Emergency Transboundary Outbreak Pest (ETOP) Situation Report for November 2013 with a Forecast till mid-January, 2014

Summary

The Desert Locust (SGR[1]) continued developing in **Mauritania**, **Yemen** and **Sudan, Saudi Arabia** and to some extent in **Eritrea** where control operations treated some 72,620 ha in November.

In northwest **Mauritania**, hoppers and adults were controlled in more than 32,355 ha during November. In **Algeria**, hoppers and adults were controlled in 40 ha in irrigated areas in November. In southern **Morocco**, where ecological conditions are favorable, only a few adults were reported. No locusts were reported in other countries in the region during November (CNLA/Chad, CNLA/Mauritania, CNLAA/Morocco, FAO-DLIS, INPV/Algeria)

In **Sudan**, aerial and ground operations controlled hoppers and adults in more than 20,700 in the summer breeding in the interior of the country in November. Aerial operations treated 10,040 ha against hopper groups and bands in the central Red Sea coast in **Eritrea** during this period. In **Yemen**, ground control treated hoppers, bands and adults in 9,000 ha during this time. Breeding continued on the Red Sea coast in **Saudi Arabia** and hoppers and adults were controlled on 466 ha during this period.

In Eastern **Ethiopia**, ground operations controlled adult locusts on 4 ha in Hare area in the Somale Region in early November. Groups of adult locusts were also reported in Shinile areas. In northern **Somalia**, heavy rain and flooding occurred in the traditional winter breeding areas in the northwest coast, but no locust were reported (DLCO-EA, FAO-DLIS, PPD/Sudan),

Locust numbers declined in the summer breeding areas along the **Indo-Pakistan** borders and only isolated adults were reported in Rajasthan, India during November (DPPQS/India, FAO-DLIS).

Forecast: Breeding will continue and hopper bands and swarms will form and increase locust numbers along the Red Sea coast in **Sudan, Eritrea, Yemen, Saudi Arabia** and northwest **Mauritania** during the forecast period. Winter breeding may also commence in northwest **Somalia** where heavy rains and flooding occurred in November. A few adults will likely begin appearing in southeastern **Iran**-southwestern **Pakistan** during the forecast period.

*Vigilance, active surveillance and preventive control interventions remain critical to avoid a repeat of the 2003-05 upsurges that started in Mauritania and Niger that and affected dozens of countries in Sahel West Africa, North Africa and Central Africa and prevent the 2007 incidence that began in **Yemen** and caused locusts to cross the Red Sea and invade the Horn and Eastern Africa (CNLA/Chad, CNLA/Mauritania,*

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

CNLAA/Morocco, DLCO-EA[2], DPPQS/India, FAO-DLIS, OFDA/AELGA, PPD/Oman, PPD/Sudan).

Other ETOPs

Red (Nomadic) Locust (*NSE*): Widespread rains fell in November in the NSE outbreak areas in Tanzania, Malawi, Zambia and Mozambique where substantial parental populations existed prior to the onset of rains and caused breeding (IRLCO-CSA[3]).

Forecast: The NSE situation will remain active in **Tanzania**, **Malawi, Mozambique** and **Zambia** during the forecast period and likely increase locust populations. Member States are encouraged to make resources available for large-scale survey and control operations to avoid threats to crops and pasture (IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust (LMC): Gregarious hopper bands were reported in Mahakilo Basin on some 18,800 ha and hoppers were also detected in Maroahita and Ambatobe, Soahazo, Ankaraobato and the surroundings of Morafenobe and bands were detected in Ampoza in the Betsiriry Plain and South Morafenobe in November. Adults and or hoppers were reported in Andiolava, West Sakaiza (Ihosy), South Befandriana, Ejeda and Beahitse, Vavalovo, Sahamandrevo, Mahatalaky (Jangany) Ianakafy and Analamary where mating, egg-laying as well as hopper groups continued appearing. The National Locust Control team reported the presence of Low density (10-400 insects/ha) populations of mature and immature Red Locust (NSE) were reported in Antsohihy in North Befandriana, Marotandrano and Port-Bergé in the North-West Invasion Areas (DPV-FAO-LWU).

Forecast: Breeding and hopper and band formations are expected to continue during the forecast period. Vigilance, timely reporting and preventive interventions remain critical (DPV-FAO-LWU, OFDA/AELGA).

Moroccan (*DMA*), **Italian (*CIT*), Migratory (*LMI*) Locusts** in Central Asia and the Caucasus (CAC): No locust activities were reported in CAC in November (OFDA/AELGA).

Forecast: Locust activities are not expected in the CAC region until sometime in March, 2014 (FAO-ECLO, OFDA/AELGA).

African Armyworm (AAW): AAW outbreaks occurred in pasture and early planted maize in November in **Malawi** and controlled by affected farmers with assistance from the MoA. High moth catches were recorded in **Zimbabwe**. No AAW activities were reported in other IRLCO-CSA or DLCO member-countries during November (DLCO-EA, IRLCO-CSA, OFDA/AELGA, PHS/Tanzania).

Forecast: AAW outbreaks will likely continue in **Malawi** and commence in **Zimbabwe, Tanzania** and **Mozambique** during the forecast period. National and local AAW

[2] DLCO-EA member-countries = Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, South Sudan, Tanzania, Uganda,
[3] IRLCO-CSA member-countries = Botswana, Kenya, Malawi, Mozambique, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe

forecasters are advised to maintain vigilance and track movements of moths. Pheromone traps must be pre-positioned and preventive interventions exercised as necessary (DLCO-EA, IRLCO-CSA, OFDA/AELGA).

Quelea (QU): QU bird control treated colonies and roosts on 661 ha in the rift valley areas in **Ethiopia** during the third week of November. QU activities were not reported from IRLCO-CSA or other DLCO-EA member-countries during this period (DLCO-EA, IRLCO-CSA).

Forecast: QU bird outbreaks are not expected in the DLCO-EA or IRLCO-CSA member-countries as the birds will, for the most part, be in the seasonal breeding cycle (DLCO-EA, IRLCO-CSA).

OFDA/TAG, through its Pest and Pesticide Monitoring, Reporting and Response unit (=Assistance for Emergency Pest [Locust/Grasshopper] Abatement**)** will continue monitoring ETOP situations closely in all regions and issue dekadal alerts and monthly updates as well as provide advices as often as necessary. **End summary**

Progresses made in SGR Frontline Countries:

SGR frontline countries (FCs) in Sahel West Africa, namely **Chad**, **Mali**, **Mauritania, Niger,** and **Senegal (**an **invasion country)** have established autonomous national locust control units (CNLA) responsible for all DL activities.

Funds provided by the African Development Bank, USAID, the World Bank, France, FAO, host-governments as well as assistance from neighboring countries enabled FCs to equip CNLAs and build infrastructure as well as help train staff to prevent and respond to SGR outbreaks. With these supports and with their own resources, FCs was able to minimize and avoid the threats the SGR poses to food security and livelihoods of vulnerable communities.

CNLAs' continued efforts *to prevent, mitigate, avert and/or respond to potentially devastating SGR outbreaks and invasions* are good examples of **sustainable disaster risk reduction** that *deserve* encouragements and support.

OFDA ETOP Activities and Impacts

- Thanks to OFDA's contributions and contributions from other donors, Pesticide Stock Management System (PSMS) has enabled dozens of participating countries to conduct regular inventories and thereby prevent unnecessary accumulations of obsolete stocks, avoid costly disposal operations, and ensure the safety of their citizens and protect the shared environment.

- OFDA-sponsored, three year program on scaling up community-based armyworm monitoring, forecasting and early warning which began 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. Activities are being coordinated by the DLCO-EA in collaboration with partners in Ethiopia, Kenya and Tanzania. DLCO-

EA recently reported that it has successfully launched a mobile based information collection and transmission by local famers.

- OFDA continues its assistance to 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.

- Discussions that began several months ago to launch similar PRR initiatives in North Africa and the Middle East were delayed by the ongoing situation in the regions. An effort is being made to resume dialogue.

- OFDA continued its assistance for capacity strengthening as part of its DRR programs through a cooperative agreement with FAO to mitigate, prevent, and respond to and reduce the risk of ETOP emergencies and avoid misuse and mishandling of pesticides, pesticide-incorporated materials and application platforms in the western, central and eastern regions.

- OFDA supported DRR program aimed at 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 to better coordinate locust monitoring and reporting as well as joint plans for survey and prevention to minimize the threats they pose to food security and livelihoods of vulnerable populations.

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, ETOP situation and forecast for the next six weeks are discussed below.

Weather and ecological conditions

Light rains well recorded in northwestern Mauritania and southwestern Morocco during the first week of November. Moderate to good rains fell along the Red Sea coasts - in Saudi Arabia, Eritrea, northwestern coast of Somalia, and Yemen as well as in Oman during November causing ecological conditions favorable in winter breeding areas. Good rains fell in spring breeding areas in southeastern Iran and southwestern Pakistan during mid-November. Good rains fell in November in many of the NSE outbreak areas (e.g., 323 mm in Malagarasi Basin and 102 in Wenbere Plain, in Tanzania; 195 mm in Kafua flats, Zambia) and moderate rainfall was recorded in Buzi-Gorongosa (86 mm) and Dimba Plain (73 mm) in Mozambique as well as North Rukwa plains (70 mm) in Tanzania). Lakes Chiluta and Chilwa plains in Malawi received light

rain during this period. During the last dekad of October, the southerly migration of the ITF resulted in above-average rains over Guinea Conakry, eastern Senegal, and western Mali and below-average rains across Nigeria and parts of southern Sudan and western South Sudan (NOAA, 10/2013).

In **Mauritania**, cloudy skies with light precipitation in Trarza Region in Nouakchott-Inchiri, southern Dakhlet-Nouadhibou and Tiris-Zemmour were reported. Light to moderate northeasterly with an eastward trajectory throughout the country during the first dekad of November was observed. Visibility was reduced by sand and dust and the maximum temperature of 39°C was recorded in Rosso-Boutilimit on November 10th and the minimum of 13°C was reported in Bir Moghrein on November 8th. Vegetation is green in the central and north-western parts of the country and ecological conditions are favorable for locusts to survival and reproduce (CNLA/Mauritania).

In **Morocco,** ecological conditions were favorable in October in the southern part of the country where light rain fell in September. In **Chad**, the ITF retreated further southward over most of the country and ecological conditions cannot sustain locust survival and breeding.

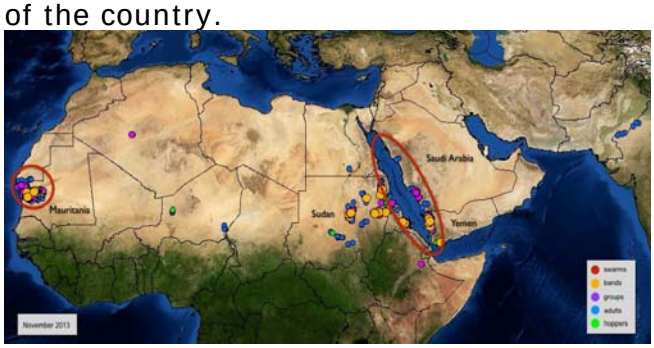
Madagascar: During the first decade of November, abundant rainfall was recorded in several places in most of the Malagasy locust zones and increased green (grass) vegetation coverage and soil moisture making conditions favorable for locusts to breed and develop.

The summer breeding areas along the **Indo-Pakistan** borders remained dry and only light showers were reported in Barmer, India during October.

In **Central Asia and Caucasus (CAC)** Rainfall has ended and the temperature has dropped gradually and the vegetation has dried or is drying (FAO-ECLO).

Note: *Changes in the weather patterns contribute to ecological shift in ETOP habitats and can increase the risk of pest outbreaks and resurgence as well as emergence of new pests. Regular monitoring and reporting of anomalous manifestations in habitats and pest situation remain essential.* ***End note****.*

SGR - Western Outbreak Region: The SGR situation continued developing in November in Sahel West Africa. In **Mauritania,** breeding continued over vast areas in the central and north-western parts of the country.



(SGR situation in November, FAO-DLIS, 11/2013)

In **Adrar**, mature and immature adults with densities ranging from 100-3,500 individuals/ha were seen forming groups. Hopper bands with densities ranging from 1-60 individuals/m^2 were seen on areas ranging in size from 10 to 45 ha each. In **Inchiri**, ground teams continue operating in Khat Temadi, Jeiriniya, Louweibda and Ivezwiten in areas where localized infestations of hopper bands of all stages instars were reported. Mature and immature adult groups with densities ranging from 200-3,500 locusts/ha were also observed in this region. In **North Trarza**, hopper concentrations with densities ranging from 1-15 individuals/m^2 were treated on 100 ha in the extreme northern. Localized fledglings with densities ranging from 900-1,400/ha were also observed. In **Dakhlet Nouadhibou**, some mature and immature

adults were seen among hoppers of all stages.

Survey, monitoring and preventive control interventions by the National Locust Control Center continued during November and by the end of the month, Mauritania had controlled 32,350 ha with its own resources. CNLA/Mauritania's pesticide inventory was updated by the end of November and its current inventory shows 63,600 l of Chlorpyrifos 240. The previous CNLA figure of 155,400 l included the 25,000 l that was donated to Libya in 2012, the 30,000 l that pledged to contribute to the Malagasy locust campaign in 2013 as well as the 35,350 l it used against the ongoing locust resurgence in its own backyard. In **Morocco**, the locust situation remained calm during this month and **Algeria** treated adults and hoppers on 40 ha in irrigated areas. No locusts were reported elsewhere in the region during November (CNLA/Mauritania, FAO-DLIS, OFDA/AELGA,).

(**Note:** Mauritania is one of the counties in Sahel West Africa that have benefited a great deal from supports provided by USAID/OFDA and other donors and the FAO to strengthen its capacity for the prevention and control of locust invasions).

Forecast: Given favorable ecological condition and good rainfall recorded at the beginning of November locust activities will continue and adults will mature and lay eggs and form hoppers and bands. Some adults may move further north and breed or migrate to southern and southwestern Morocco and breed provided cold weather does not slows them down (CNLA/Mali, CNLAA/Morocco, CNLA/Niger, FAO-DLIS).

*Aggressive surveillance is critical to avoid a repeat of the 203-5 upsurges that affected dozens of countries and required hundreds of millions of USD to abate (**Note**: OFDA stood up a month long DART and deployed 7 aircraft during that time).*

SGR (Desert Locust) - Central Outbreak Region: SRG continued developing in **Sudan**, **Yemen, Eritrea** and **Saudi Arabia** and control operations continued in November. In **Sudan**, hoppers, bands and adults were controlled in more than 20,700 ha. In **Yemen**, breeding continued along the northern coast of the Red Sea where first generation hoppers, bands and adults were controlled on 9,000 ha in November. Infestations were also reported on the southern coast near Aden. In **Eritrea**, aerial operations treated hopper infestations on 10,040 ha on the Red Sea coast. Second generation egg-laying began in **Yemen** and **Saudi Arabia** and will likely start in **Eritrea** during the forecast period. In Eastern **Ethiopia**, adult locusts were controlled in 4 ha in Hare area in the Somale Region in early November. Groups of adult locusts were also reported in Shinile areas. In **Somalia**, heavy rain was reported in the northwest coast, a traditional winter breeding area for the Desert Locust (DLCO-EA, FAO-DLIS, PPD/Sudan).

Forecast: In **Yemen**, swarms will continue appearing in winter breeding areas in Tihama and Gulf of Aden and Red Sea coastal plains where ecological condition are favorable for the locusts to persist and breed. Breeding will continue in winter breeding areas along the Red Sea coast in **Sudan, Saudi Arabia** and **Eritrea**. Breeding may also occur in northwestern **Somalia** where good rains fell during November. In eastern **Ethiopia**, adult locusts will likely persist, but are not expected to develop during the forecast period. Other countries in the region will remain calm, but should remain alert as locusts may arrive from **Yemen**, **Sudan** or **Eritrea** (DLCC/Yemen, DLCO-EA, FAO-DLIS, PPD/Oman, PPD/Sudan).

SGR - Eastern Outbreak Region: Locust number declined in the summer breeding areas along the **Indo-Pakistan** borders and only a few adults were reported in Rajasthan Indian November (DPPQS/India, FAO-DLIS).

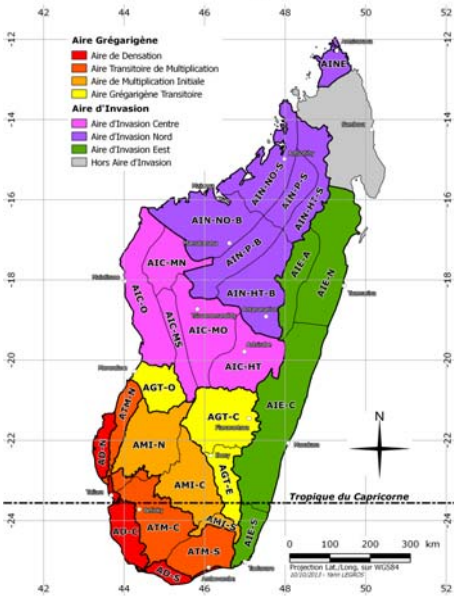
Forecast: A few adults may appear along the **Iran-Pakistan** during the forecast period (DPPQS/India, FAO-DLIS)

Red (Nomadic) Locust (NSE): Good and widespread rains that fell during November in **Tanzania, Malawi**, **Zambia** and **Mozambique** allowed NSE to begin breeding in the outbreak areas. Extensive egg-laying is underway in Ikuu-Katavi plains, Wembere plains and Malagarasi Basin in **Tanzania**; in Lake Chilwa/Lake Chiuta plains in **Malawi** and Buzi-Gorongosa plains in **Mozambique** where considerable numbers of parental populations persisted prior to the onset of the seasonal rains (IRLCO-CSA).

Forecast: considerable hatching is expected in Ikuu-Katavi plains, Malagarasi Basin and Wembere plains (**Tanzania**), Lake Chilwa/Lake Chiuta plains (**Malawi**) and Buzi-Gorongosa plains (**Mozambique**). Hopper bands will start forming as early as February, 2014. There is moderate to high probability that successful breeding in the Dimba plains (Mozambique) and Kafue Flats (Zambia) will give rise to hopper bands as well and cause locust populations to increase. Hoppers will fledge by March 2014 and form adult swarms thereafter which will migrate to cropping areas. If left uncontrolled, the impending NSE outbreaks can cause serious damage to crops and pasture and undermine food security.

IRLCO-CSA member-states are encouraged to make resources available for the designated organization - IRLCO-CSA to prepare and launch surveys and monitoring and implement timely and coordinated control operations as early as possible and avert any serious damage the pest can cause to crops and pasture (IRLCO-CSA).

Madagascar Migratory Locust (LMC) and Red (Nomadic) Locust (NSE): In Madagascar, gregarious 1st to 3rd instar hopper bands were reported on an estimated 18,800 ha in Mahakilo Basin in Maroahita and Ambatobe in the first dekad of November. 1st and 2nd instar hopper bands were reported in 2,630 ha in Ampoza in the Betsiriry Plain, South Morafenobe, Soahazo, Ankaraobato and the surroundings of Tsiroanomandidy.



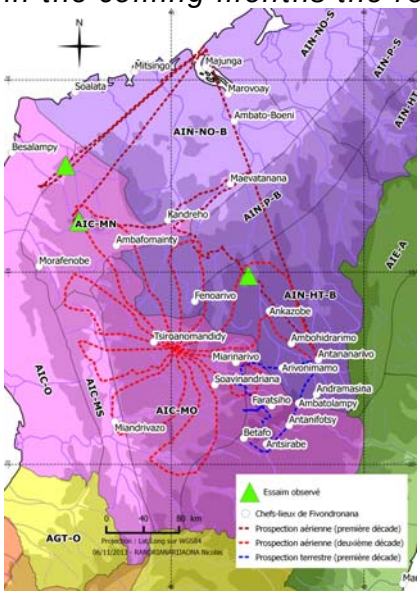
Areas of gregarization (red, orange and yellow) and invasion (green, pink and purple) of the Malagasy locust (gray areas are not affected (DPV-FAO-LWU, Nov. 2013)

Locusts were also reported in Andiolava, and West Sakaiza (Ihosy), in South Befandriana, in Ejeda and Beahitse. The team based in Ihosy Base reported the presence of medium density (25 to 100 m^2) 3rd and 4th instar hoppers on 1,000 ha. Adults and hoppers were reported in Sahamandrevo, Mahatalaky (Jangany) Ianakafy and Analamary where mating, egg-laying as well as 1st–3rd instar hopper groups continued appearing. The presence of low density (10-400 insects/ha) populations of mature and immature Red Locust (NSE) in Antsohihy in North Befandriana, Marotandrano and Port-

Bergé was reported during the first dekad of November (DPV-FAO-LWU).

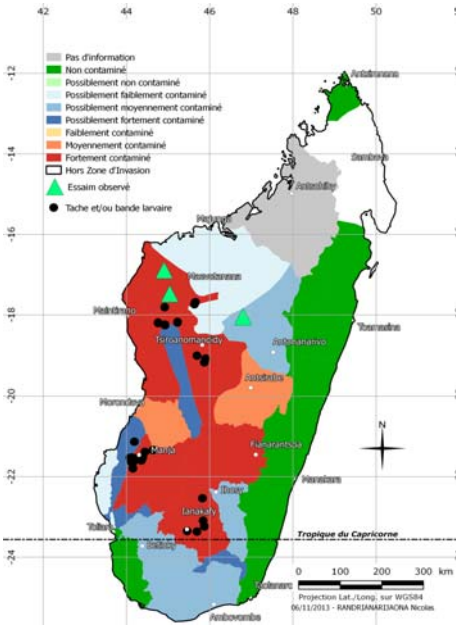
Forecast: With the continued presence of favorable ecological conditions, locusts will continue breeding in the outbreak and gregarization areas and infest several places in the coming months. Breeding and hatching will also continue and form hoppers, bands and adult groups during this period.

Vigilance, aggressive surveillance, monitoring and preventive interventions remain imperative to avert any major crop damage in the coming months the road.



Areas surveyed by air (red) and ground (blue) and locust sightings (green triangle) during October, 2013 (DPV-FAO-LWU, Nov. 2013)

Survey and control: helicopter surveys helicopters logged 62h and 32m as of the first dekad of November.
Aerial operations controlled hoppers and adult locusts in 4 ha in Vavalova locality in the Ihosy Locust Zone during the first dekad of November using the helicopter stationed in Tsiroanomandidy Base. NOMOLT (Teflubenzuron) was also applied by air as a barrier treatment to protect 3,000 ha in Bongolava Zone in Soafiadanana during this period. Aerial control operations will continue during the coming months to avert any crop and pasture damage from the pest infestation. Operations are in progress and updates are expected soon.



Areas infested during October, 2013 (DPV-FAO-LWU, Nov. 2013)

The latest locust information from FAO-DPV / Madagascar is available on:

http://www.fao.org/emergencies/results/en/?keywords=Madagascar%20locust%20crisis

Moroccan (*DMA*), Italian (*CIT*), Migratory (*LMI*) Locusts in Central Asia and the Caucasus (CAC): No locust activities were reported in November in CAC (OFDA/AELGA).

(Locust prone CAC countries, FAO)

Forecast: Locust activities are not expected in the CAC region until March, 2014 (FAO-ECLO, OFDA/AELGA).

Timor and South Pacific: No update was received in Timor and South Pacific in November (OFDA/AELGA).

African Armyworm (*AAW*): AAW outbreaks were reported the Golomoti area of Dedza district in **Malawi** where an estimated 61 ha of pasture and early planted maize were affected during the third week of November. Affected farmers launched controlled the outbreak with assistance from the MoA. Zimbabwe reported high moth catches in the Zambezi Valley during this month. No AAW outbreaks were reported in the rest of the IRLCO-CSA or DLCO member-countries during this time (DLCO-EA, IRLCO-CSA, PHS/Tanzania).

Forecast: There is a high probability of more AAW outbreaks occurring in the coming months in **Malawi. Mozambique**, **Tanzania** and **Zimbabwe** will also experience increased AAW presence and invasions during the forecast period. National Forecasting Services, including community forecasters where available and trap operators are advised to maintain fully operational pheromone traps, monitor moth movements and report to concerned authorities and alert farmers on a timely fashion (DLCO-EA, IRLCO-CSA, OFDA/AELGA).

Quelea (QU): QU bird control continued through the second week of November in the mid- and northeast Rift Valley areas in Ethiopia where colonies and roosts were treated on some 661 ha using Bethion 60%. Operations were concluded by the end of the third week of the month. No QU outbreaks were reported in the IRLCO-CSA or in other DLCO-EA member-countries during this period (DLCO-EA, IRLCO-CSA).

Forecast: QU bird outbreaks will not be likely in most of the DLCO or IRLCO countries. The outbreak in the Rift Valley in **Ethiopia** will have ended by the end of November. Other front line countries will likely experience light to none QU invasion during the forecast period (DLCO-EA, IRLCO-CSA).

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 a million 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 reports of rodent outbreaks were received during November. However, rodents remain a constant threat to cereal and other crops and produces in many outbreak and invasion areas and require regular surveillance and preventive interventions (OFDA/AELGA).

Front-line countries are advised to remain vigilant. Invasion countries are cautioned to stay on the lookout and monitor to avoid any surprises. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, and others are encouraged to continue sharing with partners and stakeholders the valuable information they obtain from the field through various means as often as possible. Lead farmers and community forecasters are encouraged to remain vigilance and report any ETOP sightings to field agents and other contact persons.

Inventories of National Stocks of Acridid Pesticides

Resulting from large-scale control operations that took place in Mauritania (32,355 ha), Sudan (20,709 ha), Yemen (9,000 ha), Eritrea (10,040 ha) and other countries,

national Acridid pesticide inventories changed in November.

Note: Some of the inventories shown below are not necessarily current, as many countries tend to draw down their inventories for controlling other agricultural pests or often report late or occasionally. **End note.**

Mindful of the risk of pesticides gradually becoming obsolete once passed their usefulness and posing serious health and environmental threats, ETOP-prone countries, particularly those with large inventories, but less likely to use them within a reasonable time period, are encouraged to test their stocks regularly and determine whether they should use, retain, share or discard them immediately.

With the support from USAID/OFDA, Japan, the Netherlands and other donors, FAO has been able to install a web-based tracking system – Pesticide Stock Management System (PSMS) - in more than 50 countries around the globe. The System has enabled countries to identify stocks that require testing, put to an immediate use, shared or promptly disposed.

OFDA/AELGA encourages countries to continue exploring options that are proven safe and effective in preventing the risks pesticides stockpiling could pose to humans, the environment, beneficial organisms and minimizing financial burdens associated with disposal of obsolete pesticide stocks. It promotes IPM 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: Morocco airlifted 63,600 l of pesticides on October 2, and will be shipping another 136,400 l to support the ongoing locust campaign in **Madagascar**. Other countries, including **Mauritania**, **Algeria** and **Senegal** pledged large quantities of pesticides to **Madagascar**. This kind of solidarity is a good example of a win-win situation where by countries that are donating the pesticides are not only assisting the receiving countries, but also avoiding a potential threat that could otherwise cost millions of dollars obsolete pesticide disposal.

Note: *The core message of* sustainable Pesticide Stewardship Program *is to strengthen the national and regional pesticide delivery systems by linking partners at different levels to help reduce pesticide related health risks as well as minimize and prevent environmental pollution, and thereby improve food security and ultimately contribute to the national and regional economy.* ***End note****.*

Estimated quantities of pesticides available for ETOP operations in frontline countries as of November, 2013

Country	Quantities l/kg[$]
Algeria	1,190,000~
Chad	43,400
Eritrea	33,600~
Egypt	Data not available
Ethiopia	1,600~
Libya	25,000
Madagascar	Receiving donations, but current data not available; 128,610
Mali	32,000 D
Mauritania	63,400*
Morocco	3,957,000~*
Niger	42,805~
Oman	20,000
Senegal	156,000~
Saudi Arabia	Data not available
Sudan	815,540~
Tunisia	158.6~
Yemen	26,400 + .527 kg GM~
[$]Include different kinds of pesticides in ULV, EC and dust formulations ~ data not current	

D = Mali donated 21,000 l for NSE in Malawi, Mozambique and Tanzania in 2012 and FAO facilitated the triangulation process and received 32,000 l from Morocco
GM = *GreenMuscle*™ (fungal-based bio-sticide)
Mauritania donated 25,000 and 30,000 l pesticides to Libya in 2012 and adagascar in 2013

LIST OF ACRONYMS

AAW	*African armyworm (Spodoptera expempta - SEX)*
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*
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 Criquet Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)*
CNLA/CNLAA	*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*
DL	
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 and hence cannot breed*
GM	*Green Muscle (a fungal-based biopesticide)*
ha	*hectare (= 10,000 sq. meters, about 2.471 acres)*
	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)*
Hopper bands	*groups of hoppers aggregated and marching in unison and pretty much in the same direction*
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*
NOAA	*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*
QQU	*Quelea quelea*
SARCOF	*Southern Africa Region Climate Outlook Forum*
SGR	*Schistoseca gregaria*
SWAC	*South West Asia DL Commission*
TAG	*Technical Assistance Group*
Triangulation	*(pesticide) The process whereby pesticides are donated by a country or countries with large inventories, but no immediate need to a country or countries with obvious and desperate needs and a third party takes on the negotiation role and assists with arranging shipments, etc. Usually FAO plays the third party role.*
USAID	*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, i.e. land clearing for agricultural and other development efforts.*

Who to Contact:

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