



Food and Agriculture  
Organization of the  
United Nations

## **DESERT LOCUST UPSURGE**

Progress report on the response  
in the Greater Horn of Africa  
and Yemen

**September–December 2021**





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# Foreword

In 2021, the Greater Horn of Africa and Yemen saw the second consecutive year of the triple threat of desert locust, the COVID-19 pandemic and severe drought. The desert locust crisis continued in 2021 due to unusually favourable weather and ecological conditions, which welcomed desert locust breeding.

Despite the persistent threat, lessons learned and experience gained from the previous year, new digital tools in the monitoring, surveillance and control of the pest, and sustained support from resource partners, helped make the response of the Food and Agriculture Organization of the United Nations (FAO) more effective and efficient. Continuous surveillance was maintained in the Greater Horn of Africa and Yemen, with more than 135 000 field reports produced, and over 725 000 ha treated in the region in 2021.

Overall, our resource partners contributed USD 230.5 million towards FAO's desert locust crisis appeal for the Greater Horn of Africa and Yemen between January 2020 and December 2021. The fully-funded appeal allowed ground and aerial operations to treat nearly 2.3 million ha of desert locust-infested land in the targeted countries during this period. These efforts averted 4.5 million tonnes of crop losses, saved 900 million litres of milk production, and secured food for 41.5 million people. The commercial value of the cereal and milk losses averted through the response is estimated at USD 1.77 billion. By the end of 2021, FAO had completed the delivery of livelihood packages reaching over 305 000 households, providing them with the means to meet their immediate needs and to restore their productive capacity.

Given the combination of human intervention and changing weather conditions, which were unfavourable to desert locust breeding, we saw positive signs that populations were declining by the end of the year. While a few hotspots requiring continued surveillance remain, we can finally say that the upsurge is coming to an end.

Yet, even as this historic upsurge wanes, the next challenge will be to maintain the gains made over the past two years so that countries have robust monitoring and control systems in place that can be sustained to prevent future upsurges and plagues in our collective fight against this ancient pest.



**Dr QU Dongyu**

Director-General

Food and Agriculture Organization of the United Nations





## At a glance



**2 292 548 ha** of land controlled in the ten countries included in the appeal (since January 2020)



Livelihoods of **41.5 million people** saved and food security protected



Outcome value of surveillance and control intervention estimated at **USD 1.77 billion** (crop and milk production saved)



**+305 000 households** provided with livelihoods assistance (cash+ cropping packages)



**USD 230.5 million** mobilized by FAO for rapid response and anticipatory action in the ten countries by December 2021

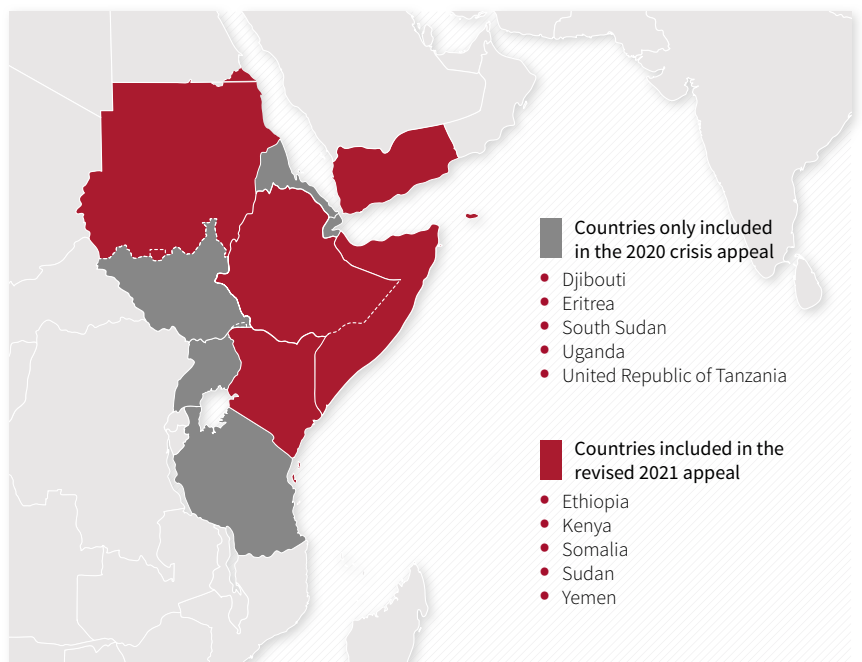
The desert locust upsurge in the greater Horn of Africa and Yemen has been the worst such crisis to strike the region in decades. In its early days, the upsurge represented an unprecedented threat to food security and livelihoods, particularly in the Horn of Africa, with the potential to cause widespread suffering, displacement and conflict.

Major successes have been scored over the past two years to suppress the upsurge and mitigate its impacts on vulnerable farmers and herders. This is thanks to the timely and generous support of FAO's resource partners, enabling FAO to: (i) provide technical and operational assistance for surveillance and control operations, (ii) provide livelihood support for affected farmers and herders, and (iii) build and sustain the capacity of national and regional actors to cope with similar outbreaks in the future.

With generous contributions from 29 partners, in addition to FAO's own resources, USD 230.5 million were mobilized towards FAO's desert locust crisis appeal for the Greater Horn of Africa and Yemen. The fully-funded appeal allowed ground and aerial operations to treat nearly 2.3 million ha of desert locust-infested land in the targeted countries between January 2020 and December 2021. Up to 20 aircraft were deployed simultaneously, supported by hundreds of ground teams, and more than 1.4 million locations were surveyed. These collective efforts averted 4.5 million tonnes of crop losses, saved 900 million litres of milk production, and secured food for 41.5 million people. The commercial value of the cereal and milk losses averted through the response is estimated at USD 1.77 billion.



**Figure 1. Countries included in the revised 2021 crisis appeal for the Greater Horn of Africa and Yemen**



The final boundary between the South Sudan and the Sudan has not yet been determined. The final status of the Abyei area is not yet determined. Source: United Nations Geospatial. 2020. World map. In: *United Nations Geospatial*. Cited 14 May 2022. [www.un.org/geospatial/content/map-world](http://www.un.org/geospatial/content/map-world)

FAO's Desert Locust Information Service (DLIS) provided timely and accurate early warning and forecasts throughout the upsurge. Under the auspices of FAO's high-profile emergency response, DLIS collaborated with numerous academic, research and private sector partners, resulting in 16 new innovations that have been integrated into DLIS and national locust programmes to further improve monitoring and early warning. In addition, drones were introduced in several countries for conducting locust surveys with the support of the Commission for Controlling the Desert Locust in the Central Region (CRC).

In 2021, FAO completed the delivery of livelihood packages reaching over 305 000 households, providing them with the means to meet their immediate needs and to restore their productive capacity. Non-governmental organizations (NGOs) provided cash and inputs to an additional 300 000 households across the region. By combining efforts, it is estimated that close to 3 million people benefited from the interventions to safeguard livelihoods by the end of 2021.

In terms of regional coordination, FAO's Nairobi-based Resilience Team for Eastern Africa continued to co-organize monthly coordination and briefing meetings together with the United Nations' (UN's) Office for the Coordination of Humanitarian Affairs (OCHA). Finally, efforts from the Intergovernmental Authority on Development (IGAD), the World Bank, the French Development Agency (AFD) and FAO led to the ministerial recommendations as a result of the high-level (ministerial level) conference conducted in June 2021.

# Curb the spread of desert locust

Tremendous progress was made in 2021 in the fight against desert locust. FAO and its partners are continuing to monitor the situation as 2022 progresses, though all signs are showing a fast decline of the upsurge. Surveillance and reporting will be sustained until mid-2022, though control assets are being dismissed and mop-up control operations will be conducted using the well-equipped and trained ground control teams in Ethiopia and Somalia. Kenya has remained free from desert locust since April 2021.

Between January and December 2021, more than 725 000 ha were treated – both through ground and aerial operations – across the ten countries covered by FAO’s appeal, mainly in the worst-affected countries of Ethiopia and Somalia. Twenty-eight contracts for leasing aircraft were issued in 2021. These aircraft conducted surveillance covering approximately 800 000 km across Ethiopia, Kenya and Somalia. The vast extent of the surveillance and reporting operation in 2021 provided FAO and partners with a very clear picture of the situation and allowed for focused and targeted control operations.

In addition, control in arid and semi-arid regions allowed pastoral and agropastoral households to enjoy adequate access to grazing areas for their ruminants. Converted into tropical livestock units (TLUs) and yearly milk productivity per TLU, FAO estimates that the control interventions allowed for over 3 million TLUs to be maintained, producing around 300 million litres of milk which is valued at approximately USD 130 million.

The vast extent of surveillance and reporting coupled with focused, targeted and timely control operations drastically reduced swarms and breeding, confining locusts to very limited areas in northern Somalia by December 2021.



©FAO/Sven Torfinn



## Continuous surveillance

High-quality and timely field data on a regular basis are essential for monitoring ecological conditions, identifying locust infestations and undertaking control operations. These data are the foundation of the preventive control strategy for the sustainable management of desert locust throughout the world. Such data play an even more critical role during locust emergencies.

**eLocust3:** Traditionally, frontline countries use a custom tablet and application called eLocust3 to record field observations during survey and control operations that are transmitted via satellite in real time to national locust control centres (NLCCs) for planning purposes. As the upsurge increased in early 2020, additional tablets were deployed but were not enough, especially as locusts spread to non-frontline countries which did not have eLocust3. FAO quickly established several partnerships to develop a new suite of modern eLocust3 digital tools to facilitate data collection in the field. Training material was prepared and disseminated to the countries, and numerous training courses were conducted virtually and, when possible, physically. FAO DLIS led these efforts in collaboration with several partners.

**eLocust3m:** In early 2020, FAO partnered with Penn State University and Plant Village to develop a simple smartphone application for crowdsourcing and use by those who may be less knowledgeable about locusts for collecting basic data on locust presence and control. In 2021, a “pro” option was added so that well-trained national locust teams could use it during survey and control operations for recording details about the rainfall, ecology, locusts, control and safety. Several local languages common in the Horn of Africa were included, and a chat function was established so that information could be shared within each country. In addition, enormous efforts were undertaken by NGOs, countries and others to roll out the application and upscale its usage in the field. These developments and efforts led to better planning and implementation of field operations by the national authorities and allowed FAO’s DLIS to provide more accurate situation assessments and forecasts. In all, some 700 eLocust3m users provided 100 000 field reports from the Greater Horn of Africa and Yemen in 2021.

[fao.org/ag/locusts/common/ecg/2533/en/eLocust3m\\_SOP\\_app2021.pdf](https://www.fao.org/ag/locusts/common/ecg/2533/en/eLocust3m_SOP_app2021.pdf)

**eLocust3g:** FAO DLIS worked with Garmin to customize their handheld InReach Explorer®+ GPS device for use by teams to collect basic locust and control data. While the setup is the same as that of the simple version of eLocust3m, it is mainly for use in remote areas without connectivity, since data are transmitted by satellite. It also allows a tracking feature for improved management and deployment of ground teams. Altogether, 177 eLocust3g units have been deployed in the region with an equal number of government staff/teams trained, which sent more than 22 000 field reports in 2021.

[fao.org/ag/locusts/common/ecg/2533/en/eLocust3g\\_SOP.pdf](https://www.fao.org/ag/locusts/common/ecg/2533/en/eLocust3g_SOP.pdf)

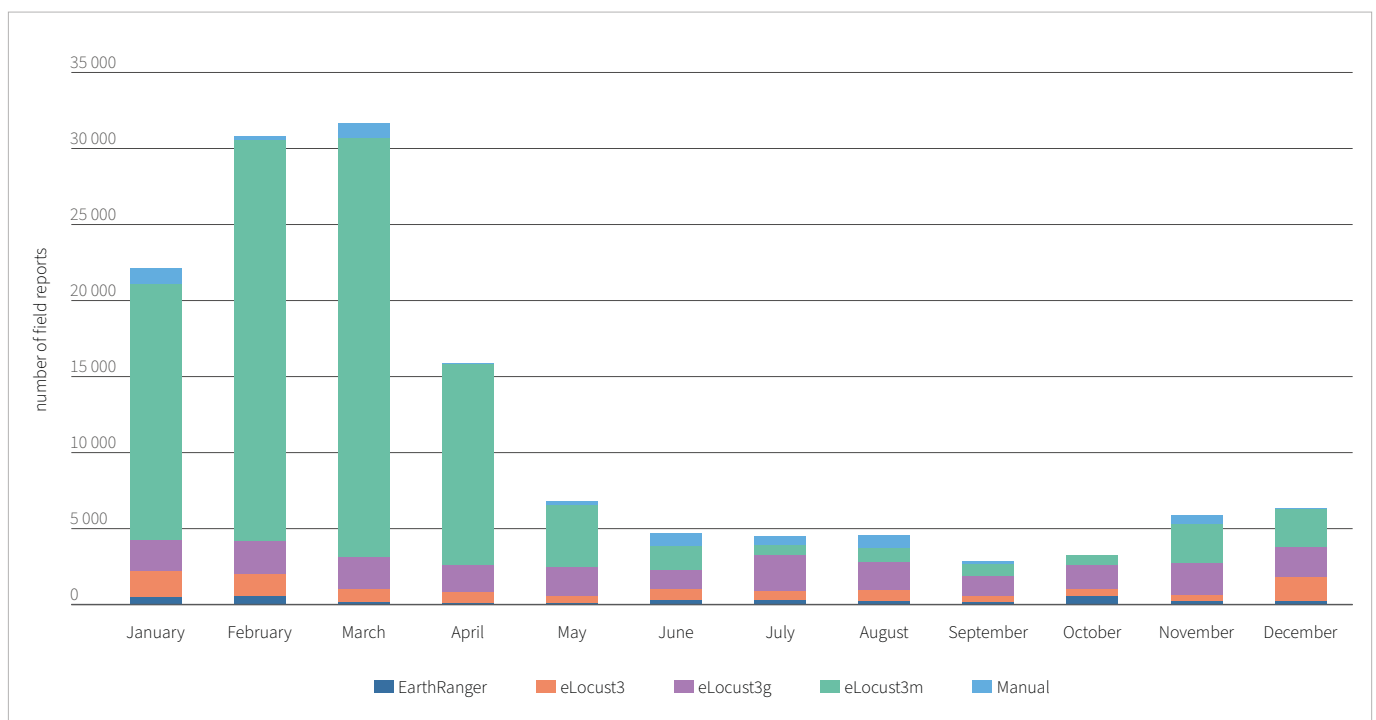


The various eLocust3 tools were used in the Greater Horn of Africa and Yemen to send more than 135 000 field reports in 2021.

**EarthRanger:** 51 Degrees Limited was contracted as a partner to assist the national authorities and FAO to manage the aerial survey and control operations in Ethiopia, Kenya and Somalia. The EarthRanger system was customized and adapted for use as a digital control tower to keep track of the aerial assets operating in each country and to issue their daily tasks. Data from the ground teams using eLocust3, eLocust3m and eLocust3g automatically fed into EarthRanger so decision-makers had the very latest information for planning operations. This was the first time FAO deployed a digital strategy to make aerial operations more efficient – a strategy which proved to be extremely effective in managing several dozen aircraft that were in operation at the same time while reducing the usage of pesticides.

**Locust Hub:** All frontline countries affected by desert locusts have a centralized NLCC responsible for monitoring their territory. Nationally-designated locust information officers use a custom geographic information system (GIS) developed by FAO for managing and analysing field data and remote sensing imagery. All eLocust3 and EarthRanger data automatically flow into the national GIS and from there are merged into a centralized global Locust Data Cube. The countries use the data for planning field operations. At FAO headquarters, DLIS analyses the field data with remote sensing imagery of rainfall, green vegetation and soil moisture, 80 years of historical data, and several models to assess the current situation, forecast its developments and keep countries informed with updates, alerts and monthly bulletins as part of the global desert locust early warning system that FAO has been operating since the 1940s. In 2021, FAO partnered with Scriptoria and Esri to modernize this system to achieve near-instant analysis of data and provide open access to the field data for research, modeling and other non-commercial purposes through the FAO Locust Hub.

Figure 2. Field data in 2021



Source: FAO, May 2022.



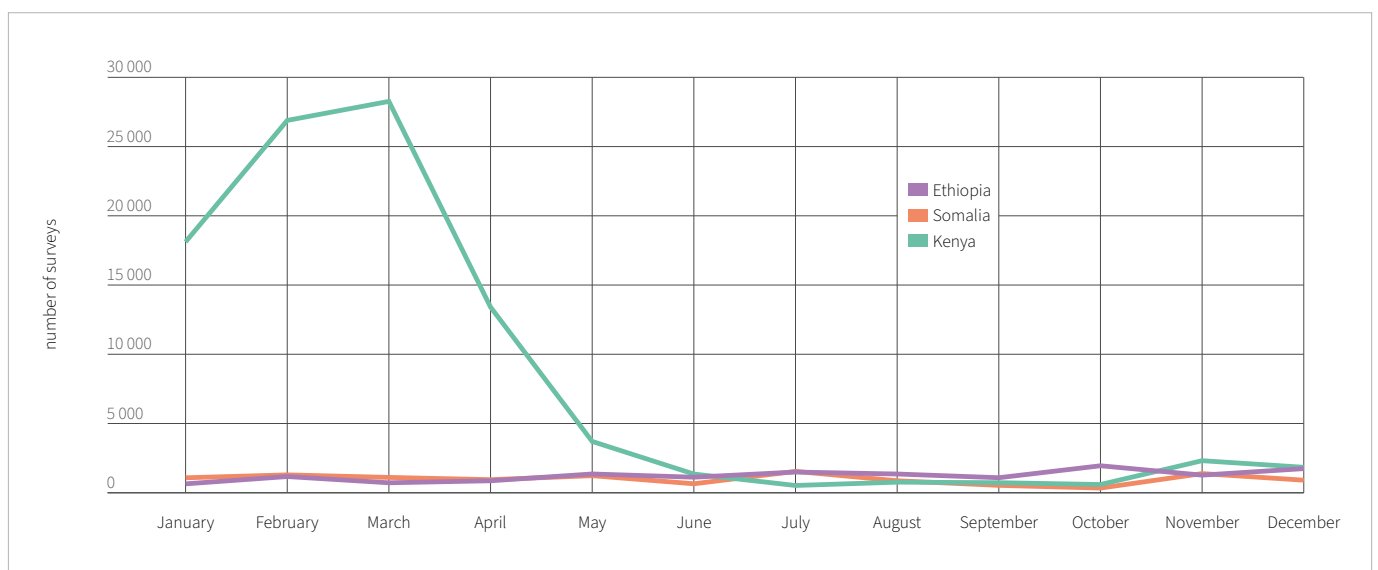
©FAO/Arrete/Ismaïl Taxta

With adequate training, equipment and logistics, 250 surveillance teams are operating in the ten affected countries.

**Government official ground surveillance teams:** Ground surveillance teams continued to play a crucial role in accessing remote areas and providing early detection of locust, especially when at the hopper band stage. During surveys, teams also contributed to sensitizing/providing information to and collecting information from farmers and pastoral communities. In 2021, FAO and governments sustained capacity building efforts and equipped an estimated 3 800 government personnel for surveillance and/or control. Over 250 ground surveillance teams remained active throughout the year in the ten countries of the 2020 appeal.

**Aerial surveillance:** In 2021, FAO and partners deployed up to 20 surveillance aircraft simultaneously across the targeted countries. Through this enormous effort, close to 800 000 km was flown and over 5 000 survey reports were received. The deployment of well-trained and experienced pilots allowed aerial surveillance to extend across all the affected areas, allowing early detection of swarms and bands, and with it, timely control.

Figure 3. Surveys carried out in 2021



Source: FAO, May 2022.



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## Ground and aerial control operations

Ground and aerial control operations were sustained throughout 2021 across the most-affected countries, using a pay-per-use contracting formula which allowed flexibility and modularity in the use of assets. Through these efforts, swarms and hopper bands were timely controlled, finally reducing the upsurge towards the end of 2021.

In Kenya, massive efforts were made during the first quarter of the year that prevented spring breeding and resulted in Kenya being free from desert locust starting in April 2021. The only exceptions were few small swarms that moved back and forth across the Ethiopia border in early November, but they did not remain in Kenya for more than 48 hours.

In Ethiopia, swarms and breeding occurred on a smaller scale in 2021 when compared with the previous year. Great achievements were made during the scale-up operation in the last quarter of 2020 and the first quarter of 2021. A high number of assets were retained on a no-regret basis in order to sustain surveillance and control operations. This strategy proved successful, as swarms were controlled on time and breeding was prevented.

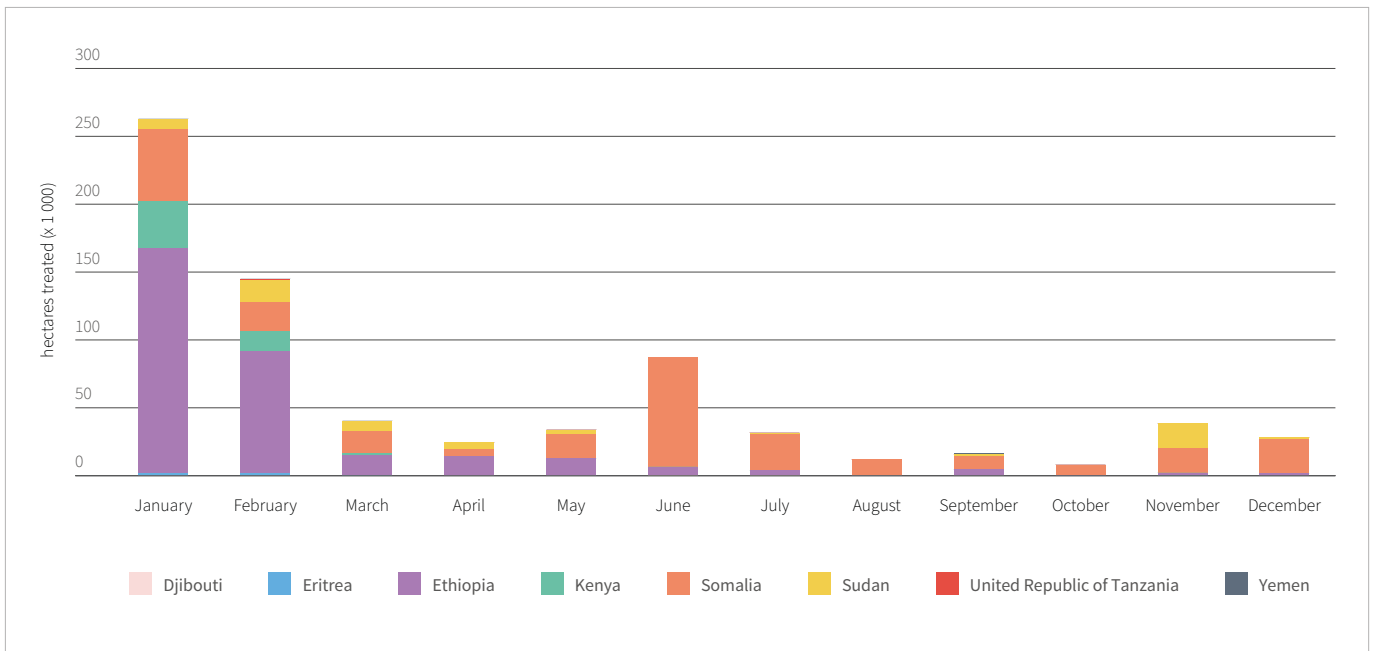
In Somalia, dense hopper bands began forming in the plateau and coastal areas of the northeast, with hundreds of bands ranging in size from 10 to 2 000 m<sup>2</sup>. An initial area of 50 000 ha was detected by surveillance aircraft between 30 May and 2 June 2021. With only a limited stock of 50 000 litres of insect growth regulators (IGRs) available in Somalia, it was determined that a barrier treatment technique would need to be deployed in order to successfully treat all of the infestations. Between 30 May and



21 June 2021, 48 000 litres of IGRs were applied to over 150 000 ha as barrier treatments. This approach was extremely successful in reducing the number of new swarms that subsequently formed, which were treated with biopesticides. The use of IGR barriers combined with a continuous high-intensity surveillance effort proved to be a turning point in the ending of the upsurge.

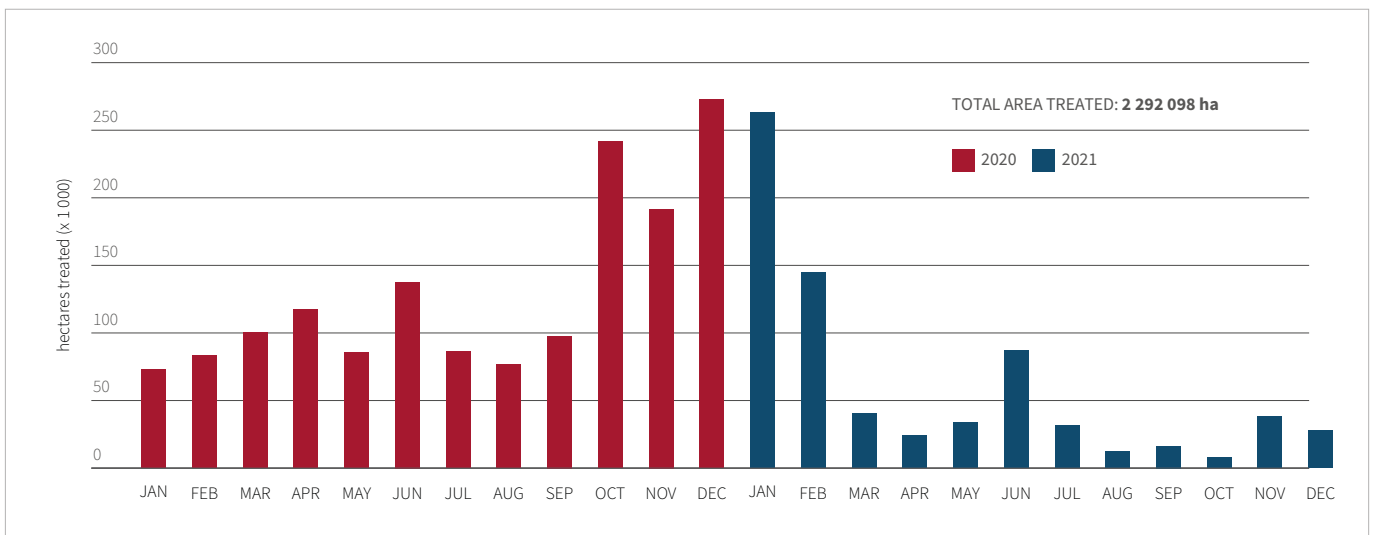
For the remainder of the countries in the region, the situation remained calm. The frontline countries (Eritrea, the Sudan and Yemen) experienced swarms which were promptly controlled, preventing any significant breeding from taking place.

Figure 4. Area treated in the Greater Horn of Africa and Yemen in 2021



Source: FAO, May 2022.

Figure 5. Area treated in the Greater Horn of Africa and Yemen from January 2020 to December 2021



Source: FAO, May 2022.


255 government-led ground control teams operating in the ten affected countries with adequate training, equipment and logistics.

**Government ground control teams:** Around 3 800 government personnel were trained and supported in 2021, a number of whom form part of the estimated 255 control teams operating in the ten countries which were covered under FAO’s appeal.

**Management of pesticides:** In each country, unused pesticides after the desert locust campaign should be collected and placed in temporary or long-term pesticide storage. Pesticide stores identified for long-term storage must be evaluated for their environmental and health impact according to FAO standards. Immediately following storage, pesticide stocks should be arranged by pesticide product and specific batches to allow for periodic quality control in compliance with FAO/World Health Organization specifications. As a result of quality control by an accredited laboratory, the shelf-life of pesticide product batches will be extended for another two years or they will be identified as obsolete and ready for disposal.

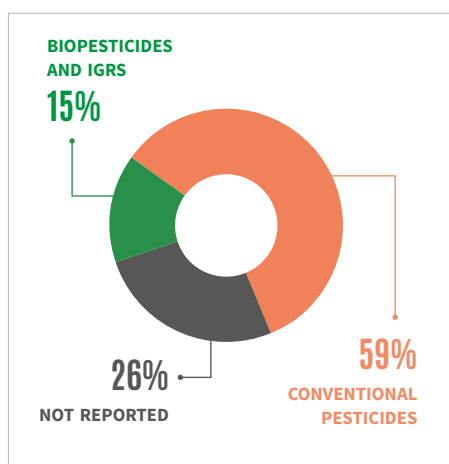
FAO assisted Ethiopia, Kenya and Somalia to build over ten temporary and permanent pesticide stores that meet the international standards for pesticide storage facilities.

 **435 000 litres** of conventional pesticides used in 2021

 **6 584 kg** of biopesticides and **162 000 litres** of IGRs used in 2021

**Triangulation of residual/unused pesticide stocks:** Since 2007, FAO introduced triangulation of certified pesticide products among desert locust-affected countries in or outside Africa (i.e. from Mauritania to Yemen and from Morocco to Georgia). During 2022, all certified stocks will be uploaded in the Global Locust Pesticide Management System (Locust-PMS), under construction since 2021. The certified products are managed in the system ([locust-pms.review.fao.org](http://locust-pms.review.fao.org)) and should be ready for triangulation to avoid build-up of new obsolete stocks, to promote prevention (early response) and cooperation among locust-affected countries at regional and global level.

**Figure 6. Percentage of area treated using different types of pesticide in the Greater Horn of Africa and Yemen from January 2020 to December 2021**



Source: FAO, May 2022.

In the region, the use of biopesticides and low-impact conventional pesticides (IGRs) in 2021 exceeded 15 percent of the total pesticide use – a significant achievement compared with other similar emergencies in the last three decades. While biopesticides will not fully replace chemical control, they provide affected countries with an alternative, and are ideal for use in sensitive areas (i.e. near water, animal grazing areas, national parks, beekeeping operations, etc.) which contain locusts but otherwise cannot be treated.



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### Impact assessments and environment, health and safety

During the desert locust campaign, all stages of the pesticide lifecycle were identified in advance to reduce their related impact on the environment and human health. This includes procurement of pesticides, safety, spray and survey equipment, national and international transport, temporary and long-term storage, usage for desert locust control, management of empty containers and contaminated sites and management of pesticide residual stocks and equipment after the 2019–2021 desert locust campaign. In this respect, preliminary impact assessments of the campaign were carried out in Ethiopia and Kenya, where chemical pesticides were used. An environment, health and safety standards manual for Horn of Africa countries was developed to help the assessment of the environmental and health safety studies, and the Global Locust-PMS for pesticide risk reduction was developed, and is ready for deployment in the field.

**Preliminary impact assessments of the 2019–2021 desert locust campaign:** In Ethiopia and Kenya, FAO and the ministries of agriculture prepared a preliminary report on capacity development of agents



involved in pesticide management (handling, transport and application), temporary and long-term storage of pesticides and related resources, biological efficacy and side-effects of pesticides on natural resources and management of empty containers and contaminated sites.

**Management of empty containers:** Empty containers generated after the desert locust campaign should not be used for domestic purposes (storage of water and food) and should be immediately collected, stored, cleaned and recycled. Although Eritrea, Ethiopia, Kenya, Somalia, the Sudan and Yemen are well-equipped with drum cleaners and crushers for empty containers, they are at different stages of management in the collection, transportation, storage, and installation of drum cleaners and crushers). For example, about 5 000 empty containers in Ethiopia were already collected, transported, centralized in one storage facility, cleaned, and are ready for recycling, while other countries are still at the stage of collecting the empty drums or installing drum crushers. As of early 2022, FAO and CropLife Africa and Middle East are working together to find a solution for recycling of cleaned and crushed containers at country or regional levels.

**Bioremediation of heavily contaminated sites:** Two sites were incidentally contaminated with pesticides in Ethiopia, Oromia region. The first site was contaminated with Malathion following the crash of a fixed-wing aircraft which had been leased by FAO for the desert locust control operation. The crash occurred during a spray operation; the pesticide tank exploded and the contents seeped into the soil. The second site was contaminated with Chlorpyrifos 240 UL which incidentally spilled overnight onto the soil. In both sites, the land-farming technique for treating soil contaminated with pesticides, developed by FAO, was successfully implemented to reduce exposure of human health and contamination of natural resources. Inventory of other contaminated sites is underway in Ethiopia and planned in other countries.

**Development of environment, health and safety (EHS) standards:** The manual for the implementation of EHS standards for the control of locusts was prepared and is ready for in-country implementation. It is composed of 25 standards contained in the following sections: procurement, transport, storage and stocks management; control operations; environment and health impact assessment; capacity building; communication; and internal/external audit and reporting.

**Design, development and deployment of Locust-PMS:** This system is a completely digital tool, starting from field data entry all the way to data analysis and reporting. Locust-PMS is hosted in the FAO cloud, and is accessible by authorized personnel using tablets, telephones and laptops. It is composed of integrated databases on (i) registered pesticide products for locust control, (ii) pesticide stocks and related resources for locust control, and (iii) EHS standards assessments for locust control. The purpose of Locust-PMS is to reduce the risks of pesticides before, during and after the control campaign, promote early response to outbreaks and upsurges and cooperation for preventive control among locust-affected countries. The deployment of Locust-PMS is planned during 2022.

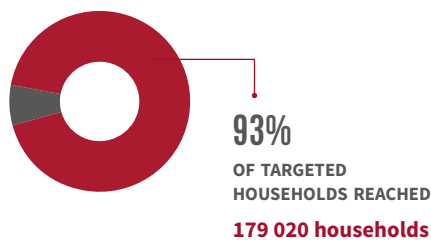


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## Safeguard livelihoods

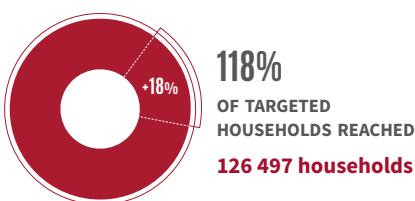
### FARMING HOUSEHOLDS

Targeted: 191 500 households



### AGRO/PASTORAL HOUSEHOLDS

Targeted: 107 350 households



Activities under this component were mainly conducted in the second half of 2020 and first quarter of 2021, reaching a total of 305 517 households. While the response plan provided a general conceptual framework for the livelihood activities, each country tailored the packages and the response to align with domestic priorities. The livelihood response strategy was based on damage estimates (GeoPoll surveys) and subsequent calibrated compensatory mechanisms targeting households before their losses could translate into food insecurity.

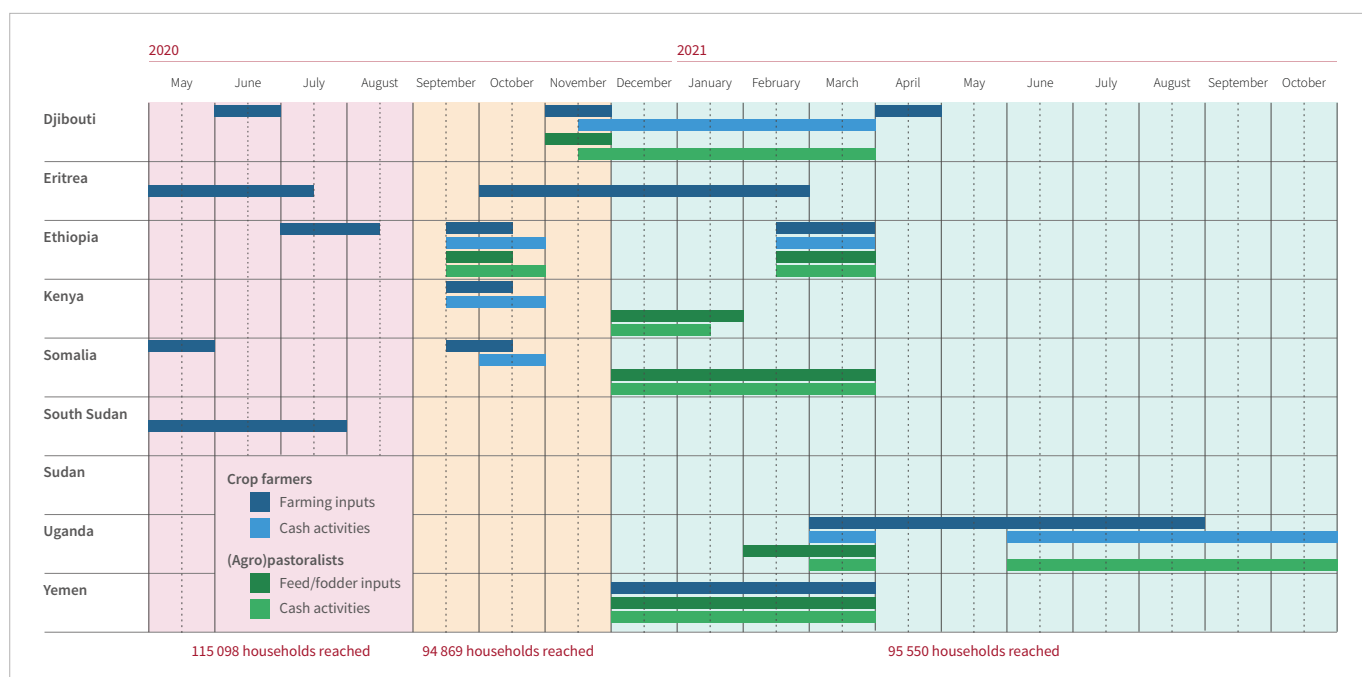
Thanks to control actions, no farmers or agro/pastoralists suffered the loss of their entire production since January 2020, although some losses in the range of 50 percent in worst-affected areas were reported.

The compensatory mechanism established by FAO in coordination with governments, country food security clusters and the Regional Desert Locust Alliance allowed affected communities to withstand this shock. As a result, with the assistance provided, households avoided falling into a livelihood crisis or adopting unsustainable coping strategies such as the selling of assets, or abnormal migration that could have generated tension/conflict over natural resources.

The key outcomes of the livelihood interventions in the most-affected countries are reported in the following tables.

Outputs	Ethiopia	Kenya	Somalia	South Sudan	Uganda	Total
<b>Cereal seed distributions</b>						
Farming packages	23 000	-	56 471	60 000	10 456	<b>149 927</b>
Production (tonnes)	34 500	-	107 232	52 800	35 600	<b>230 132</b>
<b>Cash-based interventions</b>						
Cash injected (USD)	7 202 820	426 186	4 576 679	-	1 943 023	<b>14 148 708</b>
Households meeting minimum expenditure basket	65 674	5 596	27 139	-	9 286	<b>≥107 500</b> households
<b>Animal feed and mineral block distribution</b>						
Animals (core breeds) maintained/ households with milk availability	84 200/ 41 100	330 300/ 16 515	n/a 29 448	285 000/ 48 000	50 000/ 5 000	<b>749 500/ ≥140 000</b> households with milk for children under five years of age

Figure 7. Livelihoods-based anticipatory action (2020–2021)





# Coordination and preparedness

Coordination activities continued during the reporting period, and adequate funding was conducive to maintain and further consolidate the main functions and activities.

## Infrastructure-building and asset creation

Throughout its response, FAO sustained the approach of utilizing the unfolding emergency also as an opportunity to commence capacity building and asset creation to better and more sustainably handle future crises. In 2021, a number of infrastructures were concluded – including the construction of a Desert Locust Centre in Puntland State, Somalia and a Desert Locust Management Training Centre (DLMTC) in the Red Sea State, the Sudan – the benefits of which will last far beyond the current upsurge.

The centres will have the primary objective of sustaining and further building the capacity of locust officers and extensionists, thereby improving locust surveillance, control operations and reporting.

Specifically, the centres will:

- function as knowledge hubs strengthening the national capacities of other countries in the region to implement the preventive desert locust control strategy by organizing training;
- support applied research activities with the aim of introducing new efficient and environmentally safer control agents; and
- organize regional knowledge sharing events for stakeholders to enhance partnership and improve products for different desert locust operations.

DLMTC will also be mandated with testing and maintenance of equipment and new technologies which will be demonstrated in the respective training sessions, with both national and regional mandates.

In addition to the two centres, 14 pesticide store rooms were rehabilitated in Ethiopia, Kenya and Somalia.

## Strengthen regional and national capacity and enhance preparedness

The desert locust upsurge in the Greater Horn of Africa highlighted the eroded or absent capacities, readiness and preparedness in the region. It also raised a number of questions about the roles and responsibilities of regional institutions and bodies, namely the Intergovernmental Authority on Development (IGAD), the Desert Locust Control Organization for Eastern Africa (DLCO-EA) and CRC. In this context, FAO, IGAD, AFD and the World Bank launched a process that led to the ministerial declaration statement of 17 June 2021.

A joint communiqué was signed by the ministers responsible for agriculture and livestock of the Member States of IGAD, namely: Djibouti, Ethiopia, Kenya, Somalia, South Sudan, the Sudan and Uganda, with representatives from international and regional organizations involved in food security and nutrition, and desert locust control operations (DLCO-EA, CRC, development partners, FAO and other UN agencies and NGOs).

The communiqué firmly reiterated the commitments of all the governments in the region towards the establishment of a sustainable system for the management of future upsurges. The 14 recommendations define the framework for the implementation of a regional strategy for the sustainable management of desert locust upsurges.

### Enhance regional advocacy and national-level coordination

**Regional briefings and global accountability:** In 2021, FAO's Resilience Team for Eastern Africa, together with the OCHA Regional Office for Eastern and Southern Africa, co-organized monthly coordination and briefing meetings for stakeholders, attended by an average of 100 people.

**National coordination:** National coordination fora, including food security clusters in countries (Ethiopia, Somalia, South Sudan, the Sudan and Yemen), continued to play a crucial role in raising awareness among stakeholders and in guiding the planning of livelihoods interventions to ensure maximum coverage and harmonized approaches where feasible.



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# Saving livelihoods saves lives

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