

**Emergency Transboundary Outbreak
Pest (ETOP) Situation Report for
August with a Forecast till
Mid-October, 2014**

Summary

The Desert Locust (**SGR¹**) situation remained calm in winter, spring and summer breeding areas in the western outbreak region in August and only low density adults were reported in **Mauritania, Niger** and **Chad**, and a similar situation is highly likely in northern **Mali** where the ongoing security situation continuous undermining survey operations. No locusts were reported in Algeria, Libya, Morocco or Tunisia during this month.

In the central outbreak areas, hatching was reported in northeastern **Ethiopia** where a few mature copulating small swarms and 1st and 2nd instar hoppers were detected and controlled during August. Survey and control operations are in progress in **Ethiopia**. In **Sudan**, scattered low density solitary mature adults were detected in the summer breeding areas in Northern, River Nile, Khartoum, Kassla and Kordofan States. Breeding adults and 3rd instar hoppers were also reported in Wadi Half in northern **Sudan**, but control operations were not warranted during this period. No locusts were reported in Oman in August and adult groups and immature swarms were reported in northern Red Sea coast in **Yemen**, but could not be confirmed due to the absence of surveys.

¹ Definitions of all acronyms can be found at the end of the report.

The SGR situation remained calm in the eastern outbreak region and only a few scattered adults were reported along the **Indo-Pakistan** borders (DPPQS/India, FAO-DLIS).

Forecast: Breeding will likely continue in northeastern/northern **Ethiopia**. Limited breeding is also likely in **Sudan**, and Sahel West Africa where good to heavy rains fell recently. Small-scale breeding is likely along the **Indo-Pakistan** borders and slightly increase locust numbers during the forecast period, but significant developments are not likely.

OTHER ETOPS

Red (Nomadic) Locust (NSE): The NSE situation remained serious in August in **Tanzania, Mozambique** and **Zambia**. Adult concentrations and dense swarms were detected and controlled by air in 3,500 ha in **Malawi** by the Ministry of Agriculture and Food Security and the International Red Locust Control Organizations for Central and Southern Africa (IRLCO-CSA) with financial assistance from the UN/FAO. Surveys and preventive interventions are undermined in other outbreak countries due to lack of resources (IRLCO-CSA).

Forecast: NSE populations will likely further concentrate and form denser swarms in the areas where vegetation burning did not take place. Surveys remain essential to determine the likelihood of escaping swarms as well as to intervene and reduce the presence of residual populations in the outbreak areas. IRLCO-CSA is seeking assistance to abate any serious damage the pest could cause (IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust (LMC):

A late received report indicated that immature and gregarious swarms were detected and controlled in the Central and North outbreak and invasion areas during the 3rd dekad of June. As a result locust populations were significantly reduced during the 3rd dekad of June compared to the 2nd dekad. So far, the first phase of the three year multi-million dollar locust campaign program has controlled and/or protected close to 1,204,660 ha (~3 million acres) as of the end of June (DPV-FAO).

Forecast: The locust situation will continue to remain calm as breeding is not expected during the winter season (July to September). An aerial base will be maintained to ensure monitoring of the locust situation and carry out localized treatments if and when necessary (DPV-FAO).

Moroccan (DMA), Italian (CIT), Asian Migratory (LMI) Locusts in Central Asia and the Caucasus (CAC): A late received update indicated that the CIT and the LMI locusts were breeding and in Georgia, Kazakhstan and Russia and gregarious populations were reported in Kazakhstan in July. Control operations treated almost one million ha in CAC region during July. Operations are expected to continue in some Central Asian countries as well as in Georgia at least through mid-September, but have ended in Afghanistan, Azerbaijan, Tajikistan and Uzbekistan. Locust activities will end in most countries and only some CIT and LMI may appear in parts of the region (FAO-AGPP, OFDA/AELGA).

Tree locusts (*Anacridum* spp.): No new updates were received on the tree locust situation in Turkana, **Kenya** where control operations were carried out earlier (OFDA/AELGA).

Tree locusts cause substantial damage to fodder and commercial trees such as acacia species that produce gum Arabic, and other valuable products.

African Armyworm (AAW): AAW outbreaks were not reported in August in the southern Central or northern outbreak and or invasion countries (DLCO-EA, IRLCO-CSA).

Forecast: AAW activities may commence in the IRLCO-CSA region following the seasonal rains towards the end of the forecast period into November. Trap operators are reminded to service their traps and have their rain gages ready in the southern outbreak region prior to the onset of the rains (IRLCO-CSA, DLCO-EA, OFDA/AELGA).

Quelea (QQU): QQU bird outbreaks were reported in Naivasha and Rongai in Nakuru County in **Kenya** and in Mashonaland East, Mashonaland Central and Midland Provinces in **Zimbabwe**. Control operations were carried out in Naivasha using firebombs. Ground spraying was employed in **Zimbabwe** and aerial control operations were carried out in Mvomero in the Pwani region in **Tanzania** where QQU roosts were reported in sugarcane plantation and reeds (DLCO-EA, IRLCO-CSA).

Forecast: QQU birds are likely to be a problem to rice and wheat growers in Kisumu, Siaya, Kirinyaga and Nakuru

counties of Kenya, in Mara, Morogoro and Kilimanjaro Regions of Tanzania and in winter wheat growing areas in Zimbabwe (IRLCO-CSA, OFDA/AELGA).

OFDA/TAG's Pest and Pesticide unit (Assistance for Emergency Pest [Locust/Grasshopper] Abatement) will continue monitoring ETOP situations closely and issue alerts and monthly updates as well as provide advice as often as necessary. End summary

SGR frontline countries (FCs) in Northern Africa and Sahel West Africa, namely **Algeria, Tunisia, Morocco, and Libya and Chad, Mali, Mauritania, and Niger** have established autonomous national locust control units responsible for all SGR activities.

OFDA ETOP Activities and Impacts

- Contributions from OFDA and other donors enabled FAO to establish Pesticide Stock Management System (PSMS) in more than 50 countries around the globe. Thanks to the system, participating countries now can conduct regular inventories and make informed decisions to prevent unnecessary accumulations of obsolete stocks, avoid costly disposal operations, ensure safety of their citizens and protect their shared environment.
- OFDA-sponsored, three year program on scaling up community-based armyworm monitoring, forecasting and early warning (CBAMFEW) which was launched in FY 2013 is progressing well. The program aims at reducing the risk of armyworm threats to food security and livelihoods of

rural communities and vulnerable populations.

OFDA Senior Technical Advisor for Pesticides and Pests and Manager (STAPPM) for the AELGA project recently visited several localities in Ethiopia where CBAMFEW activities are being implemented. The advisor was pleased with farmer forecasters' ability to carry out project activities on their own with minimal or no supervision from agricultural staff. The three-year project is being managed by DLCO-EA and implemented in collaboration with national partners in Ethiopia, Kenya and Tanzania. The project has successfully launched a mobile based armyworm information collection and transmission by local farmers. This initiative is being introduced to Kenya and Tanzania and scaled up in Ethiopia. OFDA/TAG intends to expand this innovative technology to other armyworm affected countries and districts.

- OFDA continues its support for sustainable pesticide risk reduction initiatives through stewardship network (SPRRSN) programs by strengthening capacities of host-countries and partners to ensure safety of vulnerable populations and protect their assets and the shared environment against pesticide contamination.

OFDA/TAG has successfully launched two sub-regional SPRRSNs in Eastern Africa and the Horn. The Horn of Africa SPRRSN initiative has created a "model" Association dubbed as Pesticide Stewardship Association-Ethiopia (PSA-E) which is viewed as a boiler plate for future initiatives. OFDA is considering

expanding the SPRRSN initiatives to North Africa, West Africa, the Middle East, CAC and other regions. OFDA STAPPM recently visited PSA-N activities in Ethiopia and noted progresses and constraints among the implementer and the beneficiaries.

- OFDA continued its support for capacity strengthening as part of its DRR programs through a cooperative agreement with FAO. This program assists countries to mitigate, prevent, and respond to ETOP outbreaks and reduce such emergencies as well as helps avoid misuse and mishandling of pesticides, pesticide-incorporated materials and application platforms.
- OFDA DRR program aimed to strengthening national and regional capacities for ETOP operations in Central Asia and the Caucasus (CAC) is in progress. The program focuses on improving national and regional capacities for coordinated and joint locust monitoring, surveillance, reporting and to launch preventive interventions and minimize ETOP threats to food security and livelihoods.

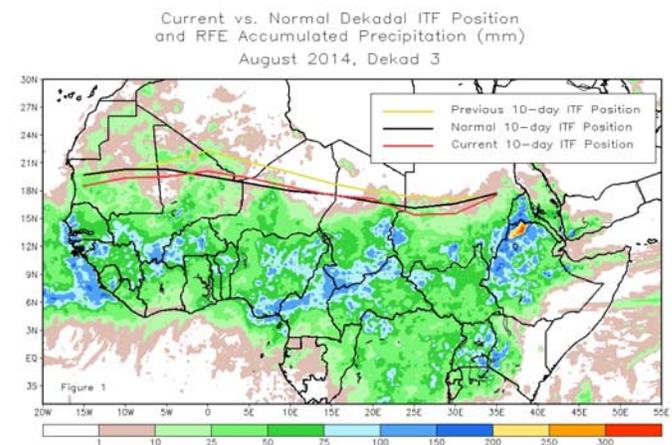
Note: All ETOP SITREPs, including the current one can be accessed on our websites:

<http://www.usaid.gov/what-we-do/working-crises-and-conflict/responding-times-crisis/how-we-do-it/humanitarian-sectors/agriculture-and-food-security/pest-and-pesticide-monitoring>

Detailed accounts of the weather and ecological conditions, ETOP situation and forecast for the next six weeks are discussed hereafter.

Weather and ecological conditions:

During the third and last dekad of August, 2014, the Inter-Tropical Front (ITF) progresses southwards in both eastern and western sections of Africa. This may be an indication that the Front may have ceased its northward migration for the season. The mean western portion of the ITF (10W to 10E) was approximated at 19.3N, about 0.1 degrees south of the climatological average position and 1.6 degrees south of the previous dekads position. While the ITF was located well south of the previous dekads position, it was close to climatology, resulting in more or less seasonal rainfall amounts across the Sahel.

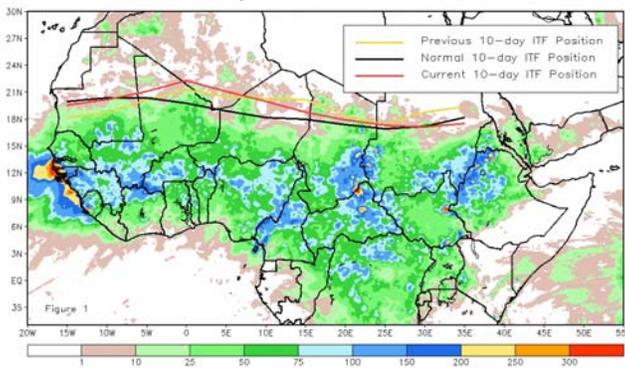


The mean eastern portion of the ITF (20E to 35E) was approximated at 16.4N, about 0.4 degrees south of the mean climatological position and 1.1 degrees south of the previous dekads position. This marked the second consecutive dekads where the ITF moved southward after reaching a peak northward position during the first dekad of August. The above map shows the current ITF position relative to the positions of climatology for the 3rd dekad of August, and its previous position during the 2nd dekad of August.

During the second dekad of August, 2014, the ITF continued its anomalous advancement throughout Sahel Africa, reaching its climatological highest position for the season.

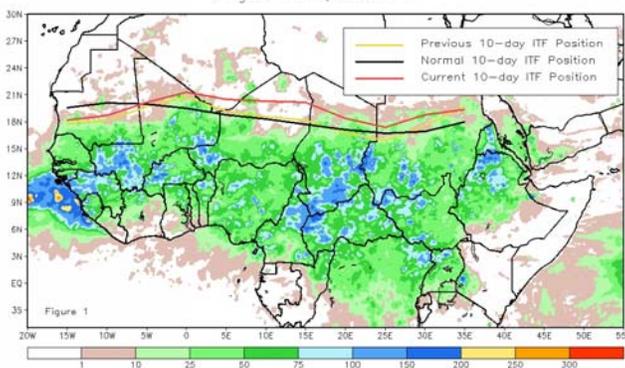
In the west (10W to 10E), the average ITF latitude was around 20.9N, nearly 1.5 N of the normal mean position of 19.5N for mid-August. This resulted in ample amounts of lower-level moisture as far north as southern Algeria, unusually heavy rainfall across many parts of northeastern Mali, and northwestern Niger. The ITF experienced an earlier than normal southerly retreat over parts of eastern Sudan (see Map below). However, many parts of western Sudan continued to receive heavy rainfall (NOAA, August, 2014).

Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)
August 2014, Dekad 2



During the first dekad of the month (1-10 August, 2014), the ITF significantly advanced across the Sahelian Africa compared to previous dekad. In the west (10W to 10E), the average ITF position was approximated at 20.3N leading the normal climatological mean position by 1.0 degree for this time of the month.

Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)
August 2014, Dekad 1



However, the ITF remained somewhat suppressed in the far west (15W to 5W) over parts of Mauritania, and Mali for the 2nd consecutive dekads. The anomalous northerly migration of the ITF in the west was associated with several consecutive days of robust southerly flow and ample moisture across Mali and Niger, leading to increased precipitation over arid southern Algeria. The mean eastern position of the ITF (20E to 35E) was approximated at 18.5N leading the climatological mean position of 17.2N by ~ 1.3 degree. The unusual northerly migration of the ITF in the east brought heavy rains and localized flooding throughout Sudan. The below map shows the current ITF position relative to its long-term average position during the 1st dekad of August and its position during the 3rd dekad of July

In **Yemen**, Desert Locust Information Office (DLIO) reported continued moderate to heavy rains with floods in most areas along the Red Sea and Gulf of Aden coastal plains during the first two dekads of August 2014. Light to moderate rain was also reported in wadi Hadhramout on 16 August and moderate to heavy rains with floods were reported in many DL breeding areas in Marib Governorate (1525N/4521E) on 18 August 2014.

The weather conditions in NSE outbreak areas remained dry during the month. Vegetation burning continued in all the outbreak areas. The vegetation burning concentrated locusts further into more dense swarms and adult concentrations (IRLCO-CSA).

Hot and dry weather prevailed throughout the Caucasus and Central Asia and light to heavy rains were recorded in Armenia, Kazakhstan and Russia in July. The natural vegetation was drying out or dry during August.

A late received report indicated that in Madagascar, as of the 3rd dekad of June, ecological in the valleys and low laying areas have become less and less favorable for locusts to persist and breed.

Note: Changes in the weather patterns contribute to ecological shift in ETOP habitats and can increase the risk of pest outbreaks, resurgence and even emergence of new pests.

Moroccan locust in Uzbekistan has shown a considerable vertical habitat expansion by up to 1,000 feet or 300 meters from its normal development altitude. The **Asian migratory locust** which was once known as univoltin (a single generation per year) in the recent past exhibited two generations per year. These phenomena are a serious concern to farmers' rangeland managers. Regular monitoring and timely reporting of anomalous manifestations in pest habitats and behavior remain essential.

End note.

DETAILED ACCOUNTS OF ETOP SITUATION AND A FORECASTS FOR THE NEXT SIX WEEKS

SGR - Western Outbreak Region: The SGR situation remained calm in winter, spring and summer breeding areas in the western outbreak region in August and only low density adults were reported in **Mauritania, Niger** and **Chad**, and a similar situation is highly likely in northern **Mali** where the ongoing security situation continuous undermining survey operations. In **Mauritania**, ecological conditions are favourable in the south and southeast and to some extent in the central parts of the country. However, only a few low density immature and mature solitary adults were detected during this period. No locusts were reported in Tunisia, Morocco, Algeria or Libya during this period (CNLA/Chad, CNLA/Mali CNLA/Mauritania, CNLA/Tunisia, CNLAA/Morocco, CNLA/Niger, FAO-DLIS, NCDLC/Libya)

Forecast: The situation will likely remain calm and only small-scale breeding may occur in areas of recent rainfall in **Mauritania, Mali, Niger** and **Chad**, but significant development is not likely in Algeria, Libya or Tunisia during the forecast period (CNLA/Chad, CNLA/Mali, CNLA/Mauritania, CNLAA/Morocco, FAO-DLIS, NCDLC/Libya).

SGR (Desert Locust) - Central Outbreak

Region: Favorable ecological conditions allowed locust activities to increase in Amhara and Afar region in northeastern **Ethiopia** during August. Swarms that reached these areas during June and July laid eggs in North and South Wolli and in north Showa, as well as in Chiara, Adar, Mille districts in Afar. Hatching began on 16th August, 2014 and hopper groups and bands started forming thereafter (see pictures). Five small mature swarms ranging in size from 1-5 km² and 1st and 2nd instar hoppers were detected during this month. DLCO-EA and MoA staff carried out control operations against mature adults from 13-16 August, 2014 and treated 100 ha with 100 liters of Ethiolathion 95% ULV (Malathion). Control operation were also continued against 1st and 2nd instar hoppers from 16th through 31st August and treated 300 ha in North Wollo, 525 ha in northern Showa and 307 ha in Afar. Handheld ULV sprayers and Knapsack sprayers were employed. DLCO-EA and MoA staff participated in the survey and control operation (DLCO 9/2014). A similar situation may be present in Tigray area in Ethiopia.

In **Sudan**, surveys were carried out in the summer breeding areas in Northern, River Nile, Khartoum, Kassla and Kordofan States during the third dekad of August and detected 335 ha of low density, 50-150 insects/ha, scattered solitary mature adults. Most of the areas surveyed were reported green and the soil was wet due to recent heavy rain (PPD/Sudan).



An email received from the **Yemeni** Desert Locust Information Office indicated that a few immature and mature adults were reported in wadi Hayran in northern Tihama northwest of **Suq Abs** (1600N/4312E) on 6th August. An immature and a mature swarm were also reported in Al Azaz area north west of **Tor Al Baha** (131037N/441806E) on 13th Aug 2014. The swarms were reported coming from southeast directions the same day. On August 16th, a swarm was reported arriving in Mokheras area northeast of **Zinjibar** (1306N/4523E) and left the area the next day (DLIO/Yemen). The presence of swarms and adult locusts in various areas could not be confirmed by ground or aerial survey.

Forecast: Hatching will likely continue in northeastern and northern **Ethiopia**. Small-scale breeding is likely in areas area between Darfur and the Red Sea Hills in **Sudan** and cause locust numbers to gradually increase. As the seasonal rains gradually fade away, ecological conditions will become unfavorable and force locusts to form concentrations of small groups (CDLCM/Yemen, DLCO-EA, FAO-DLIS).

SGR - Eastern Outbreak Region: The SGR situation remained calm in the summer breeding areas along the **Indo-Pakistan** border and only a few scattered adults were reported in these areas (DPPQS/India, FAO-DLIS).

Forecast: Small-scale breeding may occur and slightly increase locust numbers in areas of recent rainfall along the Indo-Pakistan border, but a major development is not expected during the forecast period (DPPQS/India, FAO-DLIS)

Red (Nomadic) Locust (NSE): The NSE situation remained serious in **Tanzania**, **Zambia** and **Mozambique** during August where swarms and locust concentrations persisted throughout the month. In **Malawi**, extensive surveys detected some 7,000 ha infested with dense swarms and concentrations in Lake Chilwa plains where aerial control

treated 3,500 ha with 5.000 l of Fenitrothion 96%. The IRLCO-CSA and the Malawi Ministry of Agriculture and Food security carried out control operations with financial assistance from the UN/FAO. The much needed surveys and control are undermined in other outbreak countries due to lack of resources (IRLCO-CSA).

Forecast: NSE populations will likely concentrated further and form denser swarms in the outbreak areas where vegetation burning did not take place. Surveys remain essential to determine the likelihood of swarms escaping and also to intervene and reduce the presence of residual populations in the outbreak areas. IRLCO-CSA is seeking assistance to abate any serious damage the pest could cause (IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust (LMC): A late received report indicated that during the 3rd dekad of June adult locusts damaged 10% of a 60 ha rice field in Kandrehoh as reported by the Head of Locust Control (RLA) for the Regional Directorate of Rural Development (DRDR) in Betsiboka. Immature and gregarious swarms were detected and controlled in the Central and Northern outbreak and invasion areas during this dekad reducing the populations significantly towards the end of June compared to the 2nd dekad of the month.

As of the 3rd dekad of June, the first phase of the three year multi-million dollar locust campaign program has controlled and/or protected close to 1,204,660 ha (~3 million acres) as of the end of June (DPV-FAO).

Resources: The multi-year, multi-million dollar campaign, financed by the Governments of Madagascar through a World Bank loan, Austria, Belgium, the European Union, France, Italy, Japan, Norway, the United Nations Central Emergencies Response Fund (CERF) and the United States of America has received USD 28.2 million in

cash from these countries. In addition, Algeria, Morocco and Mauritania have donated substantial quantities of pesticides worth millions of dollars as gift-in-kind. Based on the original appeal, an additional USD 15 million will be needed to effectively implement the three-year program (DPV-FAO).

Forecast: Swarms will remain solitary, the situation will be calm and breeding is not expected during the winter season (July to September). In the invasion areas, swarms are expected to continue northwest migration and may be joined by those from the grangerization zone. An aerial base will be maintained to ensure monitoring of the locust situation and carry out localized treatments if and when necessary (DPV-FAO).

Moroccan (DMA), Italian (CIT), Migratory (LMI) Locusts in Central Asia

and the **Caucasus (CAC)**: A late received update indicated that in July the CIT and the LMI locusts were seen breeding in Georgia, Kazakhstan and Russia and gregarious populations were reported in Kazakhstan. Control operations were carried out on nearly one million ha in CAC region during July, about 1/5th of the areas treated in June, 2014. Operations had ended in Afghanistan, Azerbaijan, Tajikistan and Uzbekistan, but are was expected to continue in some countries in northern Central Asian as well as in Georgia at least through mid-September (FAO-ECLO, OFDA/AELGA).

Forecast: Locust activities will stop in most of the CAC countries and only some CIT and LMI may appear in parts of the region (FAO-AGPP, OFDA/AELGA).

Tree locusts (*Anacridum* spp.): No new updates were received on the tree locust situation in Turkana, **Kenya** where control operations were carried out earlier with financial assistance from the UN/FAO (OFDA/AELGA).



(Locust prone CAC countries, FAO-ECLO)

Forecast: Tree locusts are not expected to pose a threat in Turkana, Kenya during the forecast period (OFDA/AELGA).

Timor and South Pacific: No update was received from East Timor in August.

African Armyworm (AAW): AAW outbreaks were not reported in August in the southern, Central or northern outbreak and/or invasion countries (DLCO-EA, IRLCO-CSA).

Forecast: AAW activities are not expected in the central and northern outbreak and invasion countries, including **Ethiopia, Kenya, Somalia, Eritrea or Tanzania** during the forecast period. The AAW season will commence in the southern outbreak areas following the onset of the seasonal rain that may start towards late October /November into early December. Forecasters in the southern region are advised to service their traps and rain gages and remain vigilant at all times (DLCO-EA, IRLCO-CSA, OFDA/AELGA).

Quelea (QQU): QQU birds were reported causing damage to wheat crops in Naivasha and Rongai in Nakuru County in **Kenya**. Outbreaks were also reported in Mashonaland East, Mashonaland Central and Midland Provinces in **Zimbabwe** as well as in Mvomero in the Pwani region in **Tanzania**. In Naivasha, control operations were carried out

using firebombs. Ground spraying was employed in **Zimbabwe**, and aerial operations were carried out in **Tanzania** where QQU roosts were reported in sugarcane plantation and in reeds. QQU activities were not reported in other invasion or outbreak countries during this period (DLCO-EA, IRLCO-CSA).

Forecast: QQU birds are likely to be a problem to irrigated rice and wheat growers in Kisumu, Siaya, Kirinyaga and Nakuru counties of Kenya, in Mara, Morogoro and Kilimanjaro Regions of Tanzania and in winter wheat growing areas in Zimbabwe (IRLCO-CSA, OFDA/AELGA).

Facts: *QQU birds can travel ~ 100 km/day looking for food. An adult QQU bird can consume 3-5 g of grain and perhaps destroy the same amount each day. A QQU colony can contain up to a million or more birds (very common) and is capable of consuming and destroying 6,000 to 10,000 kg of seeds/day, enough to feed 12,000-20,000 people for a day.*

Rodents: No rodent outbreaks reports were received during August. However, rodents remain a constant threat to cereal and other crops and produces in many countries and require regular surveillance and preventive interventions (OFDA/AELGA).

Front-line countries are advised to remain vigilant. Invasion countries are cautioned to maintain regular monitoring. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, and others are encouraged to continue sharing ETOP information with partners and stakeholders as quickly and as often as available. Lead farmers and community forecasters are encouraged to remain vigilant and report any ETOP sightings to concerned authorities immediately.

Inventories of National Stocks of Acridid Pesticides

Control operations treated 1,230 ha in Ethiopia during August and overall the pesticide inventory showed insignificant change (see below table). **Note:** Some inventories shown in the table are not necessarily current, as many countries tend to issue update after activities are concluded and/or use acidity pesticides for other pests. **End note.**

OFDA/AELGA encourages countries to continue exploring alternative options to prevent risks associated with pesticide stockpiling. OFDA promotes IPM as an alternative at all times. A judiciously executed triangulation of usable stocks from countries with large inventories to where they are much needed is a win-win situation worth considering.

Note: Sustainable Pesticide Stewardship Program is to strengthen the national and regional pesticide delivery systems by linking partners to help reduce pesticide related health risks as well as minimize and prevent environmental pollution and improve food security and contribute to the national and regional economy. **End note.**

Estimated Quantities of pesticides available for ETOP operations in frontline countries

Country	Quantities l/kg ^{\$}
Algeria	1,190,000~ ^D
Chad	43,400
Eritrea	-9,985~
Ethiopia	-2,672~
Libya	25,000
Madagascar	351,565~
Mali	32,000 ^D
Mauritania	49,000 ^D
Morocco	3,757,000~ ^D
Niger	42,805~
Oman	14,440
Senegal	156,000~ ^D

Sudan	773,214~
Tunisia	36,575~
Yemen	22,000@ + 300 kg GM~
<p>^{\$}Include different kinds of pesticides in ULV, EC and dust formulations ~ data not current</p> <p>^D = Morocco, Mauritania and Algeria donated/pledged 200,000, 25,000 l, and 30,000 l of pesticides to Madagascar in 2013; Mali donated 21,000 l for NSE to Malawi, Mozambique and Tanzania in 2012 and FAO facilitated the triangulation Mauritania donated 25,000 and 30,000 l of pesticides to Libya in 2012 and Madagascar 2013; GM = <i>GreenMuscle</i>TM (fungal-based biological pesticide); @includes donations from Saudi Arabia</p>	

LIST OF ACRONYMS

AAW	<i>African armyworm (Spodoptera expempta - SEX)</i>
AELGA	<i>Assistance for Emergency Locust Grasshopper Abatement</i>
AFCS	<i>Armyworm Forecasting and Control Services, Tanzania</i>
AfDB	<i>African Development Bank</i>
AME	<i>Anacridium melanorhodon</i>
APLC	<i>Australian Plague Locust Commission</i>
APLC	<i>Australian Plague Locust Commission</i>
CAC	<i>Central Asia and the Caucasus</i>
CBAMFEW	<i>Community-based armyworm monitoring, forecasting and early warning</i>
CERF	<i>Central Emergency Response Fund</i>
CIT	<i>Calliptamus italicus</i>
CLCPRO	<i>Commission de Lutte Contre le Criquet Pèlerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)</i>
CNLA/CNLAA	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>

CRC	<i>Commission for Controlling Desert Locust in the Central Region</i>
CTE	<i>Chortoicetes terminifera</i>
DDLC	<i>Department of Desert Locust Control</i>
DLCO-EA	<i>Desert Locust Control Organization for Eastern Africa</i>
DMA	<i>Dociostaurus maroccanus</i>
DPPQS	<i>Department of Plant Protection and Quarantine Services</i>
DPV	<i>Département Protection des Végétaux (Department of Plant Protection)</i>
ELO	<i>EMPRES Liaison Officers</i>
EMPRES	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>
ETOP	<i>Emergency Transboundary Outbreak Pest</i>
Fledgling	<i>immature adult locust /grasshopper that has pretty much the same phenology as mature adults, but lacks fully developed reproductive organs and hence cannot breed</i>
GM	<i>Green Muscle (a fungal-based biopesticide)</i>
ha	<i>hectare (= 10,000 sq. meters, about 2.471 acres)</i>
	<i>Integrated Regional Information Networks</i>
IRLCO-CSA	<i>International Red Locust Control Organization for Central and Southern Africa</i>
ITCZ	<i>Inter-Tropical Convergence Zone</i>
ITF	<i>Inter-Tropical Convergence Front = ITCZ)</i>
FAO-DLIS	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>
Hoppers	<i>young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)</i>
Hopper bands	<i>groups of hoppers aggregated and marching in unison and pretty much in the same direction</i>

<i>Kg</i>	<i>Kilogram (~2.2 pound)</i>
<i>L</i>	<i>Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)</i>
<i>LMC</i>	<i>Locusta migratoriacapito</i>
<i>LMM</i>	<i>Locusta migratoria migratorioides (African Migratory Locust)</i>
<i>LPA</i>	<i>Locustana pardalina</i>
<i>MoAFSC</i>	<i>Ministry of Agriculture, Food Security and Cooperatives</i>
<i>MoARD</i>	<i>Ministry of Agriculture and Rural Development</i>
<i>NCDLC</i>	<i>National Desert Locust Control, Libya</i>
<i>NOAA</i>	<i>National Oceanic and Aeronautic Administration</i>
<i>NSD</i>	<i>Republic of North Sudan</i>
<i>NSE</i>	<i>Nomadacris septemfasciata</i>
<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>
<i>PHD</i>	<i>Plant Health Directorate</i>
<i>PHS</i>	<i>Plant Health Services, MoA Tanzania</i>
<i>PPD</i>	<i>Plant Protection Department</i>
<i>PPSD</i>	<i>Plant Protection Services Division/Department</i>
<i>PRRSN</i>	<i>Pesticide Risk Reduction through Stewardship Network</i>
<i>QQQU</i>	<i>QQUelea QQUelea</i>
<i>SARCOF</i>	<i>Southern Africa Region Climate Outlook Forum</i>
<i>SGR</i>	<i>Schistoseca gregaria</i>
<i>SWAC</i>	<i>South West Asia DL Commission</i>
<i>TAG</i>	<i>Technical Assistance Group</i>
<i>Triangulation</i>	<i>The process whereby pesticides are donated by a country or countries, with large inventories with no immediate need, to a country or countries with dire need and a third party steps into the negotiation table and assists with shipments, etc. Usually FAO plays the third party role.</i>
<i>USAID</i>	<i>Unites States Agency for International Development</i>
<i>UN</i>	<i>the United Nations</i>
<i>ZEL</i>	<i>Zonocerus elegans, the elegant grasshopper</i>

ZVA *Zonocerus variegatus, the variegated grasshopper; this insect is believed to be emerging as a fairly new distractive dry season pest, largely due to the clearing of its natural habitat through deforestation, i.e. land clearing for agricultural and other development efforts.*

Who to Contact:

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