Emergency Transboundary Outbreak Pest (ETOP) Situation Update for November with a Forecast till Mid-January, 2015

SUMMARY

The Desert Locust (SGR[1]) situation deteriorated along the Red Sea coast in the central outbreak region during November.

Aerial and ground operations treated swarms and groups of adults and hoppers on close to 83,000 ha in **Sudan** during this month. A few adult locusts were detected on the Gulf of Aden & the Red Sea coastal plains in **Yemen** the last week of November. No locusts were reported in **Ethiopia**, **Oman** or **Somalia** and no reports were received from **Eritrea** or **Saudi Arabia** during this period (DLCO-EA, DLMCC/Yemen, LCC/Oman, PPD/Sudan).

The situation remained calm in the western outbreak region during this month and only scattered solitary adults and hoppers were detected in northern Trarza in **Mauritania**. No locusts were reported in southern **Mali**, but the situation in the north was unclear due to inaccessibility for security reasons. And locust activities were not reported in **Morocco, Chad**, **Niger**, **Libya** or **Tunisia** in November (CNLA/Mali, CNLAA/Morocco, CNLA/Mauritania, NDLC/Libya, CNLA/Tunisia).

The SGR situation remained calm in the eastern outbreak region along the **Iran-Pakistan** borders during November.

Forecast: Locust activities will gradually decline in the Red Sea region in **Sudan**. Northeastern **Ethiopia** will remain calm and coastal areas in **Eritrea** may experience a slight increase in locust numbers. A few adults may appear in northwest **Somalia** and begin breeding in areas of recent rainfall. Limited breeding is likely on the coastal plains along the Red Sea and Gulf of Aden in **Yemen** during the forecast period. The eastern outbreak region along **Iran** and **Pakistan** borders will likely remain calm during the forecast period.

Active surveillance and monitoring remain critical, especially along the Red Sea coasts to avoid unexpected surprises.

OTHER ETOPS

Red (Nomadic) Locust (NSE): NSE breeding season has set in, but significant activities have not been reported yet (IRLCO-CSA).

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

Forecast: Large-scale breeding is likely in the primary outbreak areas in **Tanzania** and **Mozambique** and perhaps in **Malawi** where hatching and hopper formations are expected towards the end of January **(**IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust (LMC): No update was received at the time this report was compiled. The multi-year locust campaign that began in late September 2013 reported controlling/preventing close to **1,212,125 ha (~3 million acres)** so far mostly by air (DPV-FAO).

Moroccan (*DMA*), **Italian (*CIT*), Asian Migratory (*LMI*) Locusts** in Central Asia and the Caucasus (CAC): The locust season has ended in the CAC region and no activities are expected until sometime in March, 2015 (OFDA-AELGA).

African Armyworm (AAW): No AAW outbreaks were reported in November.

Forecast: AAW activities are expected to have started at the foothills of the seasonal rains in the southern outbreak region.

***Quelea quelea* (QQU)**: QQU bird outbreaks were reported causing damage to sorghum crops in several districts in **Ethiopia** and aerial control continued through November using DLCO-EA spray aircraft. QQU outbreaks were also detected in rice crops in Kirinyaga and Siaya Counties in **Kenya** and controlled with firebombs and ground and aerial spraying (DLCO-EA aircraft) (DLCO-EA, IRLCO-CSA).

Forecast: As the seasonal breeding commences, QQU outbreaks will decline in Ethiopia and parts of Kenya during the forecast period.

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

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

OFDA ETOP Activities and Benefits/Impacts

Financial support from USAID/OFDA and other donors enabled FAO to establish an online Pesticide Stock

Management System (PSMS) in more than 50 countries around the globe. Thanks to the PSMS system, participating countries can now maintain up to date inventories and make informed decisions to prevent unnecessary accumulations of obsolete pesticide stocks. This system has enabled countries to avoid costly disposal operations, improve health and safety of their citizens and protect their shared environment.

The OFDA-sponsored program on scaling up community-based armyworm monitoring, forecasting and early warning (CBAMFEW) is on track. The program aims at reducing the threats of AWW to food security and livelihoods of vulnerable populations through improved information collection, analysis and reporting.

OFDA Advisor for Pesticides and Pests visited several localities in Ethiopia where CBAMFEW activities are being implemented. The advisor was pleased with farmer forecasters' ability to carry out project activities. CBAMFEW project is being managed by DLCO-EA and implemented in collaboration with partners in Ethiopia, Kenya and Tanzania. So far, the project has successfully conducted several training programs and launched an innovative mobile phone-based data collection and management technology. This innovative technology is being scaled up in Ethiopia and implemented in Kenya and Tanzania. OFDA/TAG intends to work with other partners to expand this innovative technology to benefit other AAW affected countries.

OFDA continued its support for sustainable pesticide risk reduction initiatives through stewardship network (SPRRSN). This initiative is aimed at strengthening capacities of host-countries and partners to help reduce the risks of pesticide to safety of vulnerable populations and their assets as well as the environment.

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

OFDA-TAG has plans to introduce the SPRRSN initiatives to other parts of Africa, the Middle East, CAC and other regions. In his recent visit, OFDA Senior Technical Advisor for Pesticides and Pests observed PSA-N activities in Ethiopia and noted progresses and constraints among beneficiaries.

OFDA continued its support for capacity strengthening programs through an agreement with FAO. This DRR program assists frontline countries to mitigate, prevent, and respond to ETOP outbreaks and reduce

potential emergencies and help avoid misuse and mishandling of pesticides, pesticide-incorporated materials and application platforms.

OFDA DRR program aimed at strengthening national and regional capacities for ETOP operations in Central Asia and the Caucasus (CAC) is in progress. In additional to improving national and regional capacities, this program also promotes collaboration and coordination of joint locust monitoring, surveillance, reporting and preventive interventions and minimize ETOP threats to food security and livelihoods of vulnerable populations.

***Note:** All ETOP SITREPs can be accessed on USAID/OFDA Pest and Pesticide Management website: 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 information on the ETOP situation, the weather and ecological conditions and forecast is provided hereafter.

Weather and ecological conditions

The weather conditions remained fairly stable in most of the western outbreak region. Annual vegetation has dried out and ecological conditions remained unfavorable for locusts to survive or reproduce in southern **Mauritania** and in Gao, Kidal and Timbuktu in **Mali**. In **Morocco,** environmental conditions are favorable in the Draa Valley and the southeastern part of the country.

Light rain fell in early November in northeastern **Ethiopia**, but ecological conditions remained unfavorable to sustain locusts. Ecological conditions are favorable in the southeastern part of the country where good rains fell in October and November.

In **Yemen**, light to moderate rain was recorded in winter breeding areas in Tihama coastal plains and moderate to heavy rains were reported in a few places between Al-Zuhrah and Midi north of Tihama plain by mid-November. Vegetation was drying and soil moisture was low except in some areas on the Red Sea coastal plains or in irrigated cropping areas. Cloudy weather persisted and more rainfall is expected during the forecast period. Moderate to heavy rain was recorded on 8th November in North East of **Oman** on the coast of Arabian Sea and from Oman Sea to the interior of Dakhiliya Region (DLCMC/Yemen, LCC/Oman).

Hot and humid weather prevailed in the NSE outbreak regions in **Tanzania**, **Malawi**, **Mozambique** and **Zambia**. Most of the primary outbreak areas received moderate to heavy rains during November (118 mm in Wembere plains, 208 mm in Malagarasi Basin, 44.2 mm in Rukwa Valley plains in Tanzania, 27 mm in Buzi-Gorongosa plains, 25 mm in Dimba plains in Mozambique, 123.7 mm

in Kafue Flats in Zambia and trace in Lake Chilwa/Lake Chiuta plains in southern Malawi. This has caused ecological conditions to improve for NSE and AAW to breed and develop in most of the outbreak regions. Moderate to light rain that fell in **Mozambique** during November is expected to trigger extensive NSE breeding. Insignificant rainfall was reported in Lake Chilwa/ Lake Chiuta plains in southern Malawi and no rainfall was reported in Iku-Katavi plains in Tanzania in November (IRLCO-CSA).

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

The ***Asian migratory locust*** *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 and others. Regular monitoring and timely reporting of anomalous manifestations in pest habitats and behavior remain critical.* ***End note****.*

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

SGR - Western Outbreak Region: The SGR situation remained calm in the western outbreak region. Only 12 solitary immature adults were detected in the Guelmim city in **Morocco** and no locusts were reported in **Libya** or **Tunisia** during this month. In **Mauritania**, a few scattered solitary adults mixed with 1st-4th instar hoppers were observed in November. Two survey teams are currently monitoring the situation in south Adrar, north Trarza and southeast Inchiri. The SGR situation was calm in southern **Mali** during this month, but the situation in the north remains unclear due to ongoing security problem. No locusts were reported in **Niger**, **Chad** or other countries in Sahel West Africa during this period (CNLA/Mauritania, CNLAA/Morocco CNLCP/Mali, CNLA/Tunisia, NCDLC/Libya).

Forecast: Limited-scale breeding may occur in **Mauritania**. The SGR situation will likely remain calm in **Mali** and only a few solitary adults that were reported previously may move to patches of green vegetation in low laying areas. Overall the western outbreak region will remain calm during the forecast period (CNLA/Mali, CNLA/Mauritania, CNLA/Tunisia, NCDLC/Libya).

SGR (Desert Locust) - Central Outbreak Region: The SGR situation deteriorated along the Red Sea coast in the central outbreak region during November. In **Sudan**, most of the swarms that migrated from the summer breeding areas reached the River Nile State, the Northern State, the Red Sea State and Kassala State and copulated and laid eggs

Aerial and ground operations were intensified against adult swarms and gregarious groups as well as hoppers and in all affect States and treated 82,977 ha just in during November (22,043 ha in 1st week, 25,928 in 2nd week, 21,196 ha in 3 week and 13,800 ha the 4th week). A significant decrease in locust numbers wa witnessed in the River Nile State towards the end of the month where only two immature swarms and a few gregarious groups were treated. The situation remained calm in **Ethiopia**, **Somali** and **Oman**. Low numbers of immature and mature solitary adults were detected in winter breeding areas on the Gulf of Aden & Red Sea coastal plains in **Yemen** during the last week of November, but control operation was not required (CDLCM/Yemen, DLCO-EA, LCC/Oman, PPD/Sudan).

Forecast: In **Sudan**, locust numbers will gradually decline and the situation will become calm in winter breeding areas in the Red Sea region. The Afar region of **Ethiopia** will remain calm, but the southeastern region may experience some activities provided locusts migrate from neighboring countries during the forecast period. In **Eritrea** small-scale breeding will likely increase locust numbers on the coastal plains. A few adults will likely appear in northwest and southeastern **Somalia** and may breed in areas where ecological conditions are favorable, but significant developments are not expected during the forecast period. In **Yemen**, small-scale breeding is likely in areas of recent rainfall on the Red Sea coast and the Gulf of Aden coastal plains and slightly increase locust numbers. The SGR situation will remain calm in **Oman** during the forecast period *(CDLCM/Yemen, DLCC EA,* LCC/Oman, PPD/Sudan*).*

*Active monitoring and surveillance remain essential, particularly in northeastern **Sudan**, southeastern **Egypt**, **Eritrea**, **Somalia** and in Tihama and on Gulf of Aden plains in **Yemen***

SGR - Eastern Outbreak Region: The SGR situation remained calm in the winter breeding areas along the Iran and **Pakistan** border in November.

Forecast: The SGR situation will remain calm in the eastern outbreak region along the **Iran-Pakistan** borders during the forecast period.

Red (Nomadic) Locust (NSE): NSE breeding season has kicked in, but significant activities have not been reported yet.

Forecast: Residual populations that persisted in Malagarasi Basin and Wembere plains in Tanzania are expected to breed successfully and increase locust numbers. Substantial breeding is also expected in Lake Chilwa/Lake Chiuta plain that transcends Malawi and Mozambique borders where significant residual populations were present. Mozambique and Zambia will likely experience an increase in locust populations. Hoppers and bands will form during the forecast period. Timely interventions remain critical to minimize the threats they pose to food security and livelihoods of vulnerable

populations (IRLCO-CSA, OFDA-AELGA).

The International Red Locust Control Organization for Central and Southern Africa continues appealing for resources from its member-states and partners to launch timely and essential survey and control operations in frontline countries.

Madagascar Migratory Locust (LMC): No update was received at the time this report was compiled. The multi-year locus campaign that began in late September 2013, has reported controlling/preventing more than **1,212,125 ha (~3 million acres)** mostly by air and to some extent by ground means (DPV-FAO).

Resources: As of October, 2014 the Malagasy locust campaign reported received USD 28.2 million from multiple donors and the GoM. Of this, an estimate USD 24 million has been expended and some of the remaining funds may only be available through end of February, 2015. The campaign is soliciting an additional USD 9 million for the second phase of the three phase program (DPV-FAO).

Forecast: Locusts are expected to matur and continue breeding (DPV-FAO).

Moroccan (*DMA*), Italian (*CIT*), Migratory (*LMI*) Locusts in **Central Asia** and the **Caucasus (CAC)**: The locust season in the CAC region has ende (OFDA-AELGA).

Forecast: CAC region will remain calm until March, 2015 when ecological conditions will allow locusts to hatch and start developing (OFDA-AELGA).

Timor and South Pacific: No update wa received on the acridid situation from Eas Timor in November, but the ETOP season is expected to have begun.

African Armyworm (AAW): AAW seaso has commenced in the southern outbreak regions, but significant activities have not been reported during this month (DLCO-EA, IRLCO-CSA).

Forecast: AAW will begin breeding and breakout during the forecast period. Forecasters are advised to remain vigilant and monitor their traps and rain gages and report AAW information to concerned authorities as quickly as possible (IRLCO-CSA, OFDA/AELGA).

Quelea (QQU): QQU bird control that began in October along the Rift Valley regions in north and south eastern parts c **Ethiopia** continued through November. The birds were reported roosting on Typhea, eucalyptus, lantana, mango and acacia trees (DLCO-EA).Dozens of colonie and roosts were controlled on more than 640 ha in nine districts during the month using DLCO-EA spray aircraft. Control operation that was unusually protracted, due to the availability of target pests feeding on crops that were planted at different times to coincide with the rainfal pattern, is expected to wind down during the first week of December. QQU outbreaks were also controlled in Kirinyaga County using firebombs and Siaya County in **Kenya** using DLCO-EA aircraft. The birds were reported damagin

rice crops (DLCO-EA, IRLCO-CSA).

Forecast: QQU birds will begin declining in **Ethiopia** and parts of **Kenya**. The pest will be going into a breeding season in most of the outbreak areas.

Facts: ***QQU*** *birds can travel ~100 km/day looking for food.*

An adult QQU bird can consume 3-5 gram of grain and destroy the same amount each day. A medium density 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/day.

Rodents: No rodent outbreak was reported during November. However, the pest remains a constant threat to crops and produces and requires regular surveillance and preventive interventions to avoid major threats (OFDA/AELGA).

Front-line countries must remain vigilant; Invasion countries should maintain regula monitoring. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, etc., are encouraged to continue sharing ETOP information with stakeholders as quickly as possible and as often as available. Lea farmers and community forecasters are encouraged to remain vigilant and report ETOP detections to relevant authorities immediately.

Inventories of Pesticide Stocks for ETOP Control

Control operations treated 82,977 ha during November in **Sudan**.

Note: *Some inventories shown in the following table are not necessarily current as many countries tend to issue updates after activities are concluded and/or use pesticides for other pests.* ***End note.***

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

Note: *A Sustainable Pesticide Stewardship (SPS) can considerably strengthen pesticide delivery system (PDS) at the national and regional levels. And a strong PDS effectively reduces pesticide related human health risks, minimize environmental pollution, increase food security and ultimately contribute to the national economy. An SPS can be effectively established by linking key stakeholders in neighbouring countries.* ***End note.***

Table 1. Inventory of ETOP Pesticides in Frontline Countries

Country	Quantity (l/kg)[$]
Algeria	1,190,000~[D]
Chad	43,400

Eritrea	-9,993~
Ethiopia	-3,975~
Libya	25,000
Madagascar	351,565~
Mali	32,000 [D]
Mauritania	43,400
Morocco	3,757,000~[D]
Niger	42,805~
Oman	14,440
Senegal	156,000~[D]
Sudan	668,628~
Tunisia	36,575~
Yemen	22,000@ + 300 kg GM~

[$]Include different kinds of pesticides in ULV, EC and dust formulations
~ data not current
[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 in 2013;
GM = *GreenMuscle*™ (fungal-based biological pesticide);
@includes donations from Saudi Arabia

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*
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*
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)*
CRC	*Commission for Controlling Desert Locust in the Central Region*
CTE	*Chortoicetes terminifera*
DDLC	*Department of Desert Locust Control*
DLCO-EA	*Desert Locust Control Organization for Eastern Africa*
DMA	*Dociostaurus maroccanus*
DPPQS	*Department of Plant Protection and Quarantine Services*
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*
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	*Green Muscle (a fungal-based biopesticide)*
ha	*hectare (= 10,000 sq. meters, about 2.471 acres)*
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)*
Kg	*Kilogram (~2.2 pound)*
L	*Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)*
LMC	*Locusta migratoriacapito*
LMM	*Locusta migratoria migratorioides (African Migratory Locust)*
LPA	*Locustana pardalina*
MoAFSC	*Ministry of Agriculture, Food Security and Cooperatives*
MoARD	*Ministry of Agriculture and Rural Development*
NCDLC	*National Desert Locust Control, Libya*
NOAA (US)	*National Oceanic and Aeronautic Administration*
NSD	*Republic of North Sudan*
NSE	*Nomadacris septemfasciata*
OFDA	*Office of U.S. Foreign Disaster Assistance*
PHD	*Plant Health Directorate*
PHS	*Plant Health Services, MoA Tanzania*
PPD	*Plant Protection Department*
PPSD	*Plant Protection Services Division/Department*
PRRSN	*Pesticide Risk Reduction through Stewardship Network*
QU	*Quelea bird*
SARCOF	*Southern Africa Region Climate Outlook Forum*
SGR	*Schistoseca gregaria*
SWAC	*South West Asia DL Commission*
TAG	*Technical Assistance Group*
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 cases.
USAID	*the Unites States Agency for International Development*
UN	*the United Nations*
ZEL	*Zonocerus elegans, the elegant grasshopper*
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, land clearing for agricultural and other development efforts and associated weather variability.)*

Who to Contact:

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For those of you who are on the USAID net, you can also access AELGA's former website which contains archived documents:

http://chaos.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/