Greater Horn of Africa and Yemen

Desert locust crisis appeal

January 2020–June 2021

Revised appeal for sustaining control efforts and protecting livelihoods (six-month extension)
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Final boundary between the Republic of Sudan and the Republic of South Sudan has
not yet been determined. Final status of the Abyei area is not yet determined.

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In the Greater Horn of Africa, significant progress was made in 2020 on issues related to capacity building to detect, report and apply technically-sound and safe standard operating procedures (SOPs) to control the desert locust infestations. This allowed governments in the region to treat over 1.25 million ha of infested areas and avert a major humanitarian catastrophe by protecting food production and rangeland, and preventing movement of desert locust to West Africa.

At a glance

Number of people facing acute food insecurity:
- **over 48 million** people in the ten affected countries in 2020 and
- **over 39 million** people in the five remaining targeted countries in 2021

2 million ha of land targeted for control in the ten countries (by June 2021):
- **1.3 million ha** reached in 2020
- **0.7 million ha** targeted in 2021

307 000 households targeted for rapid livelihoods protection under the appeal since January 2020 (excluding the targets of 2021 Humanitarian Response Plans):
- **298 000 households** targeted in 2020
- **9 000 households** targeted in 2021

USD 230.45 million total appeal funding requirement (since January 2020) and funding requirement in 2021 (excluding the amounts requested through country Humanitarian Response Plans)
- **191.65 million** received in 2020
- **38.8 million** appeal in 2021

In the Arabian Peninsula, surveillance and control operations were conducted and over 220 000 ha were treated, including in Yemen (50 000 ha). However, Yemen remains an important breeding area with limited capacity to perform interventions to a desirable scale, which in turn continues to pose a threat to the Greater Horn of Africa.

Altogether the livelihoods and food security of over 20 million people were protected in Eastern Africa and Yemen and the economic benefit of the intervention is conservatively estimated to be approximately USD 1 billion.

Across the ten countries included in the Food and Agriculture Organization of the United Nations (FAO) 2020 appeal for the Greater Horn of Africa and Yemen – Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, the Sudan, Uganda and the United Republic of Tanzania – over 210 000 households, equivalent to some 1.1 million people, were assisted through anticipatory action and/or in-kind or cash livelihood recovery interventions. The existing funds will ensure an additional 80 000 households will receive assistance in early 2021 in countries with unimodal farming systems.

Due to the prevailing favourable breeding conditions and the remaining presence of desert locust in Eastern Africa and Yemen, FAO is extending its appeal until June 2021 (six months) focusing on countries currently infested or under imminent threat, and for activities that will not be included in the Office for the Coordination of Humanitarian Affairs (OCHA) led country Humanitarian Response Plans (HRPs).


Figure 1. Countries included in the six-month appeal extension

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In 2020, generous contributions from resource partners totalled USD 191.65 million, or 83 percent of the regional appeal, leaving a funding gap of nearly USD 40 million.

In 2021, FAO is appealing for USD 38.8 million (roughly the same amount as the 2020 funding gap), primarily focusing on Component 1 of the strategy (Curb the spread of desert locust). The appeal needs to be urgently funded in order to sustain operational capacities in the region, while funding of the FAO livelihoods and food security interventions through the HRPs will also be essential.
A desert locust upsurge is still underway in the Greater Horn of Africa and the Arabian Peninsula, while the situation returned to normal in Southwest Asia, and the potential spread to West Africa was stopped in July 2020, thanks to massive control operations from May to July 2020 in Ethiopia, Kenya and Somalia.

In the Greater Horn of Africa, after months of surveillance and control, the situation progressively improved during the second and third quarters of 2020 (see figure 2) to the extent that desert locust did not reach the summer breeding areas of the Sudan in June–July 2020 and therefore did not migrate to West Africa.

As anticipated, however, above average rainfall in Eritrea, Ethiopia and the Sudan from July to September created a suitable environment for the remaining desert locust that had not been controlled to breed and for a reinvasion from Yemen. While FAO and governments in the affected countries intensified the surge to fight desert locust in October in Eritrea, Ethiopia, Somalia and the Sudan, winds started to blow southwards and pushed swarms towards the Ogaden region of eastern Ethiopia and south central Somalia, where a new generation developed in November.

Furthermore, Cyclone Gati made landfall on 22 November near Xaafuun and the northern tip of northeast Somalia. It was the strongest storm on record in Somalia. Twice the annual average of rainfall fell in two days in certain areas. Cyclone Gati crossed northeast Somalia to the Gulf of Aden the following day and subsequently weakened.

Cyclone Gati impacted current desert locust infestations in several ways that could not be predicted in advance. Heavy rains that fell on the northern Somali plateau allowed immature swarms that were still present to rapidly complete their maturation and lay eggs. In addition, winds associated with the cyclone drove some of these swarms southeast to the Ogaden, where they matured and laid eggs in existing breeding areas.
The locust situation in Kenya was relatively calm until late November when several mature swarms from Somalia arrived in the east. However, a much larger threat will commence in December when numerous immature swarms start to form early in the month from the current breeding in eastern Ethiopia and central Somalia, which will increase progressively until late January 2021. This will give rise to increasing waves of numerous immature swarms that will invade northeast Kenya from mid-December onwards and spread throughout northern and central counties. Therefore, significant capacity will need to be in place by then.

In 2021, desert locust are expected to remain in the region until mid-year. The scale of the infestations will depend on two main factors, namely the capacity to detect and control the new infestations and their progeny and weather conditions. With the intensification of La Niña since November 2020, a drier than normal winter is expected around the Red Sea coastal areas and the Horn of Africa. These conditions will continue during the spring in the Horn of Africa, the Arabian Peninsula and Southwest Asia.

In the Arabian Peninsula, Yemen remains an important reservoir and source area for desert locust due to continual and widespread rains that have caused unusually favourable ecological conditions for breeding. Since 2018, breeding has been nearly continuous in the interior and coastal areas. Currently (as of December 2020), desert locust are breeding once again on the Red Sea coast. The ongoing conflict has exacerbated the situation, preventing an effective response to the locust issue since swarms formed in 2018. The present situation is unlike various outbreaks that have occurred since 2007, when Yemen ensured effective monitoring and control of the locust swarms, which were forming at the time.

If surveillance and control of desert locust in Yemen is not adequately scaled up, and if the forecasted weather conditions – e.g. La Niña conditions – do not materialize, then locust populations are likely to continue to increase. This in turn could lead to a possible reinvasion of the Horn of Africa next summer, which could perhaps reach India, Pakistan and West Africa.
Regional livelihood implications

The desert locust upsurge is the latest shock to an already vulnerable region. As locust-related losses can affect up to 100 percent of both crop and fodder production, such threats to the human food chain have detrimental effects on food security, livelihoods and national economies. To illustrate potential impacts: according to an independent evaluation of the 2003–2005 desert locust outbreak in the Sahel, desert locust infestations contributed to the food insecurity of affected populations (particularly in agropastoral and pastoral areas). Combined with poor rainfall, locust damage was a factor in significant crop production losses, while limited feed also led to the early migration of livestock and high levels of tension between transhumance pastoralists and local farmers over resources.

In desert locust-affected countries of the Greater Horn of Africa, the vast majority of the population depend on agriculture for their livelihoods – for example, up to 80 percent of the population in Ethiopia and 75 percent in Kenya. These farming and herding communities rely heavily on rainfed production systems, with the timing, duration and quantities of rainfall playing a critical role in rangeland rejuvenation and crop production.

During the past several years, the Greater Horn of Africa has been plagued by numerous and consecutive climatic hazards, including severe droughts and flooding. Such shocks do not only have immediate, short-term effects, they exacerbate prevailing food insecurity and undermine livelihoods and development gains that have taken years to build. Natural hazards disproportionately affect rural areas, mainly food-insecure, poor people – most of whom derive their livelihoods from agriculture, which is highly sensitive to climate variability. Around 80 percent of the damage and losses caused by drought impacts are to the agriculture sector, affecting crop and livestock production.

Figure 4. Timeline of natural hazards in the Greater Horn of Africa, 2018–2020

As the magnitude and impact of such climatic events increase, aggravated by climate change and land degradation, more and more households and communities are less able to absorb, recover and adapt, making them even more vulnerable to future shocks. In the Greater Horn of Africa, consecutive years of climatic events have increased households’ exposure to risks, with limited recovery between shocks. Especially with its significant potential to become a plague, desert locust infestation could lead to further suffering, population movements and rising tensions in already complex environments.

Figure 5. Livelihood systems in the Greater Horn of Africa and Yemen and desert locust infestation in 2020

Regional food security implications

Areas that suffer severe crop or rangeland losses due to desert locust are very likely to see an increase in food insecurity. Desert locust poses a severe risk to livelihoods and threatens local, national and regional food security. For communities that are exposed to multiple shocks and face a high level of food insecurity the loss of every kilogram of food produced contributes to increasing levels of hunger. Looking at historical locust crises such as the 2003–2005 desert locust upsurge in West Africa and the 2013–2016 migratory locust plague in Madagascar, locust-related production losses can be a driver of food insecurity, particularly in contexts of multiple shocks and already high vulnerability.

Currently, most of the areas in the region worst affected by desert locust are facing either Crisis (Integrated Food Security Phase Classification [IPC] Phase 3) or Stressed (IPC Phase 2) outcomes. Additionally, about 44 million people are experiencing acute food insecurity (IPC Phase 3 and above) in Ethiopia (8.6 million), Kenya (1.32 million), Somalia (2.1 million), the Sudan (7.1 million), South Sudan (6.4 million), Uganda (2 million) and Yemen (16.2 million).
To date, the positive impact of average to above-average October–December 2019, March–May 2020 and June–September 2020 rainy seasons has improved vegetation conditions across most of the region, and has helped to offset the effects on crops and pasture of desert locust-related damage. However, significant desert locust-related losses have been observed in some areas.

For example, according to the Food Security and Nutrition Working Group’s (FSNWG) recent desert locust impact assessment, roughly a third of respondents living in desert locust-affected areas of Ethiopia, Kenya, Somalia and Uganda experienced desert locust-related pasture or crop losses. Additionally, amongst affected households, roughly half experienced high or very high losses to their crops and rangeland, respectively. The highest percentages of respondents observing desert locusts and experiencing related losses were found to be in Ethiopia. Additionally, according to the most recent IPC analyses conducted across the region, desert locust was found to be a driver of current food security outcomes in affected areas of Ethiopia, Kenya, Somalia and Yemen.

Given currently available impact assessment data from the ongoing upsurge, as well as impacts seen during historical upsurges/plagues, future food security impacts will likely be significant for affected households in areas where swarms cause damage. The greatest impacts will likely be felt by rural affected households who are already facing acute food insecurity due to their existing high vulnerability. For households who have already experienced significant losses to their crops or pasture, these desert locust impacts could lead to a further deterioration in food security in the coming months, with a peak in food insecurity during the first half of 2021 during the height of the lean season in most areas.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Number of people in IPC Phase 3 or above (actual and/or projected January–March 2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>8 505 683</td>
</tr>
<tr>
<td>Kenya</td>
<td>1 319 000</td>
</tr>
<tr>
<td>Somalia</td>
<td>2 103 000</td>
</tr>
<tr>
<td>Sudan</td>
<td>7 097 000</td>
</tr>
<tr>
<td>Yemen</td>
<td>16 200 000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35 224 683</td>
</tr>
</tbody>
</table>

Table 1. IPC population in the countries included in the revised appeal
Coinciding with the ongoing seasonal rains, widespread desert locust breeding is currently underway in eastern Ethiopia and central and southern Somalia. By mid-December, numerous desert locust swarms are expected to migrate to southern Ethiopia and northern Kenya, and if control cannot be successfully mounted in all areas, the potential scale of this migration could be substantial. Additional desert locust swarms could develop during January and February in northern Somalia where heavy rains fell from Cyclone Gati. Given ongoing cropping activities and the regeneration of rangeland that occurs at this time, the infestation will pose a threat to the livelihoods and food security of vulnerable households.

Sustaining efforts to prevent the current desert locust crisis from becoming a disaster will be critical to mitigating impacts on the lives of millions of people across the region. The 2003–2005 upsurge in West Africa is estimated to have cost USD 2.5 billion in harvest losses.

Given the rapidly evolving desert locust situation, FAO has updated its most likely scenario for food security to help guide its response. Similar to FAO’s previous mid-case scenario developed during the first quarter of 2020, this analysis assumes significant crop losses and pasture depletion in several areas of the region with future losses assumed to be similar to those reported in the most recent FSNWG desert locust impact assessment. Given the mixed performance of the current Deyr/short rainy season, the analysis also assumes that desert locust impacts on pasture and crops will be partially mitigated by above-average Deyr/short rainfall across parts of the region, and will be more severe in areas that have seen erratic rains to date.

In this most likely scenario, FAO projects that approximately 3.6 million additional people will be at risk of food insecurity because of desert locust impacts across the five affected countries included in this appeal. Unlike previous projections, this updated analysis includes the Sudan and Yemen.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Most likely scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>2 451 710</td>
</tr>
<tr>
<td>Kenya</td>
<td>172 893</td>
</tr>
<tr>
<td>Somalia</td>
<td>502 225</td>
</tr>
<tr>
<td>Sudan</td>
<td>199 554</td>
</tr>
<tr>
<td>Yemen</td>
<td>309 926</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3 636 308</strong></td>
</tr>
</tbody>
</table>
The strategic approach that was detailed in the May 2020 appeal remains valid and it is therefore part of this revised appeal as a reminder. Meanwhile additional elements have been included, some of which have directly emerged from the Real-Time Evaluation Phase 1 report.

**New strategic considerations**

The elements factored in the strategic approach for the FAO regional appeal extension are listed below:

- The revised appeal is based on the anticipated presence of desert locust until the end of the 2021 long rains.

- A thorough review of existing capacities and gaps was conducted with FAO country offices and line ministries on issues related to Component 1 of the appeal (Curb the spread of desert locust). This included a review of pesticide stock, triangulation and stock management, status of current contracts for aircraft, reserve funds for scaling-up ahead of re-infestation/new breeding, equipment and teams on the ground, etc.
Furthermore, the current status of the World Bank funding, mainly through the Emergency Locust Response Programme (ELRP), was also discussed and factored in. In particular, the disbursement timeline of World Bank loans and grants was the most important indicator of the countries’ capacities to engage ELRP funds in the operation or not.

Finally, discussions with the OCHA regional bureau in Nairobi, with country cluster coordinators and the Regional Desert Locust Alliance, and the global Food Security Cluster (gFSC) Coordinator contributed to define what activities should remain in the FAO regional desert locust appeal extension and what should shift to the country HRPs.

Based on the above, the FAO revised regional appeal will include the following elements:

- **Component 1 – Curb the spread of desert locust**
  Component 1 will focus only on countries infested or at high risk, or where the fight against desert locust has significantly depleted stocks of pesticides. This includes Ethiopia, Kenya, Somalia, the Sudan and Yemen. The other five countries (Djibouti, Eritrea, the United Republic of Tanzania, South Sudan and Uganda) are either not under imminent threat or have sufficient stock and capacities for the first six months of 2021.

  Activities under Component 1 are not included in OCHA-coordinated HRPs where they exist (Ethiopia, Somalia, the Sudan and Yemen).

- **Component 2 – Safeguard livelihoods and promote early recovery**
  For Ethiopia, Somalia, the Sudan and Yemen, livelihoods activities will be included under HRPs.

  In Kenya, where there is no HRP, a small livelihoods component is included in the FAO revised appeal.

  For the other five countries, i.e. Djibouti, Eritrea, South Sudan, the United Republic of Tanzania and Uganda, either resources are adequate or the threat to livelihoods is assessed to be low in 2021.

- **Component 3 – Coordination and capacity building**
  Resources are adequate until June 2021, but additional resources will be required if the crisis continues in the second half of the year.
Reminder of the pre-existing strategic approach

Applying the right range of control options at the right time

FAO will continue to apply control methods that are technically sound and adapted to the life cycle of desert locusts, drawing from the expertise of its staff at headquarters, regional, subregional and national levels. The control of large swarms must be a coordinated effort to avert a major food security and livelihoods crisis as well as to mitigate further spread of the pest to other countries, especially in the Sudan and West Africa. This will mean continuing to provide urgent, large-scale aerial and ground pest control operations as well as surveillance, trajectory forecasting and data collection. During the hopper stages, ground operations are cost-effective and will be prioritized, unless the terrain is too rough and unfavourable for vehicle-mounted sprayers. Once locusts reach adult stage, aerial control operations will be prioritized as they have proven to be successful since March.

Anticipating impacts

Through the regional response plan, FAO tries to anticipate/prevent damages on crops and rangeland by controlling desert locust as early as possible, and therefore protect livelihoods. However, acknowledging that it is impossible to control desert locust through one life cycle (three months), it is important to anticipate and prevent the negative impact of distress responses, especially in the context of COVID-19.

With reinfestation of desert locust in the region, FAO must continue anticipating livelihoods and food security impacts. Consequently, and unless food security and livelihoods assistance are provided in time, pastoralists will engage in atypical migration in search of grazing areas with potential implications on security and stability. Farmers and agropastoralists are likely to engage in negative coping strategies.

Establishing the crisis as a corporate priority

In view of the demonstrated scale, complexity and urgency of the crisis, FAO has declared a corporate thematic scale-up for desert locust, activating fast-track procedures so that operations can be planned and launched with greater flexibility, including rapid deployment of staff and scaled-up programmes. In addition, FAO advanced USD 34 million from 28 February to 2 December 2020 while waiting for grant agreements to be signed, an approach that allowed FAO to supply a number of assets before lockdowns were imposed due to COVID-19.

FAO’s response to food chain emergencies – such as animal diseases and plant pests and diseases – are managed within the context of the Food Chain Crisis Management Framework. In particular, the Organization’s current locust response is being handled by the Emergency Centre for Transboundary Plant Pests (ECTPP), which integrates technical and operational capacities under the overall management of
FAO’s Plant Production and Protection Division and with the Food Chain Crisis – Emergency Management Unit of the Office of Emergencies and Resilience operationally managing the response. An additional coordination role and technical and capacity development support are provided by FAO’s Commission for Controlling the Desert Locust in the Central Region (CRC).

Partnering with national governments and key stakeholders

To support country capacities that risk being overwhelmed by the scale of the crisis, FAO is providing technical and operational assistance for control operations and livelihoods support for the most vulnerable.

The partnership with the Intergovernmental Authority on Development (IGAD), including through the FSNWG co-led with FAO, has proven to be instrumental in promoting dialogue on desert locust, and harmonizing advocacy and methodologies for damage and impact assessments.

With regard to partnerships with United Nations agencies, FAO and the World Food Programme (WFP) have worked together since the beginning of the crisis in various areas, including logistics capacity and opportunities for triangulation of various equipment – for example, safety gear has already been advanced by WFP, which FAO will replenish.

OCHA has been and will remain instrumental for coordination, outreach and resource mobilization, including through facilitating access to the Central Emergency Response Fund.
The Regional Desert Locust Alliance and the food security clusters are also fundamental entry points for coordination at country level between all stakeholders, including international and national non-governmental organizations (NGOs).

Advocating for flexible funding

To ensure maximum impact in a rapidly evolving situation, FAO is advocating that resource partners contribute to the Locust Window of the Special Fund for Emergency and Rehabilitation Activities (SFERA).

This mechanism provides FAO with the financial means to react quickly to crises, reducing the time between funding decisions and actions on the ground. SFERA’s pooled funding approach provides the flexibility to adjust activities and support the geographical and thematic areas of greatest need. Likewise, the programme approach enables operations to adapt as the situation changes, streamlining activities to ensure the most appropriate assistance reaches affected populations sooner.

Engaging with the Global Network Against Food Crises

The Global Network Against Food Crises, a partnership created to identify and jointly implement durable solutions to food crises, will be engaged to support coordination, consensus building, and serve as a platform to discuss the most effective programmatic approaches. The Global Network has a key role to play in supporting the uptake and mainstreaming of early warning early action, as well as ensuring lessons learned are utilized, documented and disseminated within the framework of knowledge management.
In 2020, FAO appealed for USD 121,715,000 to fund Component 1 and a total of USD 115,858,160 was mobilized. This allowed FAO to build government capacities (soft and hard), to increase surveillance and intensify control actions as well as to conduct a number of environmental and health assessments (Ethiopia, Kenya and Uganda in particular) and damage estimations.

Based on the situation in December 2020 and the forecast for 2021, it is imperative to maintain the ongoing efforts until the end of the upsurge. Indeed climatic conditions remained much more favourable than weather forecasts suggested, such as the Greater Horn of Africa Climate Outlook Forum, during the second half of 2020. Furthermore, reinvasion from Yemen contributed to increased desert locust populations in the Greater Horn of Africa despite massive control efforts.

In addition, surveillance and control operations are extremely complex in a number of countries due to conflict and security conditions. Unfortunately, the desert locusts are often located in areas that are difficult to access because of these concerns. This in turn means that a number of swarms will be out of reach for a period of time until FAO can treat them in safe areas.

For the above-mentioned reasons, FAO is now appealing for USD 35.3 million to curb the spread of desert locust in 2021.
• **Continuous surveillance**

Surveillance improved substantially since the beginning of the upsurge in December 2019. This includes the purchase and deployment of vehicles, motorcycles, the deployment of eLocust3g, the use of eLocust3m, training of national staff, partnerships with NGOs (including through food security clusters), and the use of aircraft. These efforts will need to continue in 2021 and until the end of the upsurge. Key activities are described below:

**Continued crowdsourcing**

FAO will continue to encourage partners to record and transmit data to national locust centres and FAO’s Desert Locust Information Service (DLIS) in Rome through eLocust3m. Combined with remote sensing imagery and historical data, the information is used to provide early warning and forecasts for the planning and prioritization of survey and control operations. The continued use and scale-up of eLocust3m contributes to facilitate crowdsourcing and information sharing. New training sessions and refresher trainings to partners will continue to be conducted. While passive surveillance was encouraged in 2020, i.e. partners using their presence in the field to report desert locust presence, it is envisaged in 2021 that some incentives could be made available for a more active surveillance in some strategic areas of the targeted countries. FAO may consider adding the new approach just introduced in Ethiopia in December, which consists of creating a toll-free phone line that communities can use to report any locust presence.
Broadcasting messages on local radio stations in different languages is done regularly to encourage the communities, nomads and herders using the toll-free phone line to report the information.

**eLocust3m Standard Operating Procedures**

**Scaling-up the use of eLocust3g**
Since August 2020, FAO has started to deploy eLocust3g. To date, FAO has procured 185 units and 100 are already in use. These units must continue to be deployed and the target is to reach 250 units reporting every day from affected countries by June 2021.

**eLocust3g Standard Operating Procedures**
faostd://fao.org/ag/locusts/common/ecg/2533/en/eLocust3g_SOP.pdf

**Accrued surveillance of border areas**
Unlike in 2019, countries are better prepared to control desert locust, but the effectiveness of the control actions will depend greatly on the early detection of hopper bands and swarms and the use of eLocust3 tools.

In Eastern Africa, and given the most recent forecast, desert locust is predicted to reach Kenya starting in mid-December. In Somalia, Cyclone Gati potentially stretched the presence and breeding of desert locust from east to west (from Puntland to Somaliland). Ethiopia is contending with hopper bands, immature and mature swarms in the entire Somali region from Jijiga to Doolow that will threaten the Oromia region and the Southern Nations, Nationalities, and People’s Region. In Kenya, the entire frontier with Somalia from Mandera south to the Indian Ocean needs to be monitored from December to February as desert locust in south central Somalia cannot be controlled easily. While ground survey teams need to continue scouting, it is imperative to continue contracting helicopters and fixed-wing aircraft in the three most affected countries of the Greater Horn of Africa. In the Sudan, surveillance capacity is adequate as the country is used to seasonal breeding and outbreaks, and pre-arrangements are in place – as is the case for all frontline countries.

In Yemen, the recent discussions between FAO and key stakeholders allowed for the development of a surveillance and control plan of action that needs to be funded. The plan includes hiring vehicles for scouting and possibly two dual-purpose helicopters for surveillance and control, if required.
Purpose of control

To suppress the desert locust population in order to eliminate the threat they pose to food security and livelihoods.

- **Ground and aerial control**
  FAO will continue supporting national governments to implement ground and aerial control. A large number of spraying assets have been leased since February 2020, but spraying capacity must remain intact until the end of the upsurge.

**Fixed-wing aircraft**

The challenge remains the vastness of the areas that need to be covered; determining an optimal number of assets to deploy by the governments, the Desert Locust Control Organization for Eastern Africa (DLCO-EA) and the United States Agency for International Development to face the ever-changing situation; and access to infested areas.

▶ **In Ethiopia:** FAO scaled-up its operation in October and all assets must be retained. This includes five spray aircraft.

▶ **In Kenya:** After months of improvement, the country is preparing for a re-invasion and two to three fixed-wing aircraft will be hired from mid-December until the end of the upsurge.

▶ **In Somalia:** FAO included a fixed-wing aircraft for control in September 2020 and the plane must be retained on a flexible needs-based basis.

▶ **In the Sudan:** Fixed-wing aircraft are all under Government contracts.

▶ **In Yemen:** The deployment of fixed-wing aircraft for control and surveillance is being considered, if required and if the logistical and security situation allows.

**Helicopters**

Helicopters cover smaller areas compared to fixed-wing aircraft, but provide a lot more flexibility. They can survey and spray smaller targets in areas where fixed-wing aircraft would not be sent. They can also easily land to enable spot checks for verification.

▶ **In Ethiopia:** FAO will maintain one spray helicopter, in addition to two survey helicopters.

▶ **In Kenya:** Up to three spray or dual-purpose helicopters are included in the Government–FAO plan.

▶ **In Somalia:** FAO will maintain two dual-purpose surveillance/spray helicopters as long as desert locust are present in areas that are accessible for aerial operations.

▶ **In Yemen:** As part of the work plan and should security permit, up to two dual-purpose helicopters for surveillance and spraying will be leased.
• **Ground spray assets**
Since February 2020, FAO has procured and delivered 138 vehicles for surveillance and mounted sprayers, 110 motorcycles for surveillance and to support ground control teams, over 6,600 sprayers (handheld and knapsack motorized sprayers, and vehicle-mounted sprayers) and over 8,000 personal protective equipment kits. Maintaining mobility capacity of the ground teams (vehicle maintenance, daily subsistence allowance, camping capacity and fuel) will be essential until June 2021.

**Pesticides**
Additional procurements will be necessary in order to control the new breeding generations in the region. The amount of pesticides to procure in 2021 is based on current stocks, procurement plans from governments (factoring in World Bank contributions) and the anticipated stock-depletion rate, calculated on the basis of forecasted infested areas, access and spray assets. Pesticide selection will remain regulated by the recommendations of the Pesticide Referee Group and national registration lists in the affected countries. The choice of a pesticide also depends on each situation (vegetation type, target [hoppers or swarms], etc.).

**Biopesticides and insect growth regulators (IGRs):**
More environmentally friendly options, including biopesticides will continue to be pursued wherever possible, and buffer zones maintained when spraying to protect water sources and environmental protection areas. Biopesticides are used in Somalia (in all control operations), in Kenya (around settlements) and a small stock exists in Ethiopia. IGRs are being used in Somalia on hoppers.
All procured pesticides and biopesticides will continue to undergo a rigorous quality control process. FAO uses a leading global inspection, verification, testing and certification company, which is internationally recognized and operates through a network of offices and trusted representatives across all geographical regions of the world.

Under this component, FAO aims to support the treatment of up to 2 million ha, including 1.3 million ha already controlled between January and mid-December 2020.

- **Impact assessments and environment, health and safety**
  Monitoring and impact assessment studies of the implementation of environmental and health safety standards will continue to be conducted throughout the implementation of the response plan, with each addressing a specific question and helping FAO and partners to adjust interventions as needed.

- **Food security impact assessments**
  This is coordinated at regional level by the FSNWG and rolled-out at country level. FSNWG participants include IGAD member states, UN agencies, NGOs and food security clusters.

  Country assessments include: (i) damage monitoring (ongoing), food security and livelihood impact assessments. A first round was conducted in June/July in bimodal areas and a second round was conducted in October in unimodal areas. A new round of assessment in bimodal areas will be conducted before June 2021. IPC analyses will continue to inform livelihoods programming.

- **Human health and environmental safety**
  FAO pays strict attention to human health and environmental safety aspects, utilizing corporate protocols developed for environmental precautions to avoid contamination and adverse health effects.

  Assessments have been conducted in Ethiopia and Kenya in 2020 and a key recommendation is to continue conducting regular assessments in 2021.

  Safe pesticide management is a core component of control activities. In addition to training on safe pesticide handling, capacities will continue to be built in proper storage and the disposal of drums and containers.
In 2020, FAO appealed for USD 99,765,000 against Component 2 and a total of USD 64,425,426 was mobilized. This has allowed FAO to assist 298,000 households between April 2020 and March 2021 (factoring bimodal and unimodal areas).

Damages that occurred since October 2020 have been assessed through the second FSNWG-led coordinated assessment and factored in IPC analyses of concerned countries. In particular, these IPC analyses are informing the food security component of the OCHA-coordinated HRPs in Ethiopia, Somalia, South Sudan and the Sudan. Likewise in Yemen, an IPC analysis has just been completed and damages from desert locust are also factored in.

Among the five countries included in the FAO appeal, only Kenya does not have a HRP. Based on anticipated desert locust movements, i.e. swarms reaching Kenya in mid-December, it is expected that damages will be created almost exclusively to rangeland. While during the rainy season the regeneration of pasture lands is quite rapid, in case the infestation protracts on rangelands up to the dry season, livestock-holding households (especially those households with members with reduced mobility) will need immediate access to survival and supplementary feeding during the July–September period to: i) prevent animal stress; ii) prevent deteriorations in animal body conditions, which will ultimately impact livestock productivity and household malnutrition, especially in children below the age of five.
Livestock-based livelihoods packages (Kenya only)
By providing both roughage (hay) and concentrates (e.g. multinutrient blocks, pellets and mixed rations) sufficient to sustain resident core breeding livestock during the July–September 2021 period, weight loss will be limited and health status sustained until the rangelands recover in October with the start of the next rainy season. The programme is sourcing, as much as possible, feed and fodder from local surplus areas, with special efforts made to facilitate and promote the harvesting, baling/briquetting from producing areas. This action will, as much as possible, build on local commercial channels, to boost the local economy while addressing the needs of the most vulnerable.

FAO will continue to closely monitor and conduct impact assessments to inform livelihoods response targeting livestock holders. As the situation stands, FAO is targeting 9,000 livestock-keeping households under this component.

Livelihoods needs in Ethiopia, Somalia, the Sudan and Yemen
In these four countries, the HRPs are currently being formulated. In Ethiopia, Somalia and the Sudan where the HRPs are most advanced, FAO is appealing for USD 42.2 million, USD 116.40 million and USD 68 million respectively through the HRPs for food security and livelihoods interventions including in support of people affected by desert locust.
In 2020, FAO appealed for USD 10,160,000 against Component 3 and a total of USD 11,372,587 was mobilized. This has allowed FAO to implement all activities foreseen under the component. Furthermore, with the lockdown, some resources for travel have been saved in 2020 and will contribute to maintaining adequate coordination capacities until June 2021. However, should the desert locust upsurge persist beyond June, FAO would revise the appeal and additional resources would be required for coordination.

Furthermore, with funding allocations, FAO purchased a new aircraft for DLCO-EA with an expected delivery schedule of March 2021.

- **Deployment of experts**
  Since 24 January, 12 out of 19 experts deployed are still providing support to FAO country officers and national governments. As additional deployment is compromised by COVID-19, it will be essential to maintain strong expertise in the region as long as the upsurge is not under control, through the extension of existing contracts and hiring of additional consultants and experts as needed.

- **Facilitate regional partnerships and collaboration**
  The regional FSNWG co-led by FAO and IGAD will continue to provide a framework for harmonized food security analysis, taking into account impact assessments, and provide the technical means for countries to conduct timely assessments.

  Furthermore, IGAD is leading ministerial briefings on desert locust and discussions should also lead to mid- to long-term preparedness and capacity building plans for which FAO, DLCO-EA and CRC are providing strategic and technical support.

- **Regional advocacy and national-level coordination**
  In collaboration with OCHA, FAO will continue to lead dialogue and advocacy with partners through monthly briefings, in which the Regional Desert Locust Alliance also plays a key role. FAO and OCHA will also facilitate the inclusion of specific desert locust-related livelihoods interventions into country-based coordination, through food security clusters (Somalia, South Sudan, the Sudan and Yemen) or through government-led working groups where clusters are not activated (Djibouti, Eritrea, Ethiopia, Kenya, the United Republic of Tanzania and Uganda). Where applicable, this will translate into adjustments to HRPs.

  The FSNWG will continue to organize regular press conferences to highlight food security impact analyses and intergovernmental collaboration.
• **Strengthen regional and national capacity and enhance preparedness**
  Given the possibility of a cause and effect relationship between climate change and desert locust infestations, it is imperative to strengthen regional and national capacity for surveillance and control operations. This will include support to the development and updating of regional and national contingency plans for desert locust crises, promoting learning across countries to boost competencies in forecasting, surveillance and control, and exploring the use of new technologies for surveillance, such as drones. Such efforts will be actively supported by the FAO CRC.

• **Desert locust conference for Eastern Africa**
  The current desert locust upsurge is an eye opener on what capacities do and do not exist in the region. IGAD, the World Bank, the French Development Agency (AFD) and FAO have been collaborating to facilitate discussions and reviews of systems through rapid assessment exercises at country level (World Bank), regional reviews (AFD) and real-time evaluations (FAO). All of these exercises should form the basis of a technical workshop to endorse findings and lay the groundwork for a two-step regional conference with the participation of IGAD member states, regional and international institutions and development partners where: (i) a consensus should be reached on a set of actionable recommendations (or work plans) for anticipating, preparing for and responding to future desert locust crises and; (ii) IGAD member states should formulate a high-level final joint declaration and commitment. The various events will take place during the first quarter of 2021.
### FAO desert locust upsurge revised appeal for sustaining control efforts and protecting livelihoods – budget for January 2020 to June 2021 (in USD)

<table>
<thead>
<tr>
<th>Activities (2020)</th>
<th>Djibouti</th>
<th>Eritrea</th>
<th>Ethiopia</th>
<th>Kenya</th>
<th>Somalia</th>
<th>South Sudan</th>
<th>Sudan</th>
<th>United Republic of Tanzania</th>
<th>Uganda</th>
<th>Yemen</th>
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<th>Yemen</th>
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<td>See HRP</td>
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<td>Coordination and preparedness</td>
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<td>8,000,000</td>
<td>11,800,000</td>
<td>3,500,000</td>
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</table>
Saving livelihoods saves lives

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Food and Agriculture Organization of the United Nations