



Food and Agriculture
Organization of the
United Nations

DESERT LOCUST UPSURGE

Global Response Plan

January–December 2020

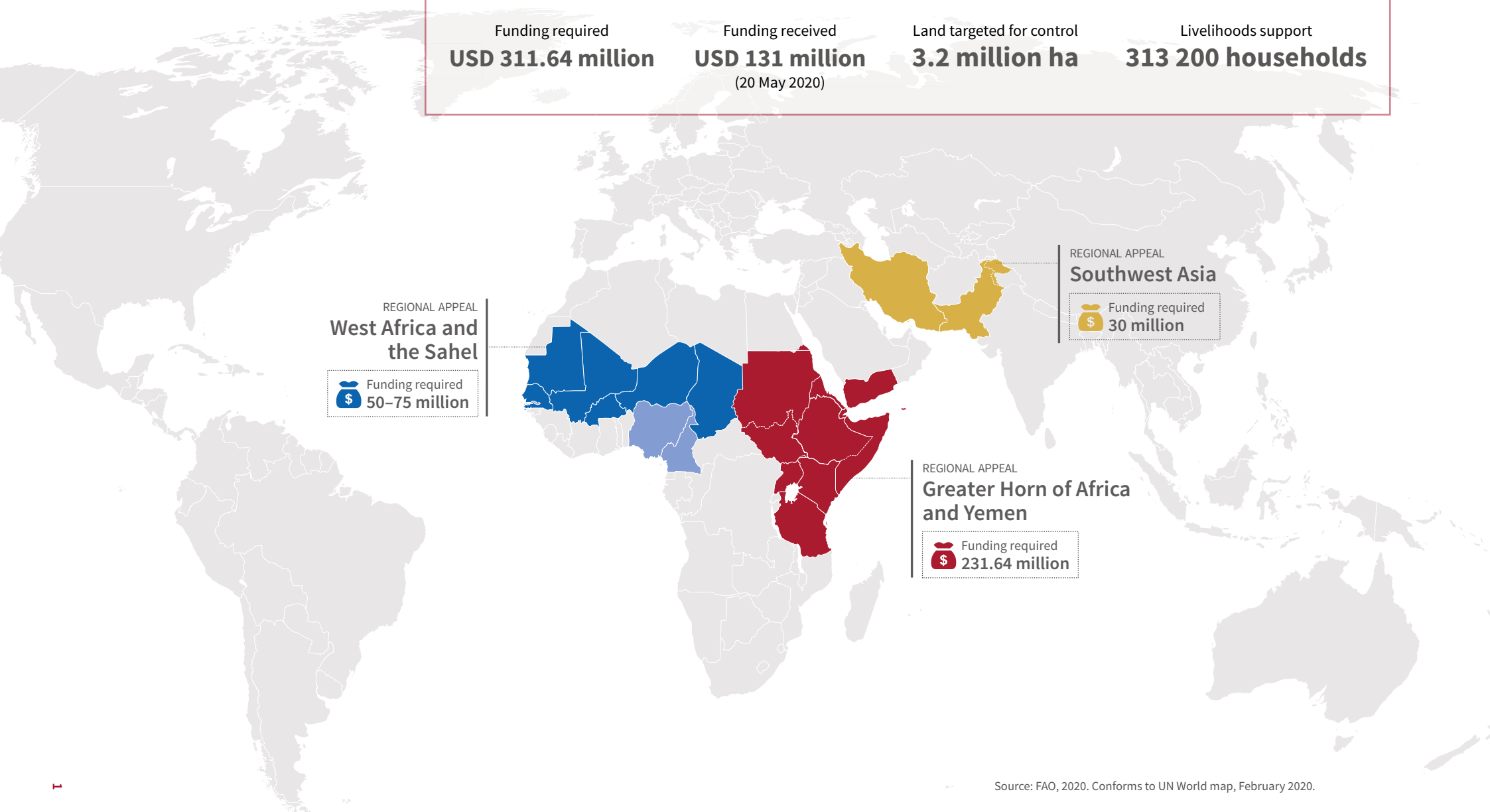
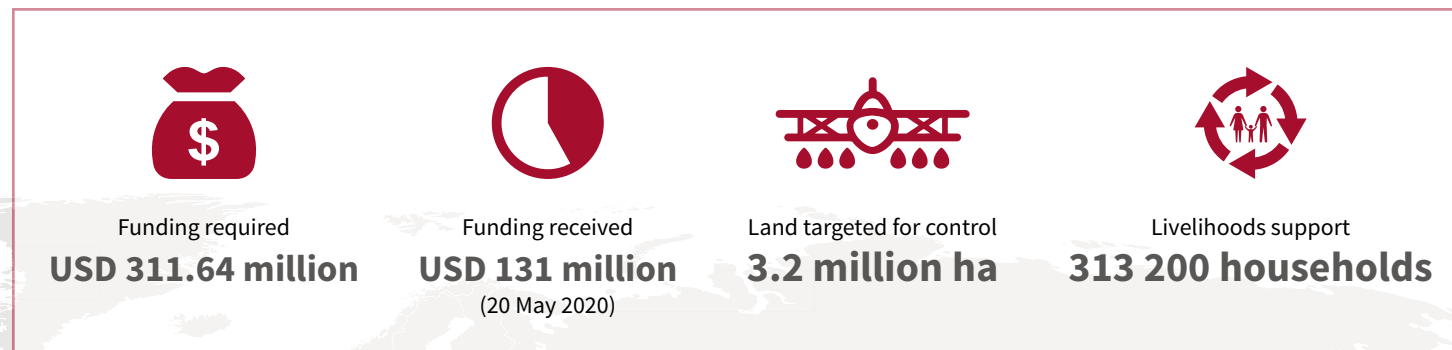
Appeal for rapid response and anticipatory action



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At a glance





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Background

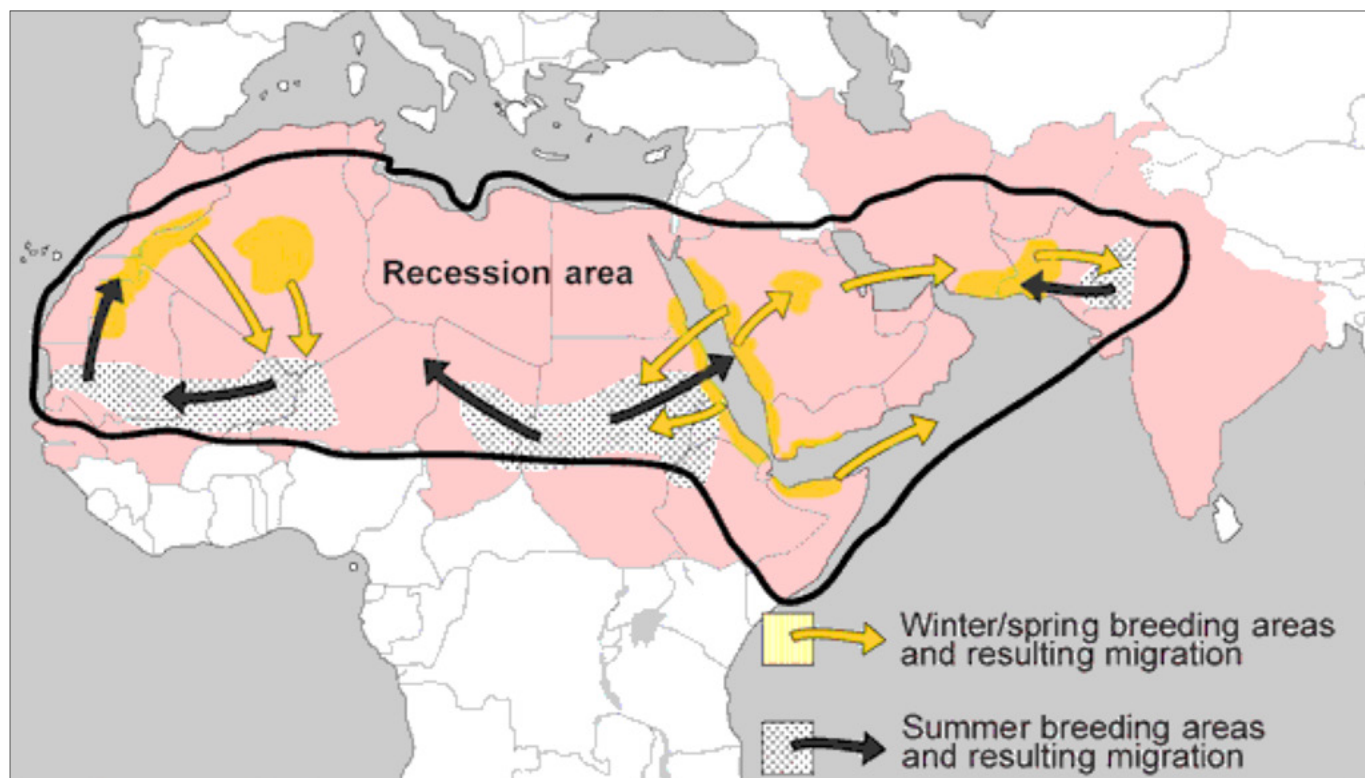
Locusts are the oldest migratory pest in the world. They differ from ordinary grasshoppers in their ability to change behaviour (gregarize) and form swarms that can migrate over large distances.

Among locusts, the desert locust (*Schistocerca gregaria*) is the most destructive in the world. It has a significant impact on food security, trade and the economies of many countries throughout the world. In response to environmental stimuli, dense and highly mobile desert locust swarms can form. Desert locust fly during the day downwind for up to 150 km in a day. Meanwhile, hopper bands can march about 1.5 km per day.

Among locusts, the desert locust is the most destructive in the world. They are ravenous eaters who consume their own weight per day, targeting food crops and forage.

They are ravenous eaters who consume their own weight per day, targeting food crops and forage. A swarm measuring just a single square kilometre can contain up to 80 million adults, with the capacity to consume the same amount of food in one day as 35 000 people. Large swarms pose a major threat to food security and rural livelihoods. During quiet periods (known as recessions) desert locusts are usually restricted to the semi-arid and arid deserts of Africa, the Near East and Southwest Asia that receive less than 200 mm of rain annually. This is an area of about 16 million square kilometres, consisting of about 30 countries.

Map 2. Breeding and recession areas of desert locust



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

There can be an exponential increase in locust numbers with every generation of breeding: a 20-fold increase in their numbers after three months, 400 times after six months, and 8 000 times after nine months. In 1954–1955, Morocco lost over USD 50 million (in 1994 dollars) to desert locust in six weeks in the Souss-Massa Valley alone.

In 1958, Ethiopia lost 167 000 tonnes of grain, enough to feed a million people for a year.

Locusts are becoming even more dangerous in the context of exceptional weather events associated with climate change, due to their very high capacity to take advantage of new situations. This is illustrated by the fact that the locust situation has deteriorated with recurrent droughts since the beginning of the twenty-first century.

FAO's role in locust control

FAO undertakes field assessment missions, strengthens national capacity, coordinates survey and control operations as well as emergency assistance during locust upsurges and plagues.

Since desert locust can easily spread between countries and reach epidemic proportions, their management and control require regional and international coordination and cooperation.

The Locusts and Transboundary Plant Pests and Diseases Group at the Food and Agriculture Organization of the United Nations (FAO) headquarters is responsible for assisting Members throughout the world in managing migratory pests, mainly locusts, and diseases through early warning and early reaction.

The group has been working for more than five decades on locusts with staff at FAO headquarters and within three regional commissions for controlling desert locust: in Northwest and West Africa through the Commission for Controlling the Desert Locust in the Western Region (CLCPRO); in the Near East through the Commission for Controlling the Desert Locust in the Central Region; and in Southwest Asia through the Commission for Controlling the Desert Locust in Southwest Asia (SWAC). The experience gained in managing locust issues such as the development and implementation of the preventive control strategy and the desert locust global monitoring, information and early warning system has been extended to other transboundary plant pests and diseases.

FAO's Desert Locust Information Service (DLIS) is the focal point for all locust and locust-related information that is necessary to operate an early warning system for desert locust plagues.

DLIS closely monitors the global desert locust situation continuously and provides forecasts, early warning and alerts on the timing, scale and location of invasions and breeding throughout Africa and Asia.

All locust-affected countries transmit locust data to DLIS, which in turn analyses this information in conjunction with weather and ecological data and satellite imagery in order to assess the current locust situation, provide forecasts up to six weeks in advance and issue warnings on an ad hoc basis.

FAO prepares monthly bulletins and updates summarizing the locust situation and providing six-week forecasts of migration and breeding on a country-by-country basis.

Furthermore, FAO undertakes field assessment missions, strengthens national capacity, develops new innovative tools and techniques, coordinates survey and control operations as well as emergency assistance during locust upsurges and plagues.



Current upsurge

The current upsurge began to slowly develop two years ago as a result of two cyclones that brought heavy rains to the Empty Quarter in the Arabian Peninsula in May and October 2018. This allowed an unprecedented three generations of breeding to occur during a period of nine months that caused locust numbers to increase 8 000-fold. Survey and control operations were not possible because ground and aerial teams could not reach this area, which is one of the remotest in the world, consisting only of endless, towering dunes.

When vegetation started to dry out, waves of swarms migrated from this area northwards in the Arabian interior to invade the southwest of the Islamic Republic of Iran, and southwards to invade eastern Yemen. The southwest of the Islamic Republic of Iran, where unusually heavy rains and floods occurred in early 2019, had not seen swarms in 50 years. The swarms spread out and two generations of breeding occurred during the spring along the entire southern coast of the country from Iraq to Balochistan, Pakistan.

Despite massive control operations, numerous spring-bred swarms migrated east and invaded the desert along both sides of the Indo-Pakistan border. Here, they met the annual monsoon rains, which were heavy in 2019 and lasted one month longer than normal, allowing nearly three generations of breeding from May 2019 to January 2020.

Again, substantial control operations were required to reduce locust numbers. Nevertheless, some summer-bred swarms migrated back to the Islamic Republic of Iran in late 2019, while other swarms remained in Pakistan in early 2020. With the onset of the rains, widespread breeding occurred again throughout southern Islamic Republic of Iran and southwest Pakistan, which is still underway.

The swarms that left the Empty Quarter in early 2019 and moved southwards found exceptional breeding conditions in the interior of Yemen as a result of widespread heavy rains. This allowed at least one generation of breeding to occur that went mostly undetected and not controlled. This gave rise to swarms that invaded eastern Ethiopia and northern Somalia at the beginning of the summer in 2019. Heavy rains in both countries allowed breeding and swarm formation despite control operations in Ethiopia.

Normally, ecological conditions dry out in the Horn of Africa by the end of most years and locust populations decline. However, Cyclone Pawan unexpectedly brought heavy rains to eastern Ethiopia and Somalia in early December. It was this cyclone that suddenly caused the situation to become extremely dangerous and allow breeding conditions to remain favourable to June 2020. In the last days of 2019, waves of swarms invaded southern Ethiopia, Somalia and Kenya and continued for about six weeks. Some of the swarms reached the Democratic Republic of the Congo, South Sudan, the United Republic of Tanzania and Uganda – countries that last saw swarms as long ago as 1944. The swarms in Ethiopia, Kenya and Somalia bred, giving rise to substantial hopper bands in March and a new generation of swarms in April. These swarms have now matured and laid eggs that are in the process of hatching and forming hopper bands. From this breeding, a new generation of immature swarms will form in about mid-June and continue into July, which coincides with the start of the harvest in East Africa.



Risk of deepening food security crises

As highlighted by the *2020 Global Report on Food Crises*, in 2019, almost 135 million people in 55 countries or territories, or 16 percent of the total population analysed, were classified in Crisis conditions or worse (Integrated Food Security Phase Classification [IPC]/ *Cadre Harmonisé* [CH] Phase 3 and above).

Four countries among the ten worst food crises in 2019 by number of people in Crisis or worse (IPC/CH Phase 3 or above) are currently affected by the ongoing desert locust upsurge. These are Ethiopia, South Sudan, the Sudan and Yemen.

In East Africa, over 27 million people in six Intergovernmental Authority on Development member states (Ethiopia, Kenya, Somalia, South Sudan, the Sudan and Uganda) were classified in Crisis or worse (IPC Phase 3 or above) levels of food insecurity. This figure represents around 20 percent of the global total number of acutely food-insecure people in need of urgent humanitarian food and livelihood assistance. The trend of rising numbers of acutely food-insecure people in the region – observed each year since 2016 – continued into 2019. The number of people in need of urgent food assistance (IPC Phase 3 or above) increased by 600 000 compared to 2018, mainly driven by rising acute food insecurity in Kenya, South Sudan, the Sudan and Uganda. Acute food insecurity persisted at similar levels in Ethiopia and improved in Somalia. The six countries faced all three main drivers of acute food insecurity – weather extremes, conflict/insecurity and economic shocks – with negative impacts reinforcing each other, adding to the complexity of the food security situation.

In West Africa, more than 12.3 million people were estimated to be in Crisis or worse (CH Phase 3 or above) in West Africa and the Sahel, and Cameroon during the 2019 peak. The highest numbers were in northern Nigeria (5 million), Cameroon (1.4 million), the Niger (1.4 million) and Burkina Faso (1.2 million). Around 48 million were classified as Stressed (CH Phase 2) with minimally adequate food consumption and unable to afford some essential non-food items without resorting to harmful coping strategies. They were likely to slip into a higher phase of acute food insecurity if they faced an additional shock or stressor. The overall number of people facing Crisis or worse (CH Phase 3 or above) throughout the region increased by 10 percent from 11.2 million people requiring food assistance in 2018.

In Southwest Asia, over 3 million people in Pakistan's drought-affected districts of Balochistan and Sindh provinces were in Crisis or worse (IPC Phase 3 or above) in October 2018–July 2019. Of these, more than 1 million people faced Emergency (IPC Phase 4) conditions. An additional 1.4 million people were classified as Stressed (IPC Phase 2). The food security situation was not expected to improve in the latter half of the year (IPC, July 2019). In Balochistan, 1.79 million people (48 percent of the rural population) in 14 drought-affected districts were in Crisis or worse (IPC Phase 3 or above) in January–July 2019. Of these, around 420 000 people were in Emergency (IPC Phase 4). Rural areas of two districts (Chagai and Washuk) were in Emergency (IPC Phase 4), with the remaining 12 districts in Crisis (IPC Phase 3). In Sindh, 1.28 million people (57 percent of the rural population) in seven districts were in Crisis or worse (IPC Phase 3 or above) from October–July 2019. Of these, almost 600 000 people were in Emergency (IPC Phase 4). Drought-affected areas of four districts were in Emergency (IPC Phase 4) (IPC, July 2019).



Regional chapters

► Greater Horn of Africa and Yemen



Budget required

USD 231.64 million

The Greater Horn of Africa and Yemen:
A call to sustain efforts

Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, the Sudan, Uganda, United Republic of Tanzania and Yemen

Five months after the beginning of the desert locust upsurge in the Greater Horn of Africa and Yemen, and four months since the launch of the response plan (24 January 2020) a total of USD 130 million has been mobilized in the region.

The revised appeal aims to sustain gains made in terms of surveillance and control efforts, especially, but not limited to, the three worst-affected countries (Ethiopia, Kenya and Somalia). Desert locust will continue to spread across the entire region in the remaining months of the year, causing an additional threat to food security. In particular, surveillance and control in the Sudan in June will be a key determinant to the potential spread westward towards the Sahel region, while Yemen has become an important reservoir and source area for desert locust due to continual and widespread rains that have caused unusually favourable ecological conditions for breeding. If nothing is done in Yemen, sizeable locust populations are likely to build up that will lead to a possible reinvasion of the Horn of Africa, and perhaps even the Indo-Pakistan area, by swarms this summer.

With regard to livelihoods, the combined effect of the already fragile context with desert locust and COVID-19 could potentially lead to an almost unprecedented humanitarian crisis. While damages have and continue to occur during the current rainy season, the impact will be dramatic at the beginning of the dry season and until the next harvest. Regional coordination since January has proven effective, with room for further improvement, and the Subregional Office for Eastern Africa through its resilience hub in Nairobi, Kenya, will continue to provide both internal and external facilitation, programmatic orientation and advocacy.

West Africa and the Sahel:
A call to increase
preparedness

**Burkina Faso, Chad, Mali, Mauritania,
the Niger and Senegal with potential
additional countries Cameroon,
the Gambia and Nigeria**

► West Africa and the Sahel



Budget required

USD 50–75 million

Recent FAO forecasts have indicated a risk of locust infestation from the Greater Horn of Africa, from June 2020. Some swarms from Kenya and Ethiopia could reach the eastern part of the Sahel in eastern Chad through the Sudan, where swarms are expected to arrive soon. If swarms arrive in the Sudan before the summer rains, then they are likely to continue westwards across the Sahel from eastern Chad towards Mauritania.

The appeal for the Sahel region aims to increase the preparedness of the six most concerned countries for an initial USD 50 million, with the potential to extend to additional countries. This should be achieved by supporting the CLCPRO's regional surveillance and control plan, which relies on the national survey and control teams and regional teams – such as the Western Regional Intervention Force – using eLocust3. Furthermore, FAO will strengthen the capacity of national locust units to conduct surveillance activities in the potential predictable presence of locusts.

In addition, the situation of pesticide stocks is being updated and analysis in the member countries is underway in preparation for possible pesticide triangulation operations.

With regards to livelihoods, resources should be made available in order to mitigate negative impacts of desert locust on the livelihoods and food security of farmers as well as the livelihoods and food security of herders in the nine at-risk countries.

Southwest Asia: A call to scale up control campaigns

Islamic Republic of Iran
and Pakistan

► Southwest Asia



Budget required
USD 30 million

The Islamic Republic of Iran is experiencing its worst desert locust outbreak in 50 years. For the second year in a row, large desert locust infestations are threatening food security, nutrition and livelihoods as well as environmental and economic development in the country. In Pakistan, residual swarms from breeding in 2019 have affected numerous districts of the Punjab and Sindh provinces in the east of Pakistan since January 2020, and subsequently spread to Balochistan in the southwest.

The Southwest Asia appeal aims to rapidly scale up the surveillance and control campaign, targeting around 1 million ha in order to prevent massive food security deterioration.

The FAO SWAC was established in 1964 to promote the Organization's preventive strategy and support member countries in its implementation, in particular by creating autonomous national units that play a pivotal role in order to curb the spread of desert locust.

Similar to the other regional chapters, and building on lessons learned from the Sahel upsurge in 2003–2005, as well as the ongoing response in the Greater Horn of Africa and Yemen, planning and resources for livelihoods protection and impact mitigation measures must start concomitantly. Both farmers and herders/pastoralists will be targeted through cash intervention and the provision of input supplies.

FAO desert locust upsurge appeal for rapid response and anticipatory action – budget for January–December 2020 (in USD)

Activities	Greater Horn of Africa and Yemen	West Africa and the Sahel	Southwest Asia	Total
1. Curb the spread of desert locust	121 715 000	14 000 000 to 23 000 000	23 750 000*	159 465 000 to 168 465 000
Continuous surveillance	30 473 000	3 000 000 to 5 000 000	5 000 000	38 473 000 to 40 473 000
Ground and aerial control	85 692 000	10 700 000 to 17 500 000	18 000 000	114 392 000 to 121 192 000
Assess impacts and monitor environmental, health and safety standards	5 550 000	300 000 to 500 000	750 000	6 600 000 to 6 800 000
2. Safeguard livelihoods and promote early recovery	99 765 000	33 000 000 to 47 000 000	5 000 000	137 765 000 to 151 765 000
Provide farming re-engagement packages (including cash)	78 375 000	23 000 000 to 32 500 000	2 800 000	104 175 000 to 113 675 000
Provide livestock-based livelihoods packages	21 390 000	10 000 000 to 14 500 000	2 200 000	33 590 000 to 38 090 000
3. Coordination and preparedness	10 160 000	3 000 000 to 5 000 000	1 250 000	14 410 000 to 16 410 000
TOTAL FUNDING REQUIRED**	231 640 000	50 000 000 to 75 000 000	30 000 000	311 640 000 to 336 640 000

** For Islamic Republic of Iran, FAO has allocated USD 500 000 under the Technical Cooperation Programme for component 1. For Pakistan, the United Kingdom of Great Britain and Northern Ireland has allocated USD 1.2 million and the Republic of Korea has allocated USD 120 000, both for component 1. FAO has allocated USD 200 000 under the Technical Cooperation Programme for component 1.

Saving livelihoods saves lives

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