



East Africa

The worst desert locust outbreak in decades threatens food security across East Africa

Highlights

- The worst desert locust outbreak in 25 years has caused significant pasture losses across East Africa, mainly in agro-pastoral areas of eastern Ethiopia, central Somalia and northern Kenya.
- As sustained locust reproduction is expected until June 2020, the outbreak has a high probability to spread to southern Ethiopia, southern Somalia, northeastern Uganda and South Sudan.
- Immediate upscaling of aerial control measures is urgently needed to mitigate crop and pasture losses and to avoid a sharp deterioration of the food security situation.

The worst desert locust outbreak in 25 years is destroying crops and pasture across East Africa. The areas of major concern are Ethiopia, Somalia and Kenya, but locusts are present also on the Red Sea coast in the Sudan and Eritrea. The current outbreak, which resulted from the combination of uncontrolled reproduction in the Arabian Peninsula and unusual weather and climate conditions in East Africa, has resulted in substantial pasture losses in agro-pastoral areas of eastern Ethiopia and central Somalia. The control operations carried out so far have been largely inadequate to contain the outbreak, which in late 2019 has spread to Kenya. Here, large swarms, up to 60 km long and 40 km wide, have invaded in less than a month all northern counties and some central areas, bringing damage to agro-pastoral livelihoods, depriving livestock of pasture. As the outbreak is expected to continue until June 2020 due to the continuation of favourable ecological conditions for locust reproduction, swarms are expected to invade southern Ethiopia and perhaps northeastern Uganda and southeastern South Sudan. Recurrent climatic shocks and conflict have resulted in high levels of food insecurity in 2019, with more than 22 million people estimated to be severely food insecure (IPC Phase 3:

“Crisis” and Phase 4: “Emergency”) in Ethiopia, Kenya, Somalia, the Sudan and South Sudan. The damages caused by the desert locusts in late 2019 and the livelihood losses likely to occur in 2020 may lead to a sharp deterioration of the food security situation, if adequate measures are not taken. A substantial scaling up of ground and aerial spraying, supported by increased surveillance for early detection and monitoring is urgently required.

The desert locust: one of the most dangerous insect pest for pastures and crops

The desert locust (*Schistocerca gregaria* Forskål) is a species of grasshopper belonging to the family *Acrididae*, order *Orthoptera*. Locusts differ from grasshoppers in their ability to change from a solitary living form into gregarious, highly mobile, hopper bands (young wingless locust nymphs moving together) and adult swarms as their numbers and densities increase. Periods of low and intermediate numbers and densities (recessions) alternate with very high numbers and densities (plagues). The desert locust poses little or no threat to crops and pastures when its numbers and densities are low, but the risk increases if several months of favourable

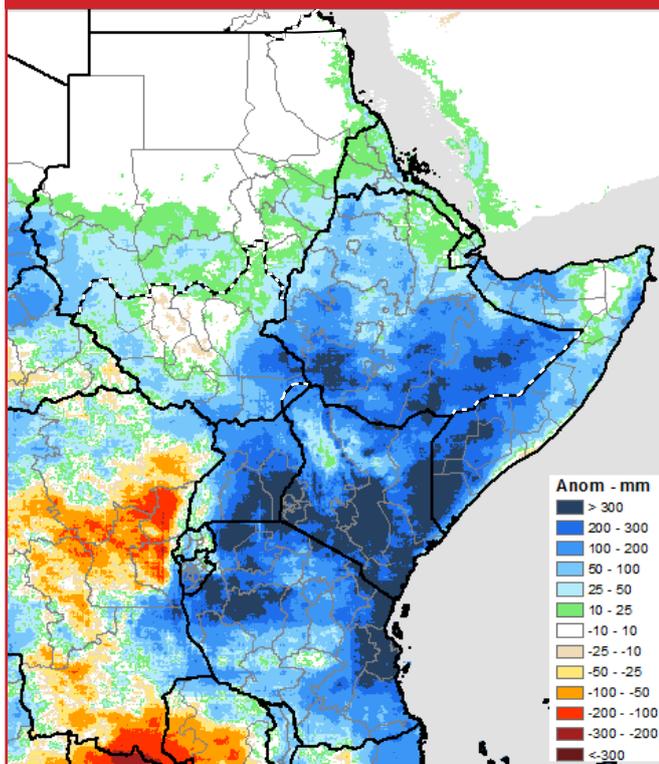
weather conditions and habitats support sharp increases of population leading to plagues. When it happens, the desert locust becomes one of the most dangerous insect pests in the world. Large swarms as the ones recently appeared over Kenya have the ability to eat the same amount of food consumed by 80 million people in a single day, and affected areas can experience the total loss of crops and fodder.

The worst desert locust outbreak in 25 years

The current desert locust outbreak developed after successive cyclones brought heavy rains to the Empty Quarter in the Arabian Peninsula in May and October 2018. Here, up to three generations of breeding occurred that were not detected or treated. Numerous swarms began to leave this areas in early 2019, moving north to Iran and south to Yemen where more breeding occurred during the spring, causing a further increase in infestation levels. While large areas were treated on the coast and in the interior of Saudi Arabia, only limited control operations were possible in Yemen due to the ongoing conflict.

The outbreak reached the Horn of Africa in June, when mature swarms from Yemen crossed the sea and reached northern Somalia, southern Eritrea and northern and eastern Ethiopia. In July, unusual heavy rains and floods in Yemen allowed another generation of locusts to breed and numbers increased substantially, while breeding also began in Somalia, Ethiopia and Eritrea. In August, torrential seasonal rains fostered locust reproduction in central Sudan, and the number of insects increased significantly despite control measures carried out in some areas. In September, the number of locusts began to increase also in Ethiopia, despite the start of some control operations, as additional swarms reached the country from Yemen and Somalia and breeding continued in northern areas of Afar State and Dire Dawa. In October, the swarms that formed in northern and eastern Ethiopia moved towards southeastern areas (southern Somali region), Eritrea and Somalia. The October-December rainy season in southern parts of the subregion (Somalia, Kenya, southeastern Ethiopia) was characterized by exceptionally heavy precipitation, with parts of Kenya and southern Somalia receiving the highest rainfall volumes on record since 1981, up to three times the long-term average. The increase of biomass to above-average levels was conducive to a further intensification of the desert locust outbreak. In addition, the tropical cyclone Pawan, which made landfall on Puntland in northeastern Somalia on 7 December, brought additional precipitation to an area which was already one of the main breeding zones, thus accelerating insect reproduction. On 28 December, swarms invaded northeast Kenya and during January large immature swarms spread from the initial invasion areas of Mandera County in the northeast to Wajir and Garissa counties in the east, to Moyale, Marsabit and Turkana counties along the Ethiopian border in the west and to central Isiolo, Samburu, Meru North, Baringo and Laikipia counties. Similarly, in Somalia, swarms moved from northern Somaliland and Puntland reaching central Mudug, Galgaduud and Hiran and southwestern Bakool, Bay and Gedo regions. As a consequence of cyclone Pawan, conditions will remain favourable for two more generations of breeding in eastern Ethiopia and northeast Somalia until about June 2020, leading to a 500 times increase in number of locusts. The current outbreak is the worst in 25 years, and control operations carried out have been largely inadequate to contain its spread.

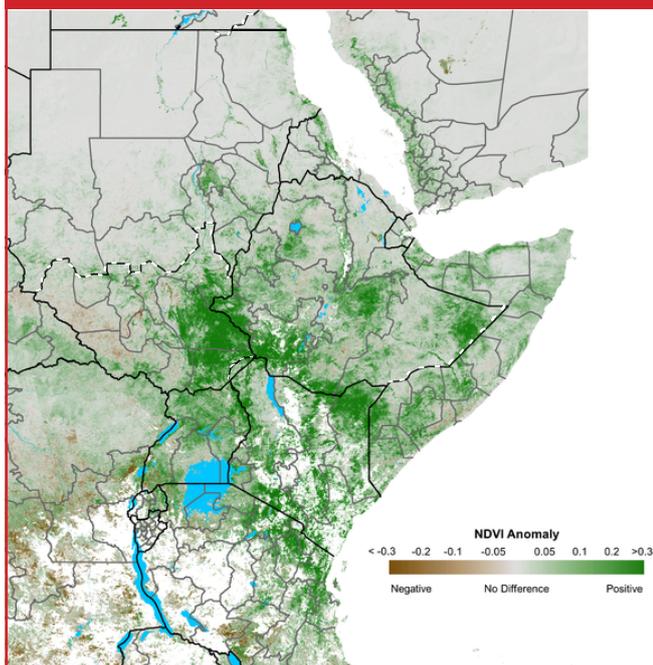
Figure 1: East Africa - Seasonal precipitation anomaly
(relative difference to long-term average, October - December 2019)



Source: USGS/EROS, conforms to UN World map, February 2019.

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Figure 2: East Africa - NDVI anomaly
(December 2019, third dekad)



Source: USGS/EROS; conforms to UN World map, February 2019.

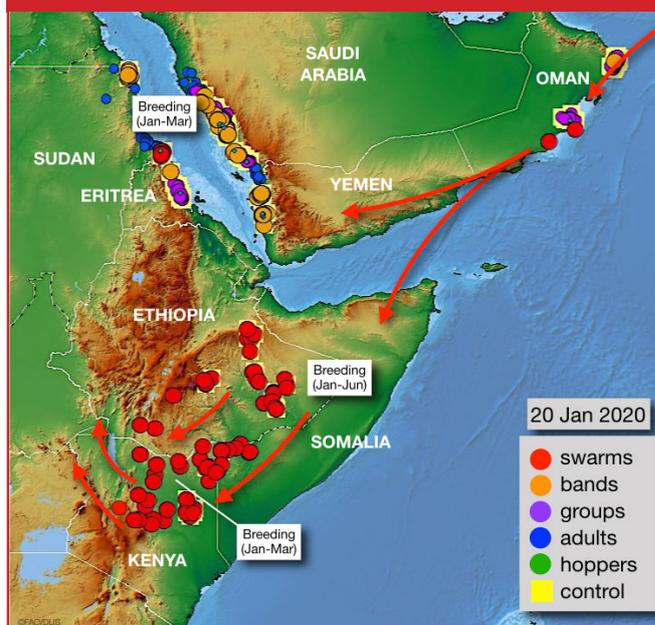
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Current impact: substantial pasture losses and localized crop production shortfalls

In 2019, the locust outbreak has mainly affected pastoral and agro-pastoral areas of northeastern and eastern Ethiopia (Afar, Somali and eastern Oromiya states) and central/southern Somalia (Hiraan, Galgaduud, Bakool and Bay regions) where it caused substantial pasture losses and affected pastoral livelihoods. In Kenya, where the invasion is more recent, pasture losses have been comparatively less significant, but they are quickly mounting with the rapid spread of the outbreak. These damages are of great concern, as in these areas large segments of the population rely on livestock rearing as the main livelihood and source of income. Here, high food insecurity levels prevail following the prolonged drought in 2016/17 and the poor rains in late 2018 and early 2019, which caused severe livestock losses. The locust infestations are curbing the recovery process of pastoralists' livelihoods prompted by the heavy rains in October-December 2019 and a substantial increase in food insecurity prevalence and severity may be expected. Since main cropping areas were still largely outside of the infested areas in 2019, crop losses due to locusts have been limited and recorded mainly

in Ethiopia. Here, the 2019 main "Meher" crops were attacked in November and December in northern and southeastern Tigray, northeastern Amhara and Eastern Oromiya regions. However, coordinated control measures implemented by farmers, local communities and the Government have contained crop losses. As a result, the main "Meher" cereal harvest, gathered in late 2019, is estimated at above-average levels, despite some substantial localized losses due to the desert locusts in parts of Oromiya Zone of Amhara Region, where an estimated 30 percent of sorghum crops was lost. In Eritrea, the 2019 crops, gathered in November and December in key-cropping areas in central and western Anseba, Debub, Maekel and Gash Barka regions, were not affected by the locusts, as the infested areas are located in the Red Sea coastal plains, and cereal production is estimated at above-average levels. Similarly, in the Sudan, the 2019 harvest was not affected by the outbreak as the infestation is mainly in central and coastal regions, far from the cropping areas in the South. However, cereal production is estimated to be significantly below the average of the previous five years due to a decline in planted area and lower yields due to erratic rainfall and infestations of birds, rats and insects (sorghum midge and grasshoppers).

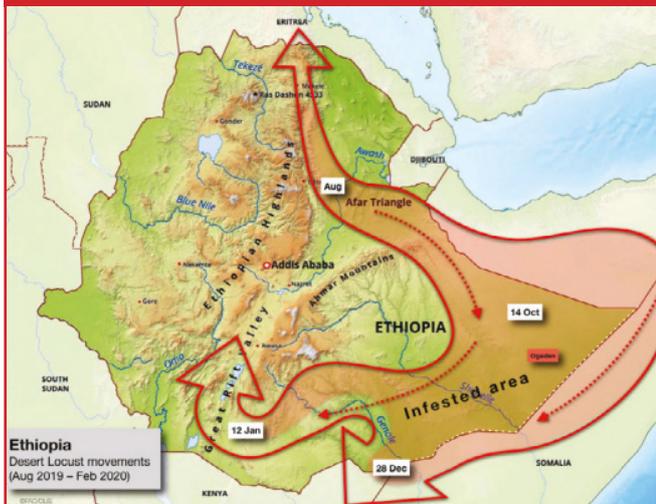
Figure 3: East Africa - Locust outbreak
(as at 20 January 2020)



Source: FAO's Desert Locust Information Service (DLIS); conforms to UN World map, February 2019.

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Figure 4: Ethiopia - Desert locust movements
(August 2019 - February 2020)



Source: FAO's Desert Locust Information Service (DLIS); conforms to UN World map, February 2019.

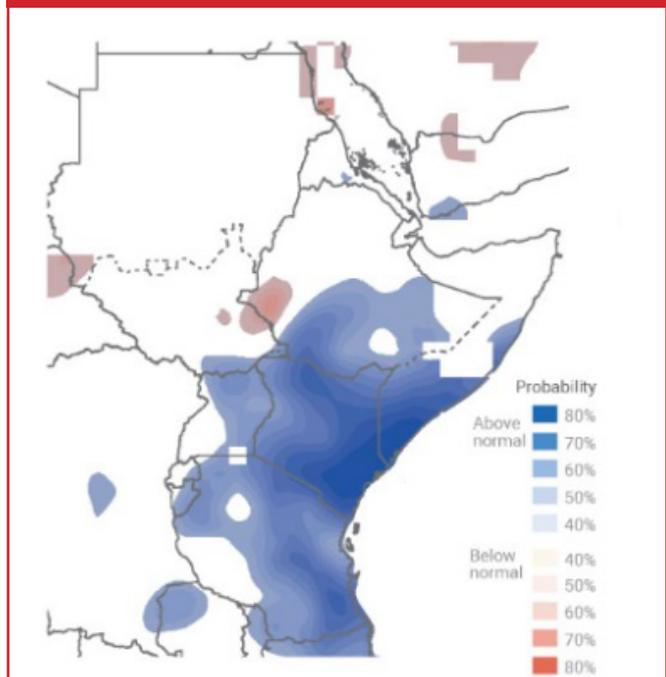
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Outlook: significant damage to crops in 2020 likely if adequate control measures are not implemented

The favourable conditions that allowed the infestations to quickly spread over large areas in 2019 will also foster significant locust reproduction in 2020, at least until June, as above-average rains forecast for the January-March dry season will continue to benefit vegetation conditions. The persistence of the locusts and the expansion of the areas infested has the potential to cause substantial crop losses in 2020 if adequate control measures are not implemented. The appearance of the locusts in Hiran, Bakool, and Bay regions of central/southern Somalia is of great concern, due to the proximity with the country's main maize producing area in the southeastern Lower Shabelle region. Here, the output of "Deyr" off-season crops, currently in vegetative stage and to be gathered in March, was expected at above-average levels as increased water availability for irrigation due to high river levels led to an above-average planted area. An increased off-season cereal output was expected to offset the flood-reduced main harvest, gathered in January, but it will be vulnerable to locust attacks if the swarms continue to move southwards. A reduced "Deyr" harvest would be the second consecutive season with a reduced output, after the drought-reduced main "Gu" harvest, gathered in July

and estimated to be 60 percent below-average, and it would severely affect the food security situation of southern and central areas of the country. In Kenya, the swarms are becoming mature and the hatching of a new generation is anticipated to start in February. By the time the new generation swarms from about April, the seasonal northward shift in winds linked to the Inter Tropical Convergence Zone will likely lead to the migration of additional desert locusts into Ethiopia and Sudan. In Ethiopia, the secondary "Belg" season crops will be planted in February and March in central and eastern areas of eastern Amhara, eastern Oromia, southern Tigray and northeastern SNNP regions. In Eastern Oromiya, substantial crop losses would result in a deterioration of the already poor food security situation due to a below-average 2019 "Belg" harvest, affected by poor rains. In addition, as in some of this areas also "Meher" crops are grown, losses due to locusts could result in shortfalls of long-cycle high-yielding maize, sorghum and millet production. In the agro-pastoral Karamoja region in Northeastern Uganda, cereal crops (mainly sorghum) are planted in April and May. This area, the only region of Uganda affected by persisting acute food insecurity, received

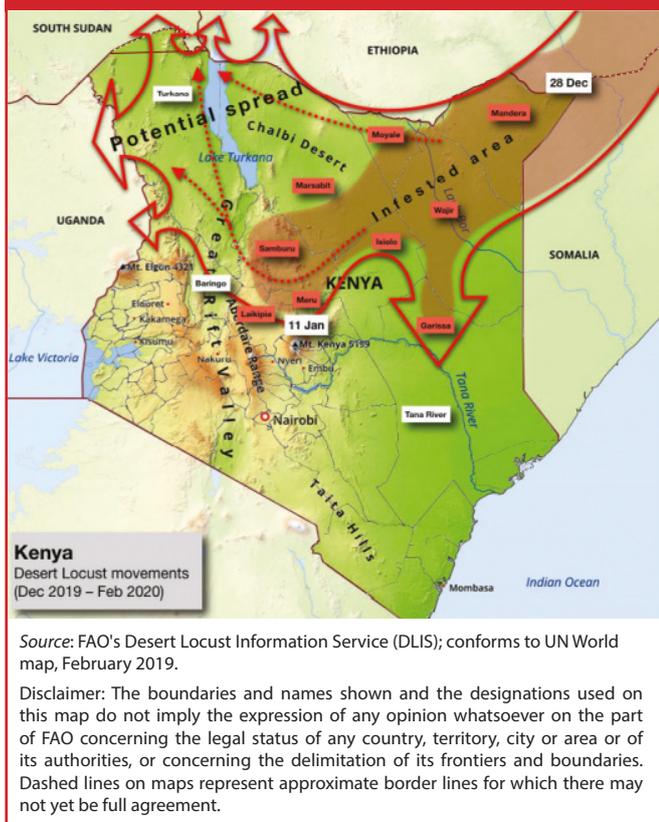
Figure 5: East Africa - Rainfall forecast
(January - March 2020)



Source: OCHA; conforms to UN World map, February 2019.

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Figure 6: Kenya - Desert locust movements
(December 2019 - February 2020)



abundant rainfall in the second semester of 2019 and current vegetation conditions are above-average. An outbreak of desert locusts in the forthcoming months can be sustained by the conducive environment and may cause substantial pasture and crop losses. In the agropastoral Kapoeta region in the former Eastern

Equatoria State in southeastern South Sudan, first season cereal crops are planted in March and April and harvested in August and September. In this area, where vegetation conditions are also above-average due to abundant rains in the second half of 2019, the damage that desert locusts could inflict on pastures and crops can result in the deterioration of an already alarming security situation. For instance, more than one third of the population of former Eastern Equatoria State was estimated to face IPC Phases 3: "Crisis", and 4: "Emergency" food insecurity levels in late 2019 due to the lingering impact of the prolonged conflict. A further spread northwards of the outbreak in the eastern Greater Upper Nile region could also have dramatic humanitarian consequences. The area is one of the worst affected by the conflict and with the highest levels of food insecurity, with about 2.8 million people (two thirds of the population) facing IPC Phases 3: "Crisis" and 4: "Emergency" food insecurity levels in August 2019. Subsequently, in late 2019, the region was subjected to widespread floods, the worst in decades, which caused severe crop, livestock and livelihood losses, and impaired the delivery of humanitarian assistance. As a result, the damage inflicted by locusts could result in the deterioration of an already dire food security situation. Due to the prevalent northward direction of winds linked to the Inter Tropical Convergence Zone expected until August, a spread southwards of the desert locust outbreak to most of Uganda and Southern Kenya is not likely.

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Enquiries may be directed to:

Global Information and Early Warning System (GIEWS)

Trade and Markets Division (EST)

Food and Agriculture Organization of the United Nations (FAO)

Viale delle Terme di Caracalla

00153 Rome, Italy

E-mail: GIEWS1@fao.org

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