Situation Update on Emergency Transboundary Outbreak Pest (ETOP) for August, 2017 with a Forecast till mid-October, 2017

Un résumé en français est inclus

SUMMARY

The **Desert Locust** (*Schistoseca gregaria* - **SGR**[1]) situation remained calm in the Western Outbreak Region (**WOR**) in August. Only a few solitary adults and very limited breeding were reported during this month.

In the Central Outbreak Region (**COR**), low density solitary immature and mature adults were detected in summer breeding areas in **Sudan**, but no locusts were reported elsewhere in the COR. Surveys were not possible in **Yemen** due to ongoing situation.

In the Eastern Outbreak Region (**EOR**), low numbers of adult locusts were detected in summer breeding areas along the **Indo-Pakistan** borders during August.

Forecast

In **WOR**, limited breeding is likely in areas where ecological conditions are favorable in **Mauritania**, **Mali**, **Niger**, and **Algeria,** but significant developments are not expected during the forecast period.

In **COR**, small-scale breeding is likely in the interior of **Sudan** and **Yemen**, but no major development is expected during the forecast period.

In **EOR**, limited SGR activities are likely in summer breeding areas along **Indo-Pakistan** borders, significant development are not likely during the forecast period.

Red (Nomadic) Locust (*Nomadacris septemfasciata*) **(NSE):** NSE situation remained a concern as high density swarms and concentrations persisted in the primary outbreak areas in **Tanzania**, **Malawi**, **Mozambique** and **Zambia**.

Fall armyworm (FAW) *(Spodoptera frugiperda)* ***(SFR***): SFR infestations were reported in **Cameroon**, **Ethiopia, Kenya**, **Ghana, South Sudan, Uganda, Tanzania,** and **Zimbabwe** in August **(for further detail, *please, see pages 8-12)***.

The African Armyworm (AAW): AAW outbreaks were reported in **Eritrea** from late July through mid-August. Control operations were carried out by the MinAgri and the regional administrations (DLCO-ERA).

Italian (*CIT*), Moroccan (*DMA*), Asian Migratory (*LMI*) Locusts: No update was received at the time this report was compiled, however, it is likely that DMA activities are winding down in most of the countries while CIT and LMI may have continued laying eggs and/or fledging in some countries during August (OFDA/PSPM).

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

***Note: Tomato leaf miner (Tuta absoluta - TAB** a pest native to the tropical South America and alien to the African continent was first detected in Sprain in 2006. It has since reached dozens of countries across Africa, Europe, Mediterranean, Middle East, Asia and Pacific.*

*In Africa, TAB was first detected in 2008 and has since spread to over 16 countries stretching from North Africa to Central West Africa to East Africa and to Southern Africa. It will continue spreading over much of the continent and affect tomatoes and other fruits and vegetables. This pest is expected to be on AU phytosanitary quarantine pest list along with SFR **End note.***

***Quelea* (QQU)**: QQU bird outbreaks were reported causing damage to small grain crops in **Ethiopia** and **Zimbabwe** during August (DLCO-EA, IRLCO-CSA).

In areas where ETOP activities persist, active surveillance and timely preventive interventions are essential to abate any threats these pests pose to crops and pasture.

USAID/OFDA/PSPM** regularly monitors ETOPs in close collaboration with its network of national PPDs/ DPVs, Migratory Pest Units and international and regional organizations, including FAO, CLCPRO, CRC, DLCO-EA, IRLCO-CSA and provides timely analytical reports, updates and advices to HQ, field staff, partners and other stakeholders as often as necessary. **End summary

RÉSUMÉ

La situation du Criquet pèlerin (Schistoseca gregaria - SGR) est restée relativement calme dans la région de Western Outbreak (**WOR**). Seuls quelques adultes solitaires et reproductions très limitées ont été signalés en août.

Dans la Région d'éclosion centrale (**COR**), des adultes immatures et adultes matures de faible densité ont été détectés dans les zones de reproduction estivale au **Soudan**, mais aucun Criquet pèlerin n'a été signalé ailleurs dans le COR. Des enquêtes n'étaient pas possibles au Yémen en raison de la situation en cours.

Dans la région de l'évasion de l'Est (**EOR**), un nombre faible de criquets adultes ont été détectés dans les zones d'élevage d'été le long des frontières indo-pakistanaises en août.

Prévisions:

Dans **WOR**, une reproduction limitée est probable dans les régions où les conditions écologiques sont favorables en **Mauritanie**, au **Mali**, au **Niger** et en Algérie, mais des activités importantes sont peu probables pendant la période de prévision.

En **COR**, l'élevage à petite échelle est probablement à l'intérieur du Soudan

et du Yémen, mais des activités importantes ne sont pas probables pendant la période de prévision.

Dans **EOR**, les activités limitées de SGR sont probablement dans les zones d'élevage d'été le long des frontières **indo-pakistanaises**, mais un développement important n'est pas probable pendant la période de prévision.

Rouge (Nomadic) Locust (Nomadacris septemfasciata) (NSE): la situation de NSE restait préoccupante, car des essaims et des concentrations de haute densité persistaient dans les zones d'épidémies primaires en **Tanzanie**, au **Malawi**, au **Mozambique** et en **Zambie**.

Goutte de l'armée de l'automne (FAW) (*Spodoptera frugiperda*) (SFR): des infestations de SFR ont été signalées au **Cameroun**, en **Éthiopie**, au **Kenya**, au **Ghana**, au **Sud-Soudan**, en **Ouganda**, en **Tanzanie** et au **Zimbabwe** pendant (pour plus de détails, allez aux pages 9-13).

Cheille Légionnaire (AAW): Des épidémies AAW ont été signalées en Érythrée de la fin de juillet à la mi-août. Les opérations de contrôle ont été effectuées par MinAgri et les administrations régionales (DLCO-ERA).

Italien (CIT), Marocaine (DMA), Migrateurs asiatiques (LMI)

Criquets: Aucune mise à jour n'a été reçue au moment où ce rapport a été compilé, mais il est probable que les activités de DMA se dégradent dans la plupart des pays, alors que le CIT et l'IMT ont probablement continué la ponte et / ou la fuite dans certains pays en août (OFDA / PSPM) .

Note: Le mineur de feuilles de tomates (**Tuta absoluta - TAB**, un peste originaire de l'Amérique du Sud tropicale et étranger au continent africain a été détecté pour la première fois à Sprain en 2006. Il a déjà atteint des dizaines de pays à travers l'Afrique, l'Europe, la Méditerranée, le Moyen-Orient, l'Asie et le Pacifique.

En Afrique, le **TAB** a d'abord été détecté en 2008 et s'est propagé depuis plus de 16 pays s'étendant de l'Afrique du Nord à l'Afrique Centrale-Orientale en Afrique de l'Est et en Afrique australe. Il continuera à se répandre sur une grande partie du continent et affectera les tomates et autres fruits et légumes. On s'attend à ce que ce parasite ait été ou soit sur la liste des organismes nuisibles de quarantaine phytosanitaire de l'UA ainsi que sur la note de fin SFR.

Quelea (QQU): des oiseaux QQU ont été signalés causant des dommages aux petites cultures céréalières en Éthiopie et au Zimbabwe en août (DLCO-EA, IRLCO-CSA).

Dans les domaines où les activités ETOP persistent, une surveillance active et des interventions

préventives en temps opportun sont essentielles pour réduire les menaces que ces organismes nuisibles posent aux cultures et aux pâturages.

L'USAID / OFDA / PSPM surveille régulièrement les ETOP en étroite collaboration avec son réseau de PPD / DPV nationaux, les unités de lutte antiparasitaire et les organisations internationales et régionales, y compris la FAO, le CLCPRO, le CRC, le DLCO-EA, l'IRLCO-CSA et fournit des rapports analytiques, des mises à jour et des conseils au QG, au personnel de terrain, aux partenaires et aux autres parties prenantes aussi souvent que nécessaire. Résumé final

L'USAID / OFDA / PSPM surveille en permanence les ETOP en étroite collaboration avec son réseau de PPD / DPV nationaux, les unités de lutte antiparasitaire et les organisations internationales et régionales, y compris la FAO, CLCPRO, CRC, DLCO-EA, IRLCO-CSA et fournit des rapports analytiques, des mises à jour Et des conseils au QG, au personnel de terrain, aux partenaires et aux autres parties prenantes aussi souvent que nécessaire. **Résumé final**

OFDA's Contributions to ETOP Activities

The online Pesticide Stock Management System (PSMS) that was developed with financial assistance from USAID/OFDA and other partners has been installed in some 65 countries around the globe and is helping participating countries maintain inventories. Thanks to this tool many counties have been able to avoid unnecessary procurements and stockpiling of pesticides and helping them avoid costly disposal operations and improve safety and well-being of their citizens and shared environment.

The USAID/OFDA funded community-based armyworm monitoring, forecasting and early warning (CBAMFEW) project that was concluded last September has been incorporated in the annual work plan of the national crop protection departments in all participating countries **http://bit.ly/1C782Mk**. The project enabled farmers to detect and report AAW and prevent major crop/pasture damage. Participating countries continue expressing their gratitude for having the project implemented in their countries. USAID/OFDA/PSPM will maintain a line of communication with participating countries and monitor progresses.

OFDA/PSPM is working with other interested parties to explore means and ways to expand this innovative technology to other AAW affected countries and benefit farmers and rural communities.

OFDA/PSPM's interests in sustainable pesticide risk reduction in low income countries to strengthen their capacities and help improve safety of vulnerable populations and shared environment continued. It intends to expand this initiative to other parts of Africa, the Middle East, CAC, etc., as needed. OFDA continued its support for DRR programs to strengthen national and regional capacities for ETOP operations. The program which is implemented through FAO has assisted several frontline countries to mitigate, prevent, and respond to ETOP outbreaks. It has

helped participating countries avoid from misuse and mishandling of pesticides, pesticide-incorporated materials and application platforms.

USAID/OFDA-sponsored project implemented by FAO to strengthen national and regional capacity for locust control and prevention and help more than 25 million people in Caucasus and Central Asia (CAC) live of agriculture and livestock ended this month. The project has promoted and created collaboration among neighboring countries for joint monitoring, surveillance, reporting and preventive interventions for three major locust species in the region. Thanks to this project, dozens of technical staff from ***Sahel West Africa, Northwest Africa, Eastern and Northeastern Africa, CAC****, and the* ***Middle East*** *were trained in health and safety of rural communities and* Environmental Monitoring in ETOP operations and PSMS management.

Note: *ETOP SITREPs can be accessed on USAID Pest and Pesticide Management website: USAID/OFDA PPM Website*

Weather and Ecological Conditions

WOR: In **Mauritania**, ecological conditions continue improving as the soil moisture is closer to the surface of the ground and vegetation cover is developing in most parts of the country where good rains were reported. In **Mali**, good amount of rainfall significantly improved ecological conditions in most of the summer breeding areas during August. Rainfall was heavier in Konobougou, Barouéli, Bla, Kayes and Baguinéda where 144 mm, 102 mm, 84 mm, 60 mm and 50 mm, respectively were recorded in just a single rain. The localities of Kayes, Yélimané and Yanfolila received normal to above normal amount. The cumulative rainfall recorded from May 1 to August 20, 2017 remains normal to above normal relative to the seasonal average, but slightly less than or equal to that of 2016. As a result, annual and perennial vegetation continued further developing. Ecological conditions remained favorable in some areas in southern **Algeria** and in Zizi and Ghris Valley in southeastern **Morocco** during August (CNLP/Mali, CNLA/Mauritania, CNLAA/Morocco, CNLA/Tunisia, FAO-DLIS, NCLC/Libya).

COR: In COR, good rains were reported in summer breeding areas from the western to the eastern parts of **Sudan**. Good to light rains also fell in **Yemen** during previous month and in August (DLMCC/Yemen, DLMC/Oman, FAO-DLIS, PPD/Sudan).

EOR: Only light showers were reported in parts of the **Indo-Pakistan** border during August. However, ecological conditions remained favorable from previous good rains (FAO-DLIS).

NSE Outbreak Region: Warm and dry conditions prevailed in the NSE outbreak areas during August. Vegetation burning continued in most of the NSE outbreak areas except in the Kafue Flats in **Zambia** where extensive flooding from previous rains and minimal grass burning allowed vegetation to remain green and lush (IRLCO-CSA).

Note*: Combinations of precipitation, warm weather and green vegetation MUST be closely watched as this mix coupled with the seasonal wind trajectory can favor, breeding and facilitate*

*migration and further spread of the new pest – **Fall Armyworm**. **End note.***

http://www.cpc.ncep.noaa.gov/products/international/casia/casia_hazard.pdf

***Note:** Changes in the weather pattern and the rise in temperature can contribute to ecological shift in ETOP habitats and increase the risk of pest outbreaks, resurgence and emergence of new pests. In Uzbekistan, Moroccan locust (DMA) which is normally a low to medium altitude pest has shown a considerable vertical habitat expansion by up to 1,000 feet or 300 meters from its normal ambient altitude due to warmer higher elevations.*

*The **Asian migratory locust**, an insect that bred just once a year, recently began exhibiting two generations per year. These anomalous manifestations and phenomena, which are largely attributed to the change in the weather pattern and associated ecological shift, are a serious concern to farmers, rangeland managers, crop protection experts, development and humanitarian partners and others. Regular monitoring, documenting and reporting anomalous manifestations in pest behavior and habitat remain critical to help avoid and minimize potential damages to crops, pasture and livestock and reduce subsequent negative impacts on food security and livelihoods of vulnerable populations and communities. **End note.***

Detailed Accounts of ETOP Situation and Forecast for the Next Six Weeks

SGR – WOR: The SGR situation remained generally calm in WOR during August. Only low numbers of adults were detected in northern **Mauritania** and **Niger** and small-scale breeding occurred in the summer breeding areas in **Niger** and near irrigated areas in central Sahara of **Algeria** during August. Isolated individuals may be present in southern and southeastern **Morocco**, but no locusts were reported in **Libya, Mali**, or **Tunisia** during this month (CNLP/Mali, CNLA/Mauritania, CNLAA/Morocco, CNLA/Libya, CNLA/Tunisia, FAO-DLIS).

Forecast: Drying up of vegetation will force locust to concentrate and perhaps start breeding on small-scale in parts of **Mauritania, Niger, Mali**, **Chad** and perhaps in central Sahara of **Algeria**, but significant developments are not expected during the forecast period (CNLP/Mali, CNLAA/Morocco) (CNLA/Mauritania, CNLA/Libya, CNLA/Tunisia, FAO-DLIS).

SGR (Desert Locust) - COR: Survey operations detected a few solitary immature and mature adults in summer breeding areas in the interior of Sudan during August. Surveys were carried out in Musandam and Dakhiliya regions in **Oman** in August, but no locusts were detected. Surveys were not possible in **Yemen** due to the ongoing security situation and the locust situation remains unclear although adults may be breeding on a small-scale in areas where rainfall occurred. No locusts were reported in Eritrea, Ethiopia, Somalia, Djibouti, or Saudi Arabia during August (DAF/Djibouti, DLCO-EA, FAO-DLIS, LCC/Oman, PPD/Sudan).

Forecast: As vegetation starts to dry out, locusts will likely concentrate and form small groups and begin breeding on a small-scale in **Sudan** and perhaps in **Yemen** as well, but significant developments are not likely during the

forecast period (FAO-DLIS, LCC/Oman, PPD/Sudan).

SGR - EOR: The SGR situation remained calm in the EOR during August and only low numbers of adults were detected along the **Indo-Pakistan** border in areas were ecological conditions remained favorable due to moderate to good rains that fell during previous month and light rains that were reported during August (FAO-DLIS).

Forecast: In EOR, only limited SGR activities are likely in summer breeding areas along the **Indo-Pakistan** borders, but otherwise the situation will remain calm during the forecast period (FAO-DLIS).

Active monitoring, timely reporting and preventive interventions remain critical to abate any major developments that could pose serious threats to crops and pasture in areas where locust activities are present.

*The **USAID/OFDA-FAO-DLCO-EA** sponsored emergency desert locust management project for the Horn of Africa is showing progress. Technical and material supports that have been provided to participating frontline countries are strengthening capacity to better monitor, report, prevent, and abate locusts in the sub-region.*

Red (Nomadic) Locust (NSE): NSE situation remained a concern as high density swarms persisted in the primary outbreak areas in Ikuu-Katavi plains and Malagarasi Basin in **Tanzania**; Lake Chilwa/Lake Chiuta plains and Mpatsanjoka Dambo in **Malawi** and in Kafwe Flats in **Zambia**.

Forecast: If left uncontrolled, it is highly likely that swarms will persist till the start of the next breeding season in November December. If so, a potentially high level of egg laying and larger outbreaks will occur next year. Swarms can also escape and invade adjacent areas. Concerted efforts are required to carry out active surveillance, scouting, monitoring and to the extent possible, implement preventive interventions in the outbreak areas and abate further spread (IRLCO-CSA, OFDA/PSPM).

Dense populations of ***Cataloipus* sp.** of grasshopper persisted in the Kafue flats in **Zambia** during August. The pest was reported causing damage to maize crops. No additional detail was available at the time this report was compile (IRLCO-CSA).

IRLCO-CSA, the only regional entity in the southern Africa ETOP outbreak region with the mandate to survey, monitor, help prevent and control locusts, armyworm and quelea birds, continues appealing to its member-states to avail resources to carry out timely surveillance and control interventions. It is in the interest of all concerned countries and partners that IRLCO-CSA member-states choose to respond to the Organization's appeal for resources to prevent these pests successfully and contributing to food security of vulnerable populations (IRLCO-CSA, OFDA-AELGA).

Madagascar Migratory Locust (LMC): No update was received at the time this report was compiled, but locust activities are expected to have continued winding down during this month.

www.fao.org/emergencies/crisis/madagascar-locust/en/.

http://www.fao.org/emergencies/resources/videos/video-detail/en/c/430729/

Italian (CIT), Moroccan (DMA) and Migratory (LMI) Locusts in Central Asia and the Caucasus (CAC): No update was received at the time this report was compiled, however, it is likely that DMA activities are slowing down in many countries while CIT and LMI may have continued egg laying and/or fledging in parts of the CAC in August (OFDA/PSPM).

Forecast: It is expected that locust activities will come to an end during the forecast period and the situation will remain calm till next spring (OFDA/PSPM).

Note: Italian, Migratory** and **Moroccan locusts** and some grasshopper species are a constant threat to the CAC region. They profusely multiply and attack tens of millions of hectares of crop and pasture and adversely affect food security and livelihoods of more than 20 million vulnerable inhabitants that eke out a living primarily from farming and herding. With the ability to travel more than 100 km (60 miles) each day, these locusts can decimate dozens of hectares of cereal crops, pasture, cotton, fruit trees, leguminous plants, sunflower, tobacco, vineyard, vegetable and others over vast areas. Many CAC countries affected by these locusts lack robust and well established capacity to effectively prevent and control these pests, but do their level best and invest tremendous amounts of resources to keep these pests under control. USAID/OFDA has been supporting a DRR program to strengthen national and regional capacity to help abate these beasts (for further detail, refer to page 6, column two paragraph two). **End note.

Fall armyworm (FAW) (Spodoptera frugiperda) (SFR): SFR continued affecting late planted and/or irrigated maize crops in **Ethiopia, Kenya, Ghana, South Sudan, Uganda,** and **Zimbabwe** during August. The pest continues spreading and invading new territories where it causes damage to cereal crops etc. It was reported in **Burkina Faso**, **Cape Verde**, **Mali**, and **Niger** and its presence in the **Gambia, Sierra Leone** and **Senegal** is being debated (FAO/SSD, IRLCO-CSA, OFDA/PSPM, PPD/Ethiopia, IRLCO-CSA).

***(Note: Inexperienced observers can confuse SFR caterpillars with the indigenous African Armyworm* or other caterpillars that often attack maize and other crops in much the same way. End note)**

FAW was reported attacking maize, sorghum, rice, peanuts, cowpeas and beans in six of **Cameroon**'s ten regions. The pest poses a serious threat to the northern part of the country in areas bordering **Nigeria** where more than 100,000 refugees fleeing Boko Haram reside. Cameroon has launched a task force to tackle the FAW problem. In an effort to control the pest and save their meager resources, farmers are using pesticides, but MinAgri technicians are advising them to look for alternative tools. As the pest continues spreading east towards **Central African Republic**, a county already struggling with complex emergencies, the

situation will be further complicated (VOA).

In **Ethiopia** as of August 24, 2017 (Nehasie 18, 2009 E.C.), 2,931,178 ha of maize and sorghum were reported planted in more than 7,524 villages in 401 districts in Amhara, Benishangul Gumuze, Gambela, SNNPR and Tigray. Re-infestations were also reported in Benishagul–Gumuze region. In SNNPR, the pest was reported attacking *Teff* (*Eragrostis tef*) (*Teff is a gluten-free grain loaded with generous nutritional value and a* primary staple grain in the central highland regions of the Ethiopia) More than 685,004 ha were reported infested with FAW and 647,352 ha were reported controlled (282,648 by chemical and 364,702 ha by other means). Close to 1.5 million people, mainly farmers, have been mobilized in scouting and control operations (OFDA/PSPM, PPD/Ethiopia).

SFR (FAW) larva (file photo K State R and E)

Forecast: SFR will continue attacking late planted and/or irrigated crops in Ethiopia, Kenya, South Sudan, Tanzania, Uganda, Cameroon, CAR and may appear in Sudan and Eritrea. *In the southern Africa outbreak region, SFR will likely attack irrigated crops.*


Maize plant damaged by SFR (PPD/SSD, July, 2017)

*FAW was first reported in southcentral West Africa – **Nigeria, Benin, Sao Tome** and **Principe,** and **Togo** and later in **Ghana**, and **Cameroon**. The FAW larval specimens that were collected in **Togo** where identified by USDA/ARS scientists as similar to those that exist in Central America and southeastern states of the United States (i.e., Florida, etc.) (Nagoshi et al. 2017). It has yet to be determined whether caterpillars that affected crops in Southern Africa, Eastern Africa and central Africa were the same as those identified in Togo or Nigeria or belong to different haplotypes.*

***Note:** FAW adult moth can travel up to 100 km/day looking for favorable conditions for breeding and foraging. It has the capacity to reach more than 1,000 km during its life and even further with the support of strong storms and trade winds.* The likelihood of this pest appearing more often is high due to its ability to bypass diapaus and continuously breed under ideal ecological conditions. This will be exacerbated by the presence of late planted and irrigated

maize and other crops in different regions across the continent. However, a comprehensive assessment of its impact on crops and pasture has yet to be studied. Meanwhile, efforts should be made at all levels to remain vigilant and implement appropriate interventions to the extent possible. *Countries that have installed pheromone and other traps are urged to continue managing the traps and reporting on moth catches. Field inspection and extension staff as well as farmers scouts are encouraged to remain vigilant and inspect crops to determine the presence of the pest in their respective regions and share pest information as quickly and regularly as possible.* ***End note.***

If established on the continent, a phenomenon that appears to be highly likely given the nature of the pest and the favorable ecological and climatological conditions in many countries across the continent, this aggressive and fast spreading pest will likely continue affecting agricultural production across the continent and threaten food security and livelihoods of tens of millions of households.

As a new pest to the continent, extensive studies are required to better understand its biological behavior, host preference, habitat selection, migration range and pattern, and competition between indigenous species, etc., all of which will help develop effective control tools. Awareness raising and training and empowering local communities, agricultural agents and other concerned entities are essential for effective identification, detection surveillance, monitoring as well as to implement preventive and curative control interventions.

Cultural control, such as intercropping maize with beans have been reported reduced SFR infestation by 20-30 percent (CIMMYT, 2017) and such methods should be experimented and tried out. As part of a long-term preventive and curative control options, identification and selection of resistance crop varieties remain critical to implement as part of inclusive and sustainable pest management strategies.

The search and research for biological control tools – parasitoids, parasites, predators, pathogens (e.g., birds, insects, and other animals could predate on SFR and must be aggressively searched for).needs to be encouraged to help develop an array of control tools in a tool box.

So far, different estimates of SFR damage have been suggested on maize in sub-Saharan Africa over the past several months, but comprehensive loss assessments have yet to be concluded as harvests have not come in in several countries. A preliminary Evidence Note from CABI estimates a potential damage of 13.5 million tons of maize (valued at US$3 billion). The Evidence Note estimates a predicted total loss of more than USD 13.38 billion in maize, sorghum, rice and sugarcane – mostly rice paddy, maize and sugarcane. This information document is being revised to reflect an ongoing and evolving situation of the SFR.

FAW is not a single farmer or a single community or a single village or even a single country pest. It is a trans-regional pest that needs public efforts, more so in almost all of sub-Saharan Africa. Abating, preventing and effectively managing and/or controlling it would require well

organized, concerted beyond-a-single-country efforts.

Actions being taken to abate threats of SFR (FAW) to food security and livelihoods of millions of farmers across Africa and perhaps beyond

Host-countries across the continent have taken the leading role in assisting affected farmers and communities in the implementation of prevention and curating control interventions. Technical, material and modest financial assistance from different stakeholders have also been instrumental in strengthening affected countries' capacity to identify, assess and implement control interventions.

USAID Actions: USAID has established an intra-agency working group on fall armyworm and brings together experts from USAID, USDA, US Land Grant US Universities, State Department, and several others. The Working Group meets and discusses the ongoing SFR situation, analyzes reports and information, charts the course for better and effective contributions to preventive and curative interventions from USAID and other GoS entities. It also tracks the FAW situation, actions taken or planned from within and outside the Agencies and shares info and collaborates with different stakeholders across a wide spectrum.

USAID Office of U.S. Foreign Disaster Assistance (OFDA) will soon be co-sponsoring a project to be implemented by UN/FAO, the Desert Locust Control Organization for the Eastern Africa (DLCO-EA), Center for Agriculture and Biosciences International (CABI), International Center for Insect Physiology and Ecology (ICIPE) and of course, National Crop Protection Departments and National Agricultural Research Organizations. The project is aimed at strengthening national and regional capacities and empowering farmers and local communities to better monitor, scout, forecast, prevent and control FAW outbreaks.

USAID/OFDA in collaboration with USAID/BFS is sponsoring a project to *develop and distribute a comprehensive expert-vetted standardized manual for fall armyworm management to be implemented* through a consortium led by the International Center for Maize and Wheat Improvement *(CIMMYT).* The two projects will complement and strengthen training and capacity strengthening, community-empowerment, and effective SFR prevention and control interventions. They will also augment and streamline relevant action items from the continent-wide FAW Nairobi and other similar meetings.

USAID/OFDA supported field assessments on impacts of FAW on maize crops in Southern Africa and FAW monitoring and surveillance in the region through its drought response program.

USAID-funded Integrated Pest Management Innovation Lab, a two-day awareness and management workshop in Addis Ababa, Ethiopia in collaboration with ICIPE. Over 75 representatives from international organizations, governments, and missions participated in the workshop.

UN/FAO regional and sub-regional offices in southern, eastern and western Africa conducted training in FAW for national crop protection officers and

others in affected countries across Africa. It has also convened technical expert workshop, donors' awareness/appraisal meeting and training workshop on Farmers Field School at its regional in Accra, Ghana. FAO held regional and trans-continental workshops and meetings, including those in Zimbabwe in February and Nairobi in April, 2017 in collaboration with national, regional and international partners and FAW experts to discuss the ongoing FAW situation, factors that lead to the ongoing situation and explore means and ways for effective implementation of sustainable FAW management interventions in close collaboration with national, regional international partners. Other UN Offices (OCHA), partners and stakeholders (e.g. AGRA, CABI, CIMMYT, DiFID, DLCO-EA, ICIPE, etc.) provided and continue providing technical and material support to help address the SFR problem.

Useful websites on fall armyworm

Armyworm Network: A web resource for armyworm in Africa and their biological control:
http://www.lancaster.ac.uk/armyworm/
Latest African and Fall Armyworm Forecast from IRLCO-CSA - 5th Jul 2017:
http://www.lancaster.ac.uk/armyworm/forecasts/?article_id=002971

Invasive Species Compendium Datasheets, maps, images, abstracts and full text on invasive species of the world:
http://www.cabi.org/isc/datasheet/29810

Drought and armyworm threaten Africa's food security:
http://www.theeastafrican.co.ke/news/Drought-and-armyworm-threaten-Africa-food-security/2558-3996692-ggws8q/index.html

African Armyworm (AAW): From mid-August on, 3,450 ha were infested in Anseba, Gash-Barka as well as Southern and Central regions in **Eritrea** and control operations were launched by MinAgri and the regional admins. A late received report indicated that AAW outbreaks occurred in Anseba, Debub, Bash-Barka and Maekel regions of **Eritrea** where 21,985 ha were reported attacked (60% cropping areas and 40% grazing land) of which control operations treated 8,815 ha. AAW outbreaks were not reported elsewhere in the primary outbreak areas during August (DLCO-ER, IRLCO-CSA, OFDA/PSPM).

Forecast: The AAW situation will remain calm and only limited activities may occur in **Eritrea** during the forecast period (DLCO-EA, OFDA/PSPM).

Where applicable, CBAMFEW forecasters must always remain vigilant and report any trap catches on time to concerned authorities to facilitate rapid interventions (IRLCO-CSA, OFDA/AELGA).

Note: PSPM continuous developing and improving AAW information in both the SOR and COR. So far, printable and web-based maps have been developed for AAW outbreak and invasion countries in the central and southern regions (click on the below link for the maps (OFDA/PSPM in collaboration with the GIU will develop a map for FAW similar to AAW):

http://usaid.maps.arcgis.com/apps/Viewer/index.html?appid=9d2ab2f918284595819836d1f16a526f

***Quelea* (QQU):** Through August 3rd, aerial control treated QQU infestations on 425 ha in 8 villages in Konso and Derashe Districts of **Ethiopia**. QQU birds were

also reported damaging irrigated wheat in Manicaland in **Zimbabwe** during August. Preparations were underway by the MinAgri to launch control operations (DLCO-EA, IRLCO-CSA, OFDA/PSPM).

Forecast: QQU birds will likely continue being a problem to small grain cereal crops in **Ethiopia**, **Zimbabwe** and elsewhere till harvest (IRLCO-CSA).

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

Rodents: No update was received on rodents during August.

Note: *On average an adult rat can consume 3-5 gm of food (grains etc.)/day and a population of 200 rats/ha (a very low density) could consume what a sheep can eat in one day (not to mention the amount they can damage, destroy or pollute making it unfit for human consumption) and the zoonotic diseases they carry and can transmit.*

All ETOP front-line line countries *must maintain regular monitoring. Invasion countries should remain alert. DLCO-EA, IRLCO-CSA, DLCCs, DLMCC, CNLAs, national DPVs and PPDs, ELOs are encouraged to continue sharing ETOP information with stakeholders as often as possible and on a timely basis. Lead farmers and community forecasters must remain vigilant and report ETOP detections to relevant authorities immediately.*

Inventories of Pesticide Stocks for SGR Prevention and Control

No SGR control operations took place in August and SGR pesticide inventory remained unchanged.

Note: *A sustainable Pesticide Stewardship (SPS) can strengthen a pesticide delivery system (PDS) at the national and regional levels. A strong and viable PDS can effectively reduce pesticide related human health risks, minimize environmental population, reduce the cost of pest control, improve food security and contribute to the national economy. A viable SPS can be effectively established by linking key stakeholders across political borders and geographic regions.* ***End note.***

OFDA/PSPM encourages the use of alternatives to hard core pesticides to implement IPM and thereby reduce risks associated with pesticide stockpiling. A judiciously executed triangulation of surplus stocks from countries with large inventories to countries in need is a win-win situation worth considering.

Table 1. ETOP Pesticide Inventory in Frontline Countries during March, 2016

Country	Quantity (l/kg)*
Algeria	1,188,742~
Chad	38,300
Egypt	68,070~ (18,300 ULV, 49,770 l
Eritrea	17,124~ + 20,000[D]
Ethiopia	9,681~
Libya	25,000~
Madagascar	206,000~ + 100,000[D]

Mali	7,000
Mauritania	14,998[DM]
Morocco	3,490,732[D]
Niger	75,750~
Oman	10,000~
S. Arabia	89,357~
Senegal	156,000~
Sudan	169,710~
Tunisia	68,514 obsolete
Yemen	40,090[D] + 180 kg GM~

[*]Includes different kinds of pesticide and formulations - ULV, EC and dust;

~ data may not be current;

[D] = Morocco donated 100,000 l of pesticides to Madagascar and 10,000 l to Mauritania in 2015

[D] = In 2013 Morocco donated 200,000 l to Madagascar

[D] = Saudi donated 10,000 to Yemen and pledged 20,000 l to Eritrea

[DM] = Morocco donated 30,000 l of pesticides to Mauritania

GM = *GreenMuscle*[TM] (fungal-based biological pesticide)

LIST OF ACRONYMS

AAW *African armyworm (Spodoptera expempta)*
AELGA *Assistance for Emergency Locust Grasshopper Abatement*
AFCS *Armyworm Forecasting and Control Services, Tanzania*
AfDB *African Development Bank*
AME *Anacridium melanorhodon (Tree Locust)*
APLC *Australian Plague Locust Commission*
APLC *Australian Plague Locust Commission*
Bands *groups of hoppers marching pretty much in the same direction*
CAC *Central Asia and the Caucasus*
CBAMFEW *Community-based armyworm monitoring, forecasting and early warning*
CERF *Central Emergency Response Fund*
CIT *Calliptamus italicus (Italian Locust)*
CLCPRO *Commission de Lutte Contre le Criquett Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)*
CNLA(A) *Centre National de Lutte Antiacridienne (National Locust Control Center)*
COR *Central SGR Outbreak Region*
CPD *Crop Protection Division*
CRC *Commission for Controlling Desert Locust in the Central Region*
CTE *Chortoicetes terminifera (Australian plague locust)*
DDLC *Department of Desert Locust Control*
DLCO-EA *Desert Locust Control Organization for Eastern Africa*
DLMCC *Desert Locust Monitoring and Control Center, Yemen*
DMA *Dociostaurus maroccanus (Moroccan Locust)*
DPPQS *Department of Plant Protection and Quarantine Services, India*
DPV *Département Protection des Végétaux (Department of Plant Protection)*
ELO *EMPRES Liaison Officers –*

EMPRES *Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases*
EOR *Eastern SGR Outbreak Region*
ETOP *Emergency Transboundary Outbreak Pest*
Fledgling *immature adult locust /grasshopper that has pretty much*

the same phenology as mature adults, but lacks fully developed reproductive organs to breed

GM GreenMuscle® (a fungal-based biopesticide)

ha hectare (= 10,000 sq. meters, about 2.471 acres)

ICAPC IGAD's Climate Prediction and Application Center

IGAD Intergovernmental Authority on Development (Horn of Africa)

IRIN Integrated Regional Information Networks

IRLCO-CSA International Red Locust Control Organization for Central and Southern Africa

ITCZ Inter-Tropical Convergence Zone

ITF Inter-Tropical Convergence Front = ITCZ)

FAO-DLIS Food and Agriculture Organizations' Desert Locust Information Service

Hoppers young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)

JTWC Joint Typhoon Warning Center

Kg Kilogram (~2.2 pound)

L Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)

LCC Locust Control Center, Oman

LMC Locusta migratoriacapito (Malagasy locust)

LMM Locusta migratoria migratorioides (African Migratory Locust)

LPA Locustana pardalina

MoAFSC Ministry of Agriculture, Food Security and Cooperatives

MoAI Ministry of Agriculture and Irrigation

MoARD Ministry of Agriculture and Rural Development

NALC National Agency for Locust Control

NCDLC National Center for the Desert Locust Control, Libya

NOAA (US) National Oceanic and Aeronautic Administration

NPS National Park Services

NSD Republic of North Sudan

NSE Nomadacris septemfasciata (Red Locust)

OFDA Office of U.S. Foreign Disaster Assistance

PBB Pine Bark Beetle (Dendroctonus sp. – true weevils

PHD Plant Health Directorate

PHS Plant Health Services, MoA Tanzania

PPD Plant Protection Department

PPM Pest and Pesticide Management

PPSD Plant Protection Services Division/Department

PRRSN Pesticide Risk Reduction through Stewardship Network

QQU Quelea Qulelea (Red Billed Quelea bird)

SARCOF Southern Africa Region Climate Outlook Forum

SFR Spodoptera frugiperda (SFR) (Fall armyworm (FAW)

SPB Southern Pine Beetle (Dendroctonus frontalis) – true weevils

SGR Schistoseca gregaria (the Desert Locust)

SSD Republic of South Sudan

SWAC South West Asia DL Commission

PBB Pine Bark Beetle

PSPM Preparedness, Strategic Planning and Mitigation (formerly known as Technical Assistance Group - TAG)

Triangulation The process whereby pesticides are donated by a country, with large inventories, but often no immediate need, to a country with immediate need with the help of a third party in the negotiation and shipments, etc. Usually FAO plays the third party role in the case of locust and other emergency pests.

USAID the Unites States Agency for International Development

UN *the United Nations*
WOR *Western SGR Outbreak Region*
ZEL *Zonocerus elegans, the elegant grasshopper*
ZVA *Zonocerus variegatus, the variegated grasshopper, is emerging as a fairly new dry season pest, largely due to the destruction of its natural habitat through deforestation, land clearing, etc. for agricultural and other development efforts and due to climate anomalies*

Who to contact for more information:

If you need more information or have any questions, comments or suggestions or know someone who would like to freely subscribe to this report or unsubscribe, please, contact:

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