

**Emergency Transboundary
Outbreak Pest (ETOP) Situation
Update for December with a
Forecast till Mid-February, 2015**

SUMMARY

The Desert Locust (SGR¹) situation continued developing along the Red Sea coast during December.

Control operations treated 4,100 ha in **Sudan** during this month (more than 82,977 ha were treated in November). Breeding continued in **Eritrea** on coastal areas and ground operations controlled hoppers and adult on 4,000 ha in December. Small-scale breeding occurred on the Red Sea coast in **Saudi Arabia** and **Yemen** during this month and control operations were carried out against small hopper bands near Mecca. No locusts were reported elsewhere in the central outbreak region in December (DLMCC/Yemen, FAO-DLIS, LCC/Oman, PPD/Sudan).

The western and eastern outbreak regions remained calm during this month (CNLA/Mali, CNLAA/Morocco, CNLA/Mauritania, NDLC/Libya, CNLA/Tunisia).

Forecast: In **Sudan**, hatching will continue and hoppers will fledge and

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

form adult groups and small swarms in winter breeding areas along the Red Sea coasts. Adult locusts will migrate from southern **Egypt** and northern **Eritrea** to the Red Sea region in **Sudan** during the forecast period. **Saudi Arabia** and **Yemen** will likely experience a slight increase in locust numbers during the forecast period, but the situation will remain calm other outbreak areas 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 begun, but significant activities have not been reported yet (IRLCO-CSA).

Forecast: Large-scale breeding is likely in the primary outbreak areas in **Tanzania** and **Mozambique**, and perhaps in **Malawi** and **Zambia** during the forecast period (IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust (LMC):

No update was received at the time this report was compiled.

Moroccan (DMA), Italian (CIT), Asian Migratory (LMI) Locusts in

Central Asia and the Caucasus (CAC): No locust activities were reported in CAC region in December and no activities are expected during the forecast period (OFDA-AELGA).

African Armyworm (AAW): AAW season has commenced, but major developments have not been reported in December.

Forecast: AAW activities are expected to further develop in the southern outbreak region during the forecast period (IRLCO-CSA, OFDA/AELGA).

Quelea quelea (QQU): QQU outbreaks were controlled in Kirinyaga County in **Kenya** during December (IRLCO-CSA).

Forecast: QQU bird outbreaks will likely continue in **Kenya**, but as the breeding cycle intensifies, the situation will remain calm in most of the outbreak countries during the forecast period (AELGA, IRLCO-CSA).

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 many countries to prevent unnecessary procurement or hoarding of pesticides, avoid costly disposal operations, improve health and safety of their citizens and protect their shared environment.

The OFDA-sponsored tri-state program on scaling up community-based armyworm monitoring, forecasting and early warning (CBAMFEW) is on track. The program aims at reducing the threats of AAW 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 on their own.

The CBAMFEW project is being managed by DLCO-EA and jointly 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 extend the SPRRSN initiative 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 which is aimed at strengthening national and regional capacities for ETOP operations in Central Asia and the Caucasus (CAC) is on track. In addition to improving national and regional capacities, this program also promotes collaboration and coordination of joint monitoring, surveillance, reporting and preventive interventions to 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 in most areas for locusts to survive or reproduce.

In **Sudan**, vegetation has dried out and ecological conditions became less favorable in December in summer breeding areas. However, favorable conditions were reported in winter breeding areas along the Red Sea coast where rainfall was reported earlier as well as in irrigated cropping areas along the Nile River and in Wadis where rainfall occurred (PPD/Sudan).

Rainfall continued in the NSE outbreak areas during December (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 in December (CNLA/Mauritania, CNLCP/Mali, CNLA/Tunisia, NCDLC/Libya).

Forecast: Limited activities may occur in a few places in the region during the forecast period, but overall the situation will remain calm (CNLA/Mali, CNLA/Mauritania, CNLA/Tunisia, NCDLC/Libya).

SGR (Desert Locust) - Central Outbreak Region: The SGR situation continued developing in the central outbreak region during December. Control operations treated hopper bands and adult swarms in 4,100 ha in winter breeding areas between Arbaat, Suwakin and Tokar along the Red Sea coast and near **Eritrea** border in

Sudan (more than 82,977 ha were controlled in November in **Sudan**). Immature and mature adults that migrated from the River Nile State were treated in the summer breeding areas in the Northern State (PPD/Sudan).

1st generation breeding continued on the Red Sea coast in **Eritrea** where hopper bands, adult groups and a few swarms were detected and 2nd generation breeding started by the end of December. Ground operations controlled hoppers and adult groups on 4,000 ha during this month (FAO-DLIS).

In **Saudi Arabia** and **Yemen**, small breeding continued on the Red Sea coast where limited control operations were carried out against a few hopper bands near Mecca. The situation remained calm in **Ethiopia**, **Somali** and **Oman** and other countries in the region during this period (CDL/CM/Yemen, DLCO-EA, FAO-DLIS, LCC/Oman, PPD/Sudan).



(SGR situation during December, FAO-DLIS)

Forecast: In **Sudan**, small-scale hatching

is likely in winter breeding areas along the Red Sea coasts and adult locusts from southern **Egypt** and northern **Eritrea** may migrate to the Red Sea region during the forecast period. The 2nd generation breeding that began in **Eritrea** in late December will further increase locust numbers during the forecast period. Limited breeding is likely on the Red Sea coastal in **Saudi** and **Yemen** and on the Gulf of Aden in **Yemen** and slightly increase locust numbers during the forecast period. **Ethiopia**, **Somalia**, **Oman** and other countries in the central outbreak region will likely remain calm during the forecast period (CDL/CM/Yemen, FAO-DLIS, LCC/Oman, PPD/Sudan).

*Active monitoring and surveillance remain essential, particularly in northeastern **Sudan**, southeastern **Egypt**, **Eritrea**, **Somalia** and in **Yemen***

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

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

Red (Nomadic) Locust (NSE): NSE breeding season has begun. Successful breeding is expected to have commenced in the primary outbreak areas in **Tanzania** where high density residual populations persisted in Ikuu-Katavi, Malagarasi Basin, Rukwa and Wembere and will cause widespread hopper outbreaks during

January/February. Breeding is also expected to have commenced in Buzi-Gorongosa plains in **Mozambique** and in Kafue Flats in **Zambia** where heavy rainfall was recorded during the first dekad of December. In Lake Chilwa/Lake Chiuta plains where rainfall started late, breeding is expected to have been delayed (IRLCO-CSA).

Forecast: Large-scale breeding will likely continue in the primary outbreak areas in Ikuu-Katavi, Wembere, Rukwa and Malagarasi Basin in **Tanzania**. Chilwa plains will experience hopper bands during the forecast period. If left uncontrolled the locusts will pose serious threats to crops, including paddy rice in areas adjacent to Wembere, Rukwa and Ikuu-Katavi in **Tanzania**; Buzi-Gorongosa and Dimba plains in **Mozambique** and in Kafue Flats in **Zambia** during the forecast period.

Surveillance and timely preventive interventions remain critical to avert any major crop damage during April/May 2015. The IRLCO-CSA has appealed to its Member States and development partners for resources to be able to undertake timely surveys and control and abate potential crop damage (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.

Forecast: Locusts will continue breeding and remain a threat to food security and livelihoods of vulnerable populations (DPV-FAO).

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

Forecast: CAC region will remain calm during the forecast period (OFDA-AELGA).

Timor and South Pacific: No update was received from East Timor in December, but the ETOP season is expected to have begun.

African Armyworm (AAW): AAW season has commenced. Limited outbreaks were reported controlled in eastern **Zambia** (IRLCO-CSA).

Pheromone trap monitoring is underway in most of the IRLCO-member states, particularly **Kenya, Malawi, Mozambique, Tanzania, Zambia** and **Zimbabwe** where 480 pheromone traps have been distributed to (IRLCO-CSA).

Forecast: AAW activities will continue and more outbreaks will appear during the forecast period. Forecasters must remain vigilant and monitor their traps and rain gages and report AAW information to concerned authorities as quickly and as often as possible (IRLCO-CSA, OFDA/AELGA).

Quelea (QQU): QQU bird outbreaks were controlled in Kirinyaga County in **Kenya** during December (DLCO-EA aircraft) (DLCO-EA, IRLCO-CSA).

Forecast: Quelea outbreaks will likely continue in **Kenya**, but as the bird goes into a breeding cycle, the situation will remain calm in most countries during the forecast period (AELGA, IRLCO-CSA).

Facts: QQU birds can travel ~100 km/day looking for 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 (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 update was received on rodent situations for December. However, this 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 regular 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. Lead 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 4,100 ha in **Sudan** and 4,000 ha in **Eritrea** during December compare to 82,977 in November

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 such 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. 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	-13,993~

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	664,528~
Tunisia	36,575~
Yemen	22,000@ + 300 kg GM~
<p>^{\$}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 I, and 30,000 I of pesticides to Madagascar in 2013; Mali donated 21,000 I for NSE to Malawi, Mozambique and Tanzania in 2012 and FAO facilitated the triangulation Mauritania donated 25,000 and 30,000 I of pesticides to Libya in 2012 and Madagascar in 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)</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>
Bands	<i>groups of hoppers marching pretty much in the same direction</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 Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)</i>
CNLA(A)	<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	EMPRES Liaison Officers	LMM	<i>Locusta migratoria</i>
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases	LPA	<i>migratorioides</i> (African Migratory Locust)
ETOP	Emergency Transboundary Outbreak Pest	MoAFSC	<i>Locustana pardalina</i>
Fledgling	immature adult locust /grasshopper that has pretty much the same phenology as mature adults, but lacks fully developed reproductive organs to breed	MoARD	Ministry of Agriculture, Food Security and Cooperatives
GM	Green Muscle (a fungal-based biopesticide)	NCDLC	Ministry of Agriculture and Rural Development
ha	hectare (= 10,000 sq. meters, about 2.471 acres)	NOAA (US)	National Desert Locust Control, Libya
IRIN	Integrated Regional Information Networks	NSD	National Oceanic and Aeronautic Administration
IRLCO-CSA	International Red Locust Control Organization for Central and Southern Africa	NSE	Republic of North Sudan
ITCZ	Inter-Tropical Convergence Zone	OFDA	Nomadacris septemfasciata
ITF	Inter-Tropical Convergence Front = ITCZ)	PHD	Office of U.S. Foreign Disaster Assistance
FAO-DLIS	Food and Agriculture Organizations' Desert Locust Information Service	PHS	Plant Health Directorate
Hoppers	young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)	PPD	Plant Health Services, MoA Tanzania
Kg	Kilogram (~2.2 pound)	PPSD	Plant Protection Department
L	Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)	PRRSN	Plant Protection Services Division/Department
LMC	<i>Locusta migratoriacapito</i>	QU	Pesticide Risk Reduction through Stewardship Network
		SARCOF	Quelea bird
		SGR	Southern Africa Region Climate Outlook Forum
		SWAC	Schistoseca gregaria
		TAG	South West Asia DL Commission
		Triangulation	Technical Assistance Group
			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 United 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.)*

we-do-it/humanitarian-sectors/agriculture-and-food-security/pest-and-pesticide-monitoring

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/

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