving desert locust survey and control operations;
- representatives of countries, organizations and agencies, as well as locust experts, explained the various challenges of the full management of the desert locust during the significant upsurge of 2019–2022 and shared their experience, knowledge and innovative technologies to control this pest;
- the technical discussions tackled the response of CRC Members to the recent desert locust upsurge, the effectiveness and sustainability of operations of national locust control units, lessons learned from the control campaign (2019–2022), and ways to improve the collaboration, monitoring and information sharing between the concerned parties. Member countries reviewed and approved the work plan of the Commission (2022–2024), in addition, they reviewed interregional cooperation between the desert locust commissions, and the regular financial and administrative issues.

In total, 24 recommendations covering all agenda items were endorsed by the commission, including:

- the review of the experiences and lessons from the 2019–2021 response to the desert locust upsurge.
- member countries, particularly breeding countries, were urged to maintain the maximum autonomy of the desert locust national centres/units and to continuously update their national contingency plans to proactively respond to unpredictable developments of the desert locust situation associated with climate change;

- the meeting unanimously agreed to waive all arrears owed by member countries to the Commission TF until the end of the fiscal year 2021/2022, if member countries commit to regularly pay their annual contributions to the TF starting from the fiscal year 2022/2023;
- the meeting approved the work plan for 2022–2024, to include the outputs of the regional workshops for developing the CRC training plan for 2022–2026 and the research plan for the same period. These two workshops planned to be held after the CRC 32nd Session on June and November 2022, respectively;
- the meeting recommended providing a regional stockpile of sprayers to support countries affected by locust outbreaks and upsurges based on the need of the desert locust control units;
- the member countries agreed on the request submitted by Somalia to join the Commission as a “Nominated member”. They also requested from the commission secretariat to follow the administrative and legal procedures, according to the establishment agreement of the commission and the regulations in force within the Food and Agriculture Organization in order to obtain full membership.


© FAO/CRC


© FAO/CRC


© FAO/CRC


© FAO/CRC

The regional training course of desert locust information officers on information management

Algiers, Algeria
10–25 June 2022

© FAO/CRC

A group photo of the participants in the training course

© FAO/CRC

Mr Hichem Dridi, FAO trainer, sharing his valuable knowledge with the trainees

In order to ensure the efficiency and sustainability of the NLCUs, a training course was conducted addressing the new locust information officers working in the NLCUs. The training was attended by technicians from all ten CLCPRO member countries (Algeria, Burkina Faso, Libya, Mali, Morocco, Mauritania, Niger, Senegal, Chad and Tunisia) as well as two countries from the Commission for the Control of Desert Locusts in the Central Region (CRC), namely Egypt and Sudan.

Participants in the training session were introduced to the MacBookPro laptop and learned how to use it through a progressive and systematic approach. They were taught about customizing the MacOS look, managing files with Finder, using keyboard shortcuts and TrackPad gestures, and using various Mac applications such as Pages, Numbers, Keynote, Safari, Preview, Photos, and Mail. The participants found it easy to learn each application quickly due to similarities in menus and functions between them. They also learned about the use of multiple desktops on their screen, MacOS approach to drag and drop, the use of command key for keyboard shortcuts, and switching languages. Overall, the training session was successful in maximizing learning and assimilation of MacBookPro usage for the Locust Information Officer's work.

The training session focused on the use of Rv4.1 to analyse meteorological, ecological, and locust data. Participants were introduced to GIS functionalities and shown how to query and visualize different data layers. They were also taught how to project rainfall and greening maps to forecast locust situations for the next periods. The training covered the most commonly used functions, including restoring databases, automatic backup and update, queries on locust presence, remote sensing, background maps, and creating maps for bulletins. Each deputy was provided with a standard template specific to their country to fill in with their analysis results and maps.

The regional workshop to set up CRC regional training plan (2022–2026)

Cairo, Egypt
27–30 June 2022

© FAO/CRC

A group photo of the participants in the regional workshop

© FAO/CRC

Discussion on training needs for each member country, with the valuable guidance of the commissions' executive secretaries

The CRC has conducted a four day workshop in order to develop a regional training plan for the period from 2023 to 2026. These trainings should foster the capacities of the human resources especially working on survey and control operations in the region. The workshop was financed by the French Development Agency (AFD) "GCP/GLO/096/FRA". Twelve countries have participated in this workshop in the presence of the Executive Secretariats of CRC and CLCPRO.

The sessions of the workshop had focused on the training needs and the existing training capacities based on a questionaire sent to the participants before the workshop. The workshop was intended to allow the locust control managers of CRC member countries to discuss the national, regional and individual trainings that will allow consolidating the achievements and upgrading the skills of the National Locust Control Units (NLCU) in relation to the technical and scientific innovations and, on establishing the monitoring and evaluation system to be deployed to ensure a better monitoring and evaluation of the trainings and the use of the training tools and materials.

As a result of the workshop, a regional training plan for member countries was developed for the four years 2023–2026, based on the specific needs expressed by representatives of the member countries. Participants discussed and approved a set of recommendations addressed during the workshop.

A joint survey using the drones for locust monitoring

Nouakchott, Mauritania
15 September–4 October 2022

© FAO/CRC

A group photo of the participants in the workshop

© FAO/CRC

Participants are conducting survey operations in the field

In the context of joint survey operations using the drones for locust monitoring conducted by CLCPRO and CRC in the Muritania. Four member countries of the CRC, namely Egypt, Ethiopia, Saudi Arabia, and Sudan, participated in this field mission in addition to 14 participants from CLCPRO countries. The mission was undertaken as part of the AFD project (GCP/GLO/096/FRA) which focuses on collaboration between CLCPRO and CRC. Researchers from Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) also participated in these operations.

Due to exceptional rainfall conditions in Mauritania since June 2022, eight drones were used in this mission extensively to survey and collect field information to monitor and follow-up on the locust situation. Also others developed tools were used such as metrological instruments, eLocust3, maps in real field conditions without external assistance.

At the end participants become familiar with the analysis of visual photos and mono-spectral images collected by drones to recognize biotope type and vegetation detection (NDVI - Normalized Difference Vegetation Index). Participants fully mastered the use and maintenance of drones.

The mission concluded that using drones allowed users to easily collect images of vegetation, especially in inaccessible areas, enabling quick decisions on which sites to survey.

The interregional workshop for the elaboration of an operational research plan on the desert locust (2022–2026) in central and western regions

Tunis, Tunisia
8–11 November 2022

© FAO/CRC

A group photo of the participants in the workshop

The interregional workshop for the elaboration of an operational research plan on the desert locust was conducted within the framework of the implementation of the AFD project "GCP /GLO/096/FRA", which aims at consolidating the basis of the preventive control strategy and developing operational research on the desert locust in the central and western regions.

The workshop was organized in Tunis from 8 to 11 November 2022, in the presence of The Head of Locusts and Transboundary Plant Pests and Diseases (NSPMD) Group at FAO Headquarters; the Executive Secretary of the Commission for Controlling the Desert Locust in the Western Region (CLCPRO); the Executive Secretary of the Commission for Controlling the Desert Locust in the Central Region (CRC).

The interregional workshop aimed to elaborate a planning scheme of research activities for the desert locust management for the two regions for the period 2022–2026. The specific objectives of the workshop are:

- improvement of the early warning and rapid intervention system;
- improvement of the locust management alternatives in respect to the environment;
- study of the impact of climate change on locust situation and management;
- introduction of the technological innovations in locust management;
- study of the socioeconomic aspects related to locust crises.

The workshop brought together around 40 stakeholders, including the heads of the National Locust Control Units of the member countries of the two regions, researchers from scientific research institutions involved in desert locust research, and FAO experts, to share their experience, research results, and to contribute to the development of the research plan for the desert locust management in the western and central regions. The discussions focused on the desert locust management key areas, such as innovative tools and methodologies to improve early warning and forecasting systems; study of the impact of climate change on locust situation and management; promotion of the application of locust management alternatives in respect of the environment; and the technical innovations and research on the socio-economic implications related to locust crises.

The participants have been familiarized by the moderator with the results based management approach to be applied in the development of the research plan.

Research plan with indicative timeline and indicators has been developed through the thematic working groups and validated at the plenary session of the workshop.

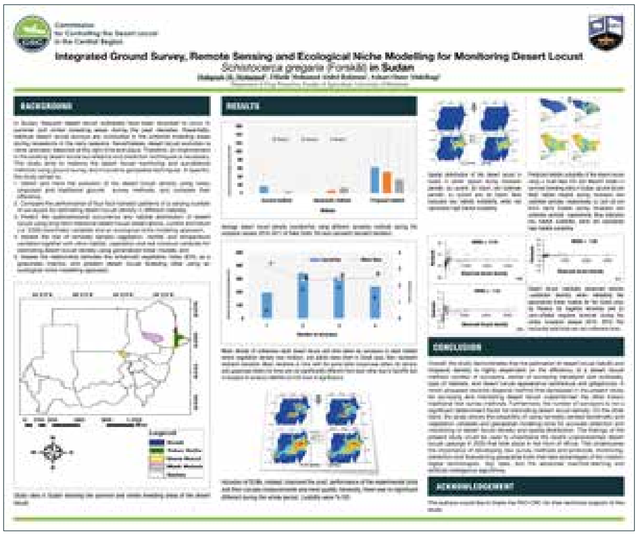
Among the research presented at the workshop for instance, Ms Clara Therville form the Institute of Research for Development (IRD) had exposed her research "Integrating the social sciences in sustainable locust management". From (CIRAD), Mr Cyril Piou presented his research titled "Soil moisture from remote sensing to forecast desert locust presence", in order to encourage preventive control management based on remote sensing and to elaborate on the correlation between soil moisture and locust population growth. From Kenya, the representative of the International Centre of Insect Physiology and Ecology (ICIPE) has also introduced his research on "Decision support tools and capacity building to sustainably manage the impact of desert locust".

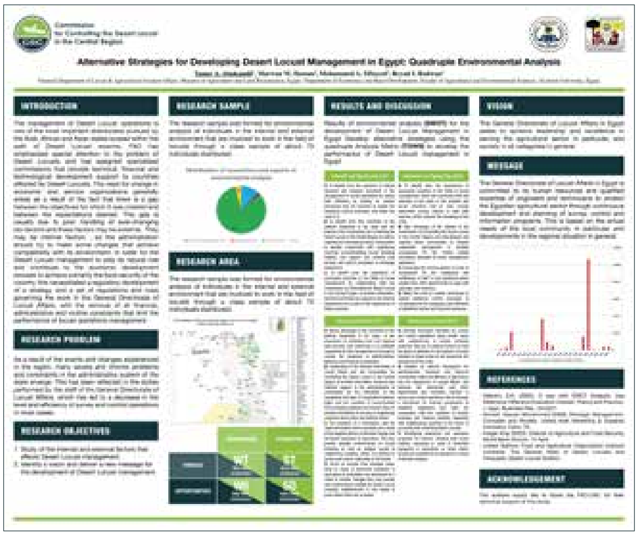
Many other topics were also tackled technically such as "Elucidation of the unique reproductive behaviour of desert locust - Efficient pest control that can lead to reduction in use of pesticides" by Mr Kotaro Maeno from the Japan International Research Centre for Agricultural Sciences (JIRCAS), "effects of Pergularia tomentosa active fraction on the development and oogenesis of the desert locust, Schistocerca gregaria by investigating the relative transcript levels of Halloween genes and the nuclear receptor complex" by Mr Khemais Abdellaoui (ISA-CM) from Tunisia, "Assessment of the efficiency of drones in surveillance and control of desert locust, Schistocerca gregaria" by Ms Violet Ochieng (University of Nairobi) from Kenya. within the framework of the workshop, posters have been exhibited to present the summaries of the research papers supported by the two commissions over the last years.

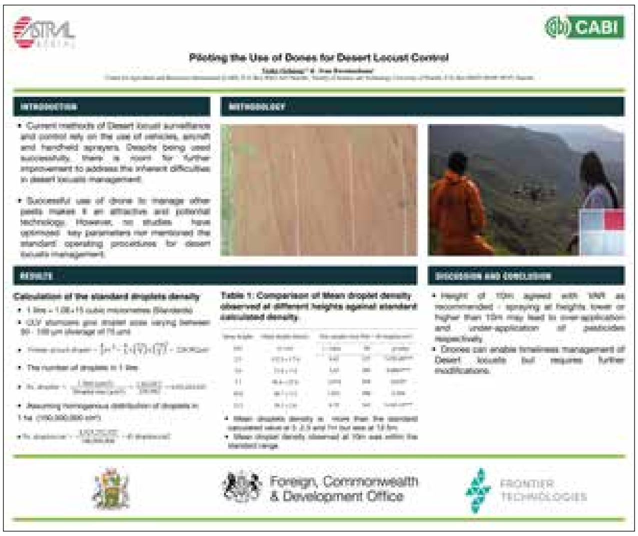
© FAO/CRC

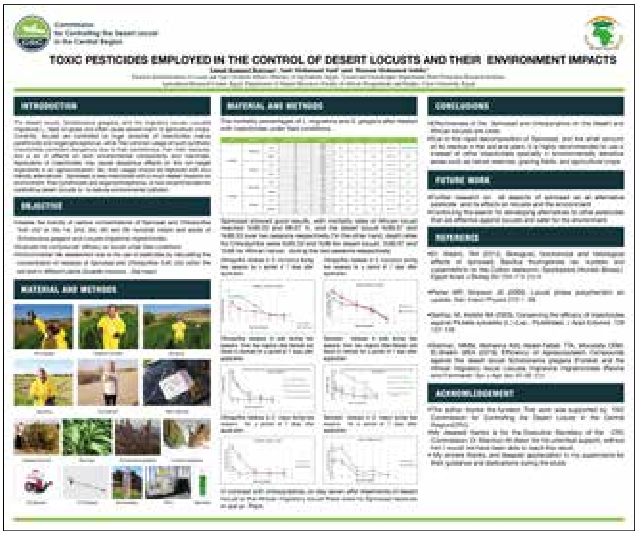
© FAO/CRC

© FAO/CRC









Six posters showcasing a diverse range of research topics

The regional workshop on the management and organizing of the desert locust control campaigns

Hurghada, Egypt
13–20 November 2022

© FAO/CRC

The participants in their field mission during the workshop

© FAO/CRC

Trainers are watching the trainees during the simulation

The training workshop, partially funded by the Kuwait project "OSRO/GLO/1036/KUW" was held in November 2022. Eighteen participants from nine different member countries attended the workshop. The workshop aimed to train participants in managing preparing and organizing campaigns for controlling desert locusts, utilizing programs and applications used in this field to identify gaps and operational weaknesses, and preparing to respond more efficiently to any future locust emergencies.

The workshop included field simulations for surveying and measuring affected areas, using survey tools, and the devices for transferring information. At the end of the workshop, participants became familiar with all techniques and assistant tools such as DeLCoPA[3] and eLERT[4] that help member countries implement contingency plans during upsurges.

[3] **Desert Locust Contingency Planning Assistant (DeLCoPA)**
This Assistant will help the national LCUs to be better prepared to cope more effectively with the incident of a DL emergency. It provides guidance to identify and mitigate constraints, gaps or operational weaknesses.

[4] **Locust Emergency Toolkit (eLERT)**
is a dynamic and interactive online database whose main objective is to serve as a reference, at both national and international levels, to respond more timely and effectively to the needs in a fast-evolving crisis situation.

© FAO/CRC

© FAO/CRC

© FAO/CRC

© FAO/CRC

Printing the standard operating procedures (SOPs) for desert locust ULV sprayers

© FAO/CRC

SOPs publications for the four types of ULV sprayers

Desert locust ULVA sprayers are essential tools for control operations. To ensure that control staff and technicians working with these sprayers have a clear understanding of their operation, it is important to provide them with standard operating procedures (SOPs). The SOPs will outline step-by-step instructions on how to operate the sprayers, maintenance and common troubleshooting to resolve problems that might otherwise hamper control operations.

The SOPs for these sprayers will cover topics such as how to assemble and disassemble the sprayers, how to calibrate the spray nozzles, how load pesticides into the tank, and how to clean and store the sprayers after use.

By providing control staff and technicians with detailed SOPs for both ULV sprayers, with that can ensure that they have all the information they need to operate these devices safely and effectively.

These publications cover four ULV sprayers used for locust control operations published in both English and Arabic languages:

- ultra low volume handheld sprayer (passive drift);
- ultra low volume vehicle mounted sprayer (passive drift);
- ultra low volume motorised mistblower sprayer (airblast);
- ultra low volume vehicle mounted sprayer (airblast).

Establishment of the Desert Locust Management Training Centre (DLMTC) in Suakin

© FAO/CRC

Snapshot of the under-construction desert locust training centre in Suakin

The sign for the DLMTC in Suakin

© FAO/CRC

The executive secretary of the CRC with the team in Suakin

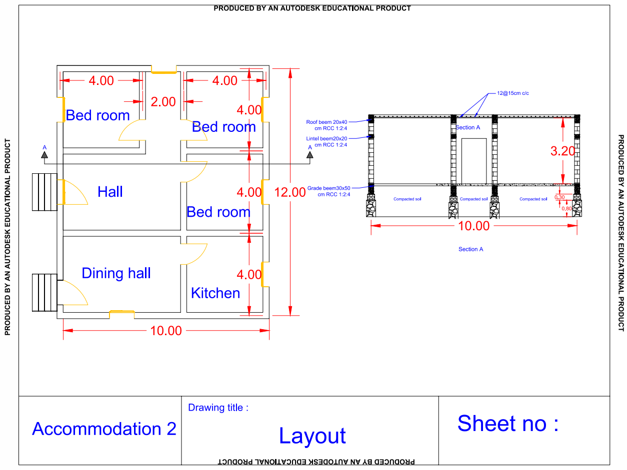
Sudan holds one of the most critical breeding areas for desert locust. It is part of the frontline countries in the Central Region that contains two seasonal breeding areas, with an enormous potential area for desert locust breeding, estimated at 845 000 km². The continuous internal breeding, formation of locust groups and swarms, and invasion from neighbouring countries require adequate capacity for timely control operations and protection of crops and pasture areas. As a transboundary plant pest, desert locust requires mutual collaboration between breeding and invasion countries to control this destructive pest conveniently.

Therefore, FAO's Commission for Controlling the Desert Locust in the Central Region (CRC) supports member countries in implementing a preventive strategy to limit desert locust populations. Critical to this objective is early desert locusts detection by conducting ground and aerial survey operations, followed by timely and appropriate control measures. Implementing this strategy and managing the sporadic occurrence of locust upsurges and plagues requires extra efforts to control locusts, as well as global and regional cooperation. In addition to the physical resources, institutional and human capacity in all countries is also critical for timely survey and control operations. FAO and CRC have supported the locust control department at plant protection directorate in the ministry of agriculture, Sudan, to establish a training centre for desert locust management to:

- build the capacity of the Locust Officers to improve locust surveillance and control operations;
- support locusts applied research activities in Sudan, neighbouring countries and the region, particularly in introducing new efficient and environmentally safer control means;
- test and demonstrate new technologies for desert locust surveillance and control.

Suakin of the Red Sea coast has been chosen as a suitable site for a training centre for locust operations. Thanks to the European Union's support, phase one of the desert locust management training centre has been completed. the training centre opened under the auspices of the director general, ministry of production and economic resources, red sea state, with the presence of fao representative in sudan, director general, plant protection directorate, head of desert locust department and participants from nine countries; Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Sudan, Yemen and Somalia. The FAO Assistant Director-General and Regional Representative for the Near East and North Africa, Mr AbdulHakim Elwaer, also participated in the opening ceremony with a speech through a video conference, as he was unable to attend.

The establishment/ rehabilitation of the locust centre in Gadem Helib, Eritrea and Tokar, Red Sea governorate, Sudan



Visual representation of the layout and 3D modeling of the DL centre in Gadem Helib, Eritrea

Rehabilitate and develop the desert locust control facilities in most affected breeding countries to fulfil its national, regional and international commitments of controlling desert locust and promote a preventive control strategy. Rehabilitate locust units infrastructure will provide safe shelter for the staff that work in harsh conditions in remote areas and allow better conditions to start monitoring activities of desert locust at breeding sites. Consequently, locust centres and monitoring base stations will be fully operational to reinforce monitoring and dissemination of information to enable effective control operations to achieve their tasks in monitoring and controlling operations, enhancing crops protection and food security.

Therefore two site were chosen to start with and established and develop the desert locust base facilities in the most affected breeding countries. Tokar, Red Sea governorate, Sudan and Gadem Helib Sea governorate Eritrea.

By implementing project activities, the management of the desert locust in the region will be significantly enhanced, preventing the build-up of desert locust populations in breeding areas and securing the livelihoods of vulnerable rural communities. Both sites are expected to be ready by mid-2024.

3

National training courses

The national training course on using the drones in desert locust survey operations

Jeddah, Saudi Arabia
16–25 January 2022

© FAO/CRC

A group photo of the participants during the national training course

The commission made efforts to introduce drone technology to monitor desert locust in affected countries as part of the global early warning system. Two drones have been purchased to strengthen the early warning capacities in the Locust Control Centre in Saudi Arabia. The Saudi Arabia is the second country in the region to use drones for locust surveillance after Sudan with support of CRC.

Three drone experts from HEMAV Foundation have performed the training in Saudi Arabia for eight locust officers on flight operations, data management and maintenance of the drones. The exercise consisted of three parts as follows:

- theoretical aspect; organized in Jeddah, 16–18 January, familiarizing the participants with the different parts of the drones, their functions, data transmission and analysis. Data management and the software developed “DOMA”, which allows to visualize and summarize the drones’ activities;
- the practical aspect was conducted in Al-Leath (200 km south Jeddah), 19–23 January, where a field camp was established during which the drones were tried in the field, and each participant had the opportunity to perform drone flights at least four to five times;
- the third aspect was dedicated to being trained on drone maintenance in Jeddah, 24–25 January.

The outcomes of this training were:

- eight locust officers trained and are well familiarized with the fundamental operation of the drone and equipment proper handling;
- participants were received a very advanced training that prepared them to complete the flight missions without any help or assistance from the trainers;
- handing over two fixed-wing drones to the Locust Control Centre in Saudi Arabia (Drone ID HP2-73, HP2-74);
- the drones are now a part of the early warning system in Saudi Arabia.



© FAO/CRC


© FAO/CRC

© FAO/CRC


© FAO/CRC

A national training course on desert locust control operations and ULV sprayers maintenance

Hargeisa, Somalia
February–March 2022

© FAO/CRC

A group photo of the participants during the national training course

The national training courses on DL operations and maintenance of DL sprayers are an essential step towards building the capacity of national staff working on desert locust control operations in Somalia. The courses aimed to equip the staff with the necessary skills and knowledge to respond effectively against locust outbreaks, covering operating, maintaining, and repairing sprayers. The training was conducted in Puntland and Somaliland, two regions that have been severely affected by locust infestations in recent years.

These trainings enabled the trained staff to understand basic information about locust control techniques and how to effectively operate, maintain, and repair sprayers. This will ensure that the sprayers are always in good condition and ready for use when needed. The trained staff will also be able to identify any faults or issues with the sprayers and fix them promptly, reducing downtime during critical locust control operations.

Twenty five desert locust officers have been certified in locust control operations in Puntland and 20 in Somaliland. While in sprayers maintenance, 16 techniciasn have been certified in Puntland and 13 in Somaliland. The training courses enhanced the capacity of national staff to manage locust outbreaks independently without relying on external support. This is crucial as it ensures that there is always a teams on standby to respond quickly to any locust emergencies.

A national training course on desert locust control operations and ULV sprayers maintenance

Hama, The Syrian Arab Republic
21–26 May 2022

A group photo of the syrian trainees with their trainers from Egypt

Two national training courses on "Desert locust control operations and maintenance of sprayers used in desert locust control operations" were conducted by the CRC Secretariat at the request of the Syrian Arab Republic ministry of agriculture and agrarian reform – plant protection directorate. The courses took place in Hama (250 km north of Damascus) from 21 to 26 May, 2022.

A total of 29 trainees attended both training courses, representing nine governorates, including most heads of crop protection departments and sections and an agro-aviation pilot.

The first part of the course (three days) covered desert locust control operations. The second part of the course (three days) focused on operating and maintaining the sprayers used in desert locust control operations, namely (ULVA+, AU8000, and AU8115MS).

The training was designed to equip trainees with the knowledge and skills they need to effectively control desert locusts. This is important because desert locusts are a significant threat to food security in many countries. It was also designed to ensure that sprayers used in desert locust control operations are operated and maintained properly.

© FAO/CRC

© FAO/CRC

© FAO/CRC

The national training on the maintenance of desert locust sprayers

Safaga, Egypt
6–12 September 2022

© FAO/CRC

© FAO/CRC

A group photo of the participants during the national training course

Within the framework of the AFD project "GCP/GLO/096/FRA", the national training program was designed to provide comprehensive support to DL staff, technicians, and drivers who operate and maintain desert locust equipment, particularly sprayers. The training course was conducted to` build national capacities in Egypt. The primary objective of the training was to equip participants with the necessary skills and knowledge to effectively maintain and repair locust control sprayers.

The training program was structured to ensure that certified trainers could pass on their expertise and experience to their colleagues working in survey and control operations. This approach aimed at building a sustainable capacity for managing locusts in Egypt over the long term. The simulation exercises conducted during the training covered all possible scenarios that participants might encounter while working in the field.

National environment, health and safety training course

Dubai, United Arab Emirates
26–30 September 2022

© FAO/CRC

A group photo of the participants during the national EHS training course

© FAO/CRC

Participants implementing health and safety procedures in field

The national training course on applying health, safety, and environmental standards was held from 26–30 September in Dubai. The training course was arranged to comply with the needs of the locust unit in the United Arab Emirates, which suffered from a desert locust upsurge (2019–2021), and in accordance with the commission's recommendation to conduct such training to protect the environment and human health from the negative impact of desert locust control operations.

The environmental and health standards (EHS) of the Commission for controlling the Desert Locust in the Central Region (CRC) define the requirements that a desert locust control campaign should meet with the aim to minimize environmental and human health effects of insecticide use. The EHS provides explicit benchmarks, which desert locust control operations should comply with, to ensure that environmental and human health effects are avoided or kept to an acceptable minimum.

The workshop aimed to implement the current status of environmental and human health standards in the United Arab Emirates. The workshop was also expected to provide concrete advice on the continued implementation of the EHS at the national level.

The workshop included a series of technical presentations, discussions, and practical exercises, as well as a simulation exercise on the field.

Contact

Commission for Controlling the Desert Locust
in the Central Region

Mamoon.AlSaraiAlalawi@fao.org

Food and Agriculture Organization of the United Nations (FAO)
Rome, Italy

CC9681EN/1/02.24