Food and Agriculture Organization of the United Nations

West Africa

Desert locust crisis appeal

May–December 2020

Anticipatory action and rapid response

Cover photo: ©FAO/Michael Tewelde

At a glance

USD 50–75 million
required by FAO for control, surveillance and livelihoods support by December 2020

17.2 million people
in severe acute food insecurity (Phase 3+) during the next lean season (June–August 2020) in Burkina Faso, Cameroon, Chad, the Gambia, Mali, Mauritania, the Niger, Nigeria and Senegal (*Cadre Harmonisé*, March 2020)

300 000–500 000 ha
of land targeted for control operations

10 million ha of land targeted for surveillance

110 000–150 000 households targeted for livelihood support, of whom **75 000–100 000** farming households and **35 000–50 000** pastoral households

Recent forecasts by the Food and Agriculture Organization of the United Nations (FAO) have indicated a risk of locust invasion in West Africa from June 2020. From East Africa, some swarms could reach the eastern part of the Sahel and continue westwards from Chad to Mauritania.

Surveillance and control teams will be mobilized across the region with a focus on Burkina Faso, Chad, Mali, Mauritania, and the Niger, and extended to Senegal. Countries such as Cameroon, the Gambia and Nigeria are also on watch in the event that desert locust spreads to these highly acute food-insecure countries. Since the region could be threatened in the coming months, FAO is strongly encouraging no regret investments in preparedness and anticipatory action to control swarms and safeguard livelihoods, given already high levels of acute food insecurity. Therefore, cost estimates for preparedness, anticipatory action and rapid response have been assessed.

FAO's *Commission de lutte contre le criquet pèlerin dans la region occidentale* (Commission for Controlling the Desert Locust in the Western Region [CLCPRO]) and FAO's subregional resilience team for West Africa and the Sahel (REOWA) are already working together with potentially affected countries for the implementation of anticipatory actions, such as training, pre-positioning of resources, initiating surveillance activities and control operations. The countries of the subregion most exposed to the threat of a locust invasion are Burkina Faso, Chad, Mali, Mauritania, the Niger and Senegal. All of these countries are already facing the novel coronavirus disease 2019 (COVID-19), with a cumulative of 4 315 confirmed cases and 184 deaths (as of 11 May 2020), which presents significant further risks to food security. The latest *Cadre Harmonisé* analysis (March 2020) indicates that 17.2 million people are projected to face severe acute food insecurity (Phase 3 and above) during the next lean season (June–August 2020) in Burkina Faso, Cameroon, Chad, the Gambia, Mali, Mauritania, the Niger, Nigeria and Senegal.

Applying lessons from the 2003–2005 desert locust upsurge in West Africa and from the implementation of resilience programmes in the region, including its Early Warning Early Action approach, FAO is focusing on anticipatory action to avert a full blown food crisis, mainly by:

- scaling up support to governments to monitor and control the pest; and
- safeguarding livelihood interventions.

The Global Network Against Food Crises – a partnership created to identify and jointly implement durable solutions to food crises – is also engaged to support coordination and consensus building, and serves as a platform to discuss the most effective programmatic approaches. The Global Network plays a key role in supporting the uptake and mainstreaming of anticipatory action, as well as ensuring that lessons learned are used, documented and disseminated.

Preparing to curb the spread of the desert locust is the most critical and urgent component of the subregional anticipatory action and rapid response plan to fund, as the aim is to reduce the food security impact of the desert locust entering West Africa

Two response scenarios are envisaged, as follows:

- In the first one, six countries could be affected – Burkina Faso, Chad, Mali, Mauritania, the Niger and Senegal – in which case 300 000 ha of land would be targeted for control operations.
- In the second scenario, an additional three countries in the Sahel – Cameroon, Nigeria and the Gambia – would require control operations, bringing the total up to 500 000 ha.

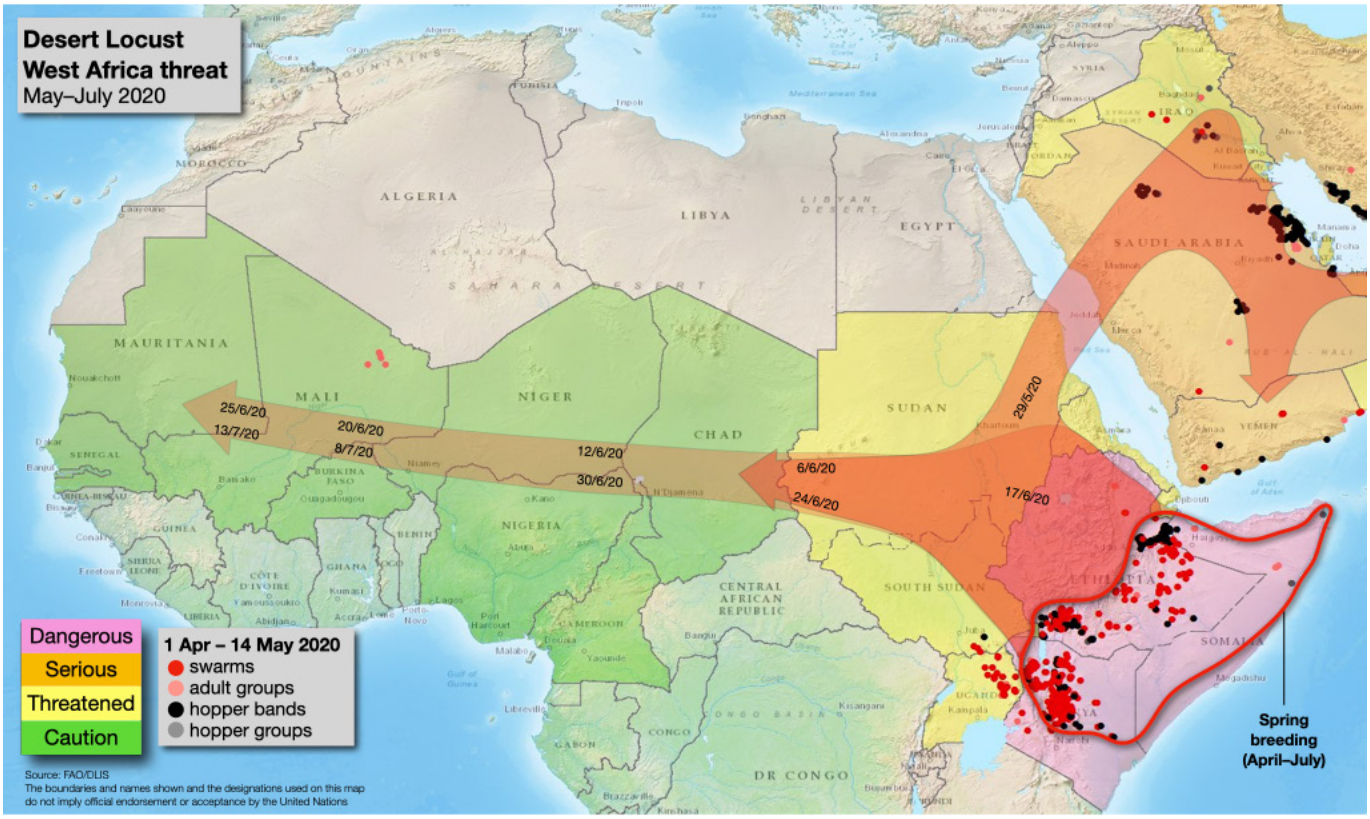
Crisis overview in West Africa

Situation analysis

In December 2019, favourable breeding conditions facilitated a significant resurgence of the desert locust in East Africa, Southwest Asia and the area around the Red Sea. In the West Africa region, the locust situation remained relatively calm throughout 2019 and early 2020. However, recent FAO forecasts have indicated a risk of locust invasion from the Horn of Africa, from June 2020. There is a risk that some swarms could reach the eastern part of the Sahel in eastern Chad from spring breeding areas in Arabia and East Africa (Kenya and Ethiopia). If desert locust arrive in the Sudan before the summer rains, the swarms are likely to continue westwards across the Sahel from Chad to Mauritania.

The first appearance in eastern Chad could be as early as the second week of June from Arabia and the last week of June from East Africa. The current situation can change significantly during this month due to rainfall, winds and spring breeding in Arabia and East Africa. Therefore, investments in preparedness and anticipatory actions should be immediately and quickly scaled up to face this potential threat. The CLCPRO secretariat and the countries at risk (Burkina Faso, Chad, Mali, Mauritania, the Niger and Senegal) activated their respective contingency plans to cope with this threat. However, given already high levels of acute food insecurity in some parts of the region, ministers from the West Africa and Sahel region have emphasized their concern about the risks of locusts and potential impact on food production during the annual meeting of the Food Crisis Prevention Network in March 2020.

Figure 1. Desert locust situation overview in West Africa, May–July 2020



Source: FAO, 2020. Conforms to UN World map, February 2020.

Response to date

FAO's CLCPRO and REOWA are working closely with potentially affected countries in anticipatory actions such as training, pre-positioning of resources, initiating surveillance activities and preparedness for control operations. FAO is also continuing to monitor the potential desert locust threat in the Sahel. While any threat to the region is not likely to be until June 2020, FAO is strongly encouraging no regret investment in preparedness and anticipatory action to safeguard livelihoods. Under the aegis of CLCPRO, preparedness measures for control operations are underway. In addition, missions to assess the implementation of national contingency plans will be carried out across the desert locust affected countries. All the logistics of the Western Regional Intervention Force (FIRO)[1] will be mobilized to strengthen the surveillance and intervention systems made up of 53 teams, two helicopters and four aircrafts.

Livelihoods and food security implications

Conflict/insecurity, extreme weather events, desert locust, economic shocks and the COVID-19 pandemic are expected to be the key drivers of acute food insecurity in West Africa and the Sahel.

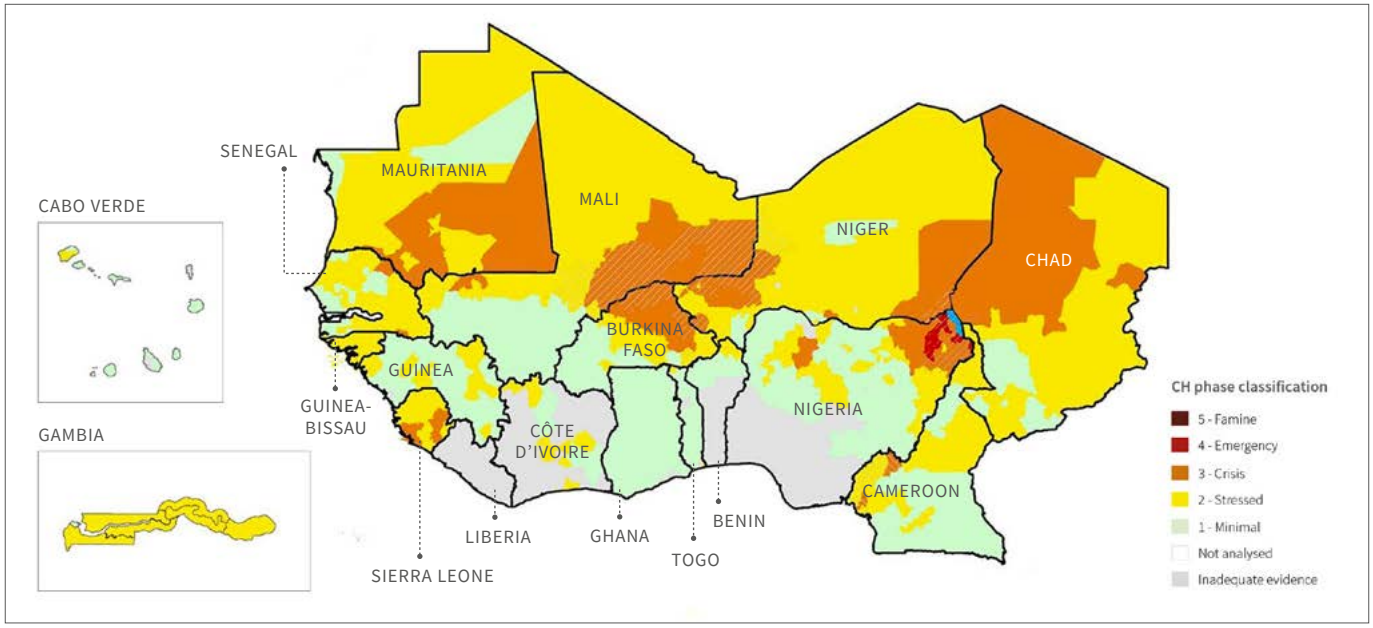
The latest *Cadre Harmonisé* analysis (March 2020) indicates that 17.2 million people are projected to face severe acute food insecurity (Phase 3 and above) during the next lean season (June–August 2020) in Burkina Faso, Cameroon, Chad, the Gambia, Mali, Mauritania, the Niger, Nigeria and Senegal. Some of these countries, such as Burkina Faso, Mali and the Niger, in particular, are already shaken by a persistent security crisis, which has caused massive population displacements, and has adversely affected households' livelihoods as well as the functioning of agricultural and livestock markets. Furthermore, the upheaval that has been set in motion by the COVID-19 pandemic may push even more families and communities into deeper distress. As mentioned in the *2020 Global Report on Food Crises*, conflict/insecurity, extreme weather events, desert locust, economic shocks and the COVID-19 pandemic are expected to be the key drivers of acute food insecurity.

The scenarios were developed on the basis of the most widely cultivated food and cash crops (groundnut, millet and sorghum) and dry biomass in the identified countries. The scenarios take into account the life cycle of the locusts, the seasonal agricultural calendar of the front countries, the chronology and the probable trajectory of the desert locust, defined by CLCPRO.

Three scenarios were thus envisaged, depending on the timing of the desert locust invasion. This could be at the start of the 2020 agropastoral campaign, in June (Scenario 1); in the middle of the 2020 agropastoral campaign, in August (Scenario 2); and at the end of the 2020 agricultural campaign, in October (Scenario 3).

[1] During the meeting of Ministers in charge of locust control, which took place in Algiers, Algeria, October 2016, CLCPRO decided to approve the creation of a FIRO. It is currently composed of two operational bases, one in Mauritania composed of six survey and one coordinator teams (11 vehicles), and one in Chad composed of three survey and control teams (six vehicles). http://www.fao.org/clcpro/nouvelles/detail/fr/c/1132576/

Figure 2. Projected acute food insecurity situation in West Africa and the Sahel, June–August 2020



Source: CH, March 2020. Conforms to UN World map, February 2020.

These last two scenarios would correspond to the start of an upsurge in July 2020. The perspective of countries' seasonal calendar and the analysis of trajectories allowed to classify the likelihood. Details on the three scenarios are as follows:

- Under the first scenario, early in the agricultural campaign, desert locust would damage the crop at germination. The loss of cereals and cash crops are projected to be between 5 and 10 percent. Under this scenario, this would mean an additional 4–9 million people facing severe acute food insecurity (Phase 3+) in the nine identified countries.
- Under the second scenario, in the middle of the 2020 agropastoral campaign, the damage caused by desert locust is expected to destroy 40 percent of pastureland and lead to harvest losses of up to 25 percent. This would cause an additional 5.5–11 million people to face severe acute food insecurity (Phase 3+).
- Under the third and worst case scenario, the impact on livelihoods would be far worse with large losses on grazing areas, staple and cash crops (50–90 percent), triggering an additional 15 million people to face severe acute food insecurity in the nine countries.

FAO priorities

▶ 1. Curb the spread of desert locust

Budget required
USD 14–23 million

In the current upsurge, FAO's strategy is to limit desert locust populations to the extent possible in order to minimize the risk and prevent the spread across the region including through early detection and control. Critical to this is detecting desert locust as early as possible based on ground and aerial survey operations, followed by the application of timely and appropriate control measures.

- Continuous surveillance

  Detecting the locations of desert locust swarms is critical to respond rapidly for maximum impact on the effective of arriving swarms and to minimize the success of the first generation (local breeding). FAO is supporting the CLCPRO's regional surveillance and control plan, which is relied on the national survey and control teams and regional teams (FIRO) using eLocust3 – a handheld tablet tool – to record and transmit data via satellite to national locust control centres and FAO's Desert Locust Information Service (DLIS) in Rome, Italy. Combined with remote sensing imagery and historical data, the information is analysed within national geographic information systems and used to support early warning, forecasts, and the planning and prioritization of survey and control operations. DLIS issues regular bulletins and updates with the latest information on the situation and projections of most-likely scenarios. FAO's CLCPRO, in collaboration with national locust units, has trained professionals from locust centres and plant protection directorates in surveillance techniques, including the use of eLocust3. Forthcoming training will focus on the mobile application eLocust3m for rapid collection of locust information in the field. Strengthening the capacity of national locust units to conduct surveillance activities in the potential predictable presence of locust is critical, therefore an important training programme is planned by CLCPRO and its implementation will start at the beginning of June 2020 for the six concerned countries, including insecure areas for community focal points to alert the locust units about locust sightings. Based on the likely scenario and the existing resources in the concerned countries indicated by the CLCPRO web platform (*Système de veille des dispositifs natioanux*), key equipment such as vehicles, sprayers, and camping equipment will be supplied. More specifically, all the logistics of FIRO will be mobilized to strengthen the surveillance and ground intervention systems made up of 53 teams.

  West Africa will benefit from the progress made for East Africa under the current response. In East Africa, FAO collaborated with Pennsylvania State University to develop eLocust3m, a smartphone app containing the basic data of eLocust3. FAO also partnered with the Garmin to develop eLocust3g, a basic eLocust3 version for a handheld GPS satellite communicator. Lastly, FAO developed a web-based version,

eLocust3w, of the basic eLocust3. All three initiatives were fast-tracked and developed in less than one month. FAO works with academic institutions from across the world in developing software and new techniques to facilitate surveillance, reporting and control of desert locusts, including crowdsourcing and information sharing. With dedicated funding provided for innovation by the Bill and Melinda Gates Foundation, FAO is further developing and putting into use the following: (i) digital tools for improved data collection in real time (eLocust3g and eLocust3m); (ii) remotely-sensed 1 km^2 soil moisture maps that are updated every ten days in order to improve control by identifying potential breeding areas; and (iii) a trajectory model to estimate swarm migrations for improved early warning. These lessons will be integrated into the West Africa response. FAO will continue to coordinate closely with national governments and country-level Food Security Clusters and working groups where they are present, on desert locust surveillance, impact assessments and livelihood response planning. Across the region, CLCPRO's concerned countries aim to ensure the surveillance of 10 million ha.

- Ground and aerial control

  FAO is supporting national governments to implement ground and aerial control for reducing locust populations through a range of targeted operations. Surveillance will inform the type of actions required according to identified target – for example, location of invaded swarms, observed breeding and egg-laying areas, and hopper

band stages will be monitored to ensure appropriate control measures to apply at the right moment in order to reduce the level of the initial populations and break the cycle of the next generation. National locust units are alerted when swarms are detected to coordinate necessary control measures. Control efforts will prioritize targeting desert locust populations that pose a direct risk to cropping areas.

The situation of pesticide stocks is being updated and analysed in the member countries in preparation for possible pesticide triangulation operations. Pesticides are selected considering the recommendations of the independent Pesticide Referee Group and national registration lists in the affected countries. The national Environment and Health Standards Programme (*Cahier des charges environnementales*) will be implemented. Therefore, the mitigation measures will be applied to ensure that the choice of a pesticides will depend on each particular situation (vegetation type, target [hoppers or swarms], etc.). Non-chemical options will be pursued wherever possible, spraying equipment will be well calibrated and application parameters respected. The existing ecological sensitive maps in the countries will be used to avoid treatment of chemicals and the use of bio-pesticides when it is possible. Control of hopper bands is largely handled by ground control teams and can be done either with insect growth regulators, bio-pesticides or chemical pesticides. Aerial control is needed when large swarms exceed the capacity of ground control. FAO support includes the procurement of pesticides and equipment, contracting of aircraft, logistics, establishment of operational bases, intensive training for government staff on the safe administration of chemical pesticides, as well as raising community awareness on issues related to the desert locust upsurge and control measures. Under this component, FAO will prepare to support the treatment of 300 000 to 500 000 ha across the region.

- Assess impacts and monitor environmental, health and safety standards

  It is paramount to facilitate the capture of desert locust impact and control data and to promote environmental, health and safety measures. 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. Despite the fact that CLCPRO has been implementing the Environment and Health Standards Programme since 2009, including harmonized scorecards for the evaluation of its implementation in the field. An assessment will be conducted not only on the impact of the desert locust upsurge on production and livelihoods and efficacy of control operations, but also on the potential environmental and health impacts relating to control operations. Safe pesticide management, health, and environment monitoring are a core component of control activities. In addition to training on safe pesticide handling, capacities will be built in for the proper storage and disposal of drums and containers.

► 2. Safeguard livelihoods and promote early recovery

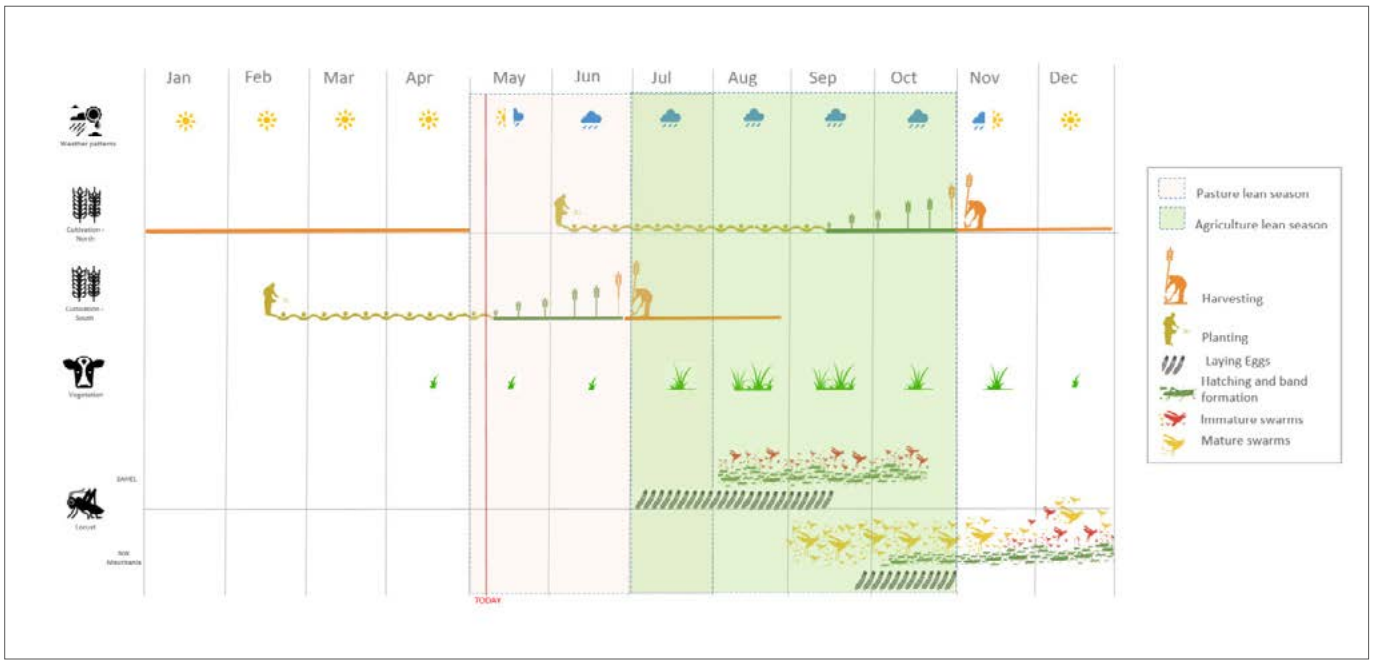
Budget required
USD 33–47 million

- Provide farming re-engagement packages

  Mitigating negative impacts of desert locust on the livelihoods and food security of farmers will take place in the nine countries. As the next generation of mature and immature swarms of desert locust are expected to migrate towards farming areas around the start of the planting season, close monitoring and impact assessments will be key to informing FAO's livelihoods response. A recent FAO technical note projects loss of millet and grain production of up to 10 million tonnes in the event of a locust attack in West Africa (FAO, 2020). Given the context linked to the COVID-19 pandemic, the distribution of livelihood inputs will be carried out in strict compliance with the measures recommended by the World Health Organization (WHO) and by the governments of the countries concerned.

  FAO will target from 75 000 to 100 000 farming households under this component to receive agricultural inputs, of whom up to 10 000–14 000 households will benefit from cash interventions. This will be critical to preserve the main agricultural season and anticipate further deterioration in food security.

Figure 3. Agricultural calendar (main crops) versus desert locust life cycle in West Africa, 2020



Source: FAO, 2020.

- **Provide livestock-based livelihoods packages**
  The negative impacts of desert locust on the livelihoods and food security of herders will be mitigated. As desert locusts are expected to breed, hatch and mature in grazing areas of arid and semi-arid lands, FAO will closely monitor and conduct impact assessments to inform the Organization's livelihoods response. Desert locust could potentially destroy up to 500 000 ha of pastures. This would inevitably lead to a fodder deficit resulting in early mobility of herds in transhumance. In a context marked by a multitude of restrictions relating to the COVID-19 pandemic and the escalation of violence, particularly in Burkina Faso, Mali, the Niger and Nigeria, availability of feed, etc. will be important. FAO will target from 35 000 to 50 000 livestock keeping, agropastoral households under this component.

  Livestock-based livelihoods will be protected through the provision of supplementary feed where pasture has been severely affected by desert locusts. Range cubes or multinutrient blocks can boost livestock nutrition and support production (particularly milk yield), resulting in rapid improvements to household food supply and nutrition.

► 3. Coordination and preparedness

Budget required
USD 3–5 million

- **Deploy rapid surge support**
  Technical and operational expertise to governments and FAO country offices, with a special focus on scaled-up surveillance and control operations will be provided. This includes, when required, the deployment of desert locust experts from FAO's Global Network as well as procurement, logistics, supply chain, operational and programme development officers.

- **Facilitate regional partnerships and collaboration**
  The preventive strategy will be promoted and support will be provided to member countries in its implementation – in particular to create autonomous national units. FAO's CLCPRO, together with FAO's subregional resilience team for West Africa and the Sahel based in Dakar, are working closely with potentially affected countries in anticipatory actions such as training, pre-positioning of resources, and initiating impact assessment scenarios and surveillance activities. FAO is also continuing to monitor the potential desert locust threat in the Sahel. FAO provides technical and operational support to countries to help them prepare and address this threat, and to preserve food security. CLCPRO coordinates the work through an operational mechanism and provides the technical support and regular capacity development programmes to their member countries based on biennial work plans.

- **Enhance regional advocacy and national-level coordination**
  FAO will continue to lead dialogue and advocacy with partners through regular briefings. It will also facilitate the inclusion of specific desert locust-related livelihoods interventions into country-based coordination, through the technical committee of the *Cadre Harmonisé* (chaired by FAO), the Food Security and Nutrition Working Group and the resilience Working Group, at regional and national levels.

- **Strengthen regional and national capacity and enhance preparedness**
  It is imperative to strengthen regional and national capacity for surveillance and control operations, especially given the possibility of a cause-effect relationship between climate change and desert locust infestations. At regional level, this will include training provided through CLCPRO. At country level, it 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.

Strategic approach

Applying the right range of control options at the right time

Drawing from FAO's extensive expertise, control methods will be applied that are technically sound and adapted to the life cycle of the desert locust. The control of large swarms is 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. This means supporting national efforts to undertake urgent, large-scale aerial and ground control operations as well as surveillance, trajectory forecasting and data collection.

FAO applies an integrated approach to control the desert locust through safer alternatives combined with conventional pesticides. With regard to risks to human health, none of the pesticides used belong to WHO's Class Ia (Extremely hazardous) or Class Ib (Highly hazardous). In addition, at least two alternative control options (bio-pesticide and insect growth regulators) are used. In order to minimize the risk from pesticides, FAO takes special precautions at all stages of the anti-locust campaign, i.e. before, during and after the control operations.

Anticipating impacts

The window of time between now and critical agricultural activities is an opportunity to implement actions to contain the spread of desert locust and protect the food production and food security of the most vulnerable. While supporting surveillance and control operations, FAO will also deliver activities to safeguard livelihoods, including cash programming activities and distribution of livelihoods re-engagement packages for farmers and livestock keepers affected and at risk during the next rainy season (2020) in nine countries. This anticipatory approach to protect food production and livelihoods was a clear recommendation of the Independent Evaluation of the 2003–2005 desert locust outbreak in West Africa.

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, has been 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 anticipatory action, as well as ensuring lessons learned are used, documented and disseminated. Anticipatory action is crucial to protect long-term development and resilience gains. The combination of short-term anticipatory actions and long-term resilience investments is at the core of the Global Network's work on preventing food crises and building resilient livelihoods.

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. This is in line with the Organization's response to Food Chain Emergencies such as animal diseases and plant pest and diseases are managed within the context of the Food Chain Crisis Management Framework. In particular, the current locust response is handled by the Emergency Centre for Transboundary Plant Pests, which integrates the technical and operational capacities of the Plant Production and Protection Division and of the Emergency and Resilience Division under the overall leadership of a Deputy Director-General.

Partnering with country 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. FAO is also co-leading the Food Security Cluster with the World Food Programme. FAO and a range of partners working on desert locust management – including governments and organizations such as WHO and the UN Environment Programme – have developed standard operating procedures to guide the planning and implementation of control campaigns so that responses are safe for human, animal and crop health. FAO has also developed technical guidelines such as the Efficacy Assessment of Control Operations.

Investing in the medium and long term

The desert locust upsurge has highlighted the need for continued investment in national authorities' capacity to cope with locusts. FAO's CLCPRO uses funds from member country contributions to strengthen national capacities as well as field activities. While robust national locust systems exist in frontline countries, they should be promoted in affected countries in a manner that they can respond rapidly to emergencies, yet sustainably endure long, calm periods.

For example, FAO has used this desert locust upsurge as an opportunity to scale up the use of eLocust3 real-time data collection technologies, and this could be done on a wider scale, using crowdsourcing as a means to intensify and strengthen surveillance and reporting.

FAO is further enhancing data collection and modelling by developing and rolling out (i) digital tools for improved data collection in real time (eLocust3g, eLocust3m, eLocust3w), (ii) remotely-sensed soil moisture 1 km^2 maps updated every ten days for improving control efficiencies by identifying potential breeding areas, and (iii) a trajectory model to estimate swarm migrations for improved early warning.

Ensuring transparency in information management

FAO has made recent advances in ensuring full transparency and access to near real time locust data and information on the emergency response, which is available from the following web sites:

Desert locust dashboard
fao.org/locusts/response-overview-dashboard/en/

Desert locust hub
locust-hub-hqfao.hub.arcgis.com

Desert locust crisis page
fao.org/emergencies/crisis/desertlocust/en

Locust watch page
fao.org/ag/locusts

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 process to adapt as the situation changes, streamlining activities to ensure the most appropriate assistance reaches affected populations sooner.

Table 1. Funding requirements (in USD)

	Scenario 1 (safeguarding livelihoods in six countries)				Scenario 2 (safeguarding livelihoods in nine countries)					
Activities	**Chad**	**Niger**	**Mali**	**Burkina Faso**	**Mauritania**	**Senegal**	**Gambia**	**Cameroon**	**Nigeria**	**TOTAL**
1. Curb the spread of desert locust										**14–23 million**
Ground and aerial control operations										10.7–17.5 million
Surveillance and impact assessments										3–5 million
Health and safety standards										0.3–0.5 million
2. Safeguard livelihoods and promote early recovery	**8 million**	**7 million**	**6 million**	**6 million**	**3.5 million**	**2.5 million**	**1 million**	**6 million**	**7 million**	**33–47 million**
Provide farming re-engagement packages	5.5 million	5 million	4 million	4 million	2.5 million	2 million	0.5 million	4 million	5 million	23–32.5 million
Provide livestock-based livelihoods packages	2.5 million	2 million	2 million	2 million	1 million	0.5 million	0.5 million	2 million	2 million	10–14.5 million
3. Coordination and preparedness										**3–5 million**
									TOTAL FUNDING REQUIRED	50–75 million

Saving livelihoods saves lives

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