

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

## Summary

**The Desert Locust (SGR<sup>1</sup>)** situation remained active in February in the central outbreak region on the Red Sea coasts and the Horn of Africa. Aerial and/or ground control treated hoppers and swarms on some 50,000 ha in **Saudi Arabia, Eritrea, Sudan, Yemen** and northern **Somalia**. Other countries in the region remained calm during this month (DLCO-EA<sup>2</sup>, DLMCC/Yemen, FAO-DLIS, LCC/Oman, PPD/Sudan).

No major activities were reported in the western and eastern outbreak regions during this period and only a few scattered solitary adults were present in a few places in Mauritania and Niger (CNLA/Mauritania, CNLA/Tunisia, CNLAA/Morocco, DPPQS/India, NCLC/Libya, FAO-DLIS,).

**Forecast:** Locust infestations are expected to decline along the Red Sea coast due to unfavorable conditions and aggressive control interventions. Adult groups and swarms will likely form and move into spring breeding areas in **Saudi Arabia, Sudan**, northern **Somalia** and eastern **Ethiopia**. Low numbers of adults will likely appear in spring breeding areas in southeastern Morocco, western Algeria and southern Libya and perhaps begin

<sup>1</sup> Definitions of all acronyms can be found at the end of the report.

<sup>2</sup> DLCO-EA member-countries = Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, South Sudan, Tanzania, Uganda,

breeding during the forecast period. Southeast **Iran** and western **Pakistan** may experience limited-scale breeding in the coming months. Other countries will remain fairly calm during the forecast period (CNLA/Mauritania, CNLAA/Morocco CNLA/Tunisia, CRC, DLCO-EA, DLMCC/Yemen, DPPQS/India, FAO-DLIS, INPV/Algeria, LCC/Oman, NCLC/Libya, PPD/Sudan).

## OTHER ETOPS

**Red (Nomadic) Locust (NSE):** NSE is expected to have successfully bred and hopper groups and bands may have begun forming in the outbreak areas in **Tanzania, Malawi** and **Mozambique** and to a lesser extent in **Zambia (IRLCO-CSA, OFDA/AELGA)**.

**Forecast:** Hoppers will fledge and likely form swarms during the forecast period. If left unattended, some may escape and reach cultivated areas and cause serious damage to crops and pasture months after. The International Red Locust Control Organizations for Central and Southern Africa (IRLCO-CSA) has appealed to its member-states and development partners for resources to launch timely survey and control interventions and abate potential damage to crops and pasture (OFDA/AELGA, IRLCO-CSA)

**Madagascar Migratory Locust (LMC):** Extensive surveys were carried out during the 2<sup>nd</sup> dekad of January and by the 1<sup>st</sup> dekad of February hopper groups and bands as well as immature and mature adults were reported on some 360,000 ha in the outbreak and invasion areas. Air bases were re-deployed in

Toliar and Morondava and aggressive control began from the 3<sup>rd</sup> dekad of January on and treated/protected more than 236,000 ha as of the end of February (DPV-FAO, FAO-ECLC).

**Forecast:** Good rains continued through February and 2<sup>nd</sup> generation breeding progressed. More locusts are expected to appear in the outbreak and invasion areas during the forecast period.

*Aggressive surveillance, monitoring and timely preventive interventions remain imperative to avert any major crop damage in the coming months, all the more so in the West Central Invasion areas, North Central multiplication and Concentration areas (DPV-FAO, OFDA/AELGA).*

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

**Forecast:** Locust activities are expected to commence in CAC during the forecast period (FAO-ECLC, OFDA/AELGA).

**Tree locusts:** No reports were received on Tree Locusts in **Turkana County** in **Kenya** or elsewhere during February (OFDA/AELGA).

**African Armyworm (AAW):** AAW outbreaks were reported in Tanga and Coast Regions of **Tanzania** and control operations were launched by the affected farmers with technical and material assistance from the Ministry of Agriculture Food Security and Cooperatives (IRLCO-CSA).

**Forecast:** AAW outbreaks will likely occur in **Kenya** and continue in **Tanzania**.

Isolated late outbreaks may appear in **Malawi** and **Mozambique**. Active survey and reporting remain essential (IRLCO-CSA, OFDA/AELGA, PHS/Tanzania).

**Quelea (QQU):** QQU birds were reported attacking sorghum and millet in February in Kitui and Makueni in **Kenya** and damaging sorghum, millet and rice in Kilimanjaro and Shinyanga Regions in **Tanzania** (DLCO-EA, IRLCO-CSA).

**Forecast:** QQU outbreaks will continue in **Kenya** and **Tanzania** and likely threaten small grains in **Mozambique** and **Zimbabwe** (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 and issue alerts and monthly updates and advise as necessary. **End summary**

### **Progresses made in SGR Frontline Countries:**

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

With the support they received from external sources, including USAID/OFDA and their own resources, FCs are often able to launch preventive interventions and minimize and avoid the threats the SGR poses to food security and livelihoods of vulnerable communities.

Preventive interventions that Mauritania launched from October 2013 through January 2014, with its own resources, and abated threatening locust invasions is a good example of a success story.

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

### OFDA ETOP Activities and Impacts

- OFDA's support and contributions from other donors enabled FAO to establish Pesticide Stock Management System (PSMS) in 50 countries around the globe. As a result, participating countries can now conduct regular inventories and make informed decisions to prevent unnecessary accumulations of obsolete stocks, avoid costly disposal operations, ensure safety of their citizens and protect their shared environment.

- OFDA-sponsored, three year program on scaling up community-based armyworm monitoring, forecasting and early warning which was launched in FY 2013 is progressing well. The program aims at reducing the risk of armyworm threats to food security and livelihoods of rural communities and vulnerable populations. Activities are being coordinated by the DLCO-EA in collaboration with partners in Ethiopia, Kenya and Tanzania. Among partners' latest achievement is successful launching of a mobile based information collection and transmission by local farmers.

- 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.

- OFDA is considering expansion of the SPRRSN initiatives in North Africa, West Africa, the Middle East, CAC and other regions.

- 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 weather and ETOP situation and forecast for the next six weeks are discussed hereafter.**

### **Weather and ecological conditions**

Light rains were reported in spring breeding areas in the interior of the Arabian Peninsula, northwest Africa and southwest Asia, but continued declining on the Red Sea coasts and Sahel West Africa. Light showers and rains were reported in north central and southwest **Ethiopia** through the 3<sup>rd</sup> dekad of February and localized showers were observed along the **Ethiopian-Djibouti** borders during the 1<sup>st</sup> and 2<sup>nd</sup> dekads of the month. Vegetation was dry in most of the locust habitat and only patches of green vegetation were present in wadis in areas of recent rain (CNLA/Mauritania, CNLAA/Morocco, CNAL/Tunisia, DLCO-EA, DLMCC/Yemen, DPPOS/India, FAO-DLIS, INPV/Algeria, LCC/Oman, NCLC/Libya, PPD/Sudan).

Normal to heavy rains were recorded at several locations near NSE outbreak areas: 192.4 mm in Masenge (Wembere Plains), 443.9 mm in Kaliua (Malagarasi Basin), 184.0 in Mpanda (Iku-Katavi plains) and 134.5 mm in Muze (Lake Rukwa plains) in **Tanzania**; 190.0 mm in Mafambisse (Buzi plain), 207.0 in Gorongosa (Gorongosa plain) and 212.0 mm Caia (Dimba plain) in **Mozambique**). Flooding that occurred late into NSE breeding season over relatively small areas in the Buzi and Dimba plains (**Mozambique**) and the Kafue Flats (**Zambia**) did not affect NSE breeding

significantly (IRLCO-CSA). Ecological conditions are expected to have remained unfavorable for locust activities to commence in **CAC** (OFDA/AELGA).

In **Madagascar**, optimum rainfall for the Malagasy locust was recorded during the 1<sup>st</sup> dekad of February: 0 to 77.5 mm in the initial multiplication areas, 0 to 35.4 mm in the transitional multiplication areas and 0 to 34.1 mm in the condensation area. Vegetation coverage was 100% in the invasion and outbreak areas and soil moisture remained optimum for the locusts to develop. The prevailing wind was from East to West in the outbreak area and from Northwest to Southeast in the invasion areas (DPV-FAO).

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

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

**SGR - Western Outbreak Region:** The SGR situation remained calm in winter breeding areas in the western outbreak region. Only scattered adults were detected in northern Mauritania and the Air Mountain in Niger during February.

**Forecast:** Low numbers of adults will likely appear in spring breeding areas in southeastern Morocco, western Algeria and southwestern Libya and perhaps begin breeding during the forecast period, but significant developments are not likely (CNLA/Mauritania, CNLAA/Morocco, FAO-DLIS, NCDLC/Libya).

**SGR (Desert Locust) - Central Outbreak Region:** The SGR situation remained active in the central outbreak areas where adult groups, swarms, hoppers and bands were reported.

Aerial and ground control operations treated close to 50,000 ha in the region: 37,283 ha in **Saudi Arabia**, 5,380 ha in **Eritrea**, 4,166 ha in **Sudan**, 3,150 ha in **Yemen** and 76 ha in northern **Somalia** in February (see table below for areas treated over the past several months).

Locust scouts in Aysha reported the presence of scattered mature gregarious locusts which may have migrated from adjacent areas in northern Somalia (DLCO-EA). Isolated solitary immature, adults were detected in February in al Khoudh in Muscar Region in **Oman**. Other countries in the region remained calm during this period (DLCO-EA, DLMCC/Yemen, FAO-DLIS, PPD/Oman, PPD/Sudan).

Mon	ERT	SDN	S. ARB	YEM	Total ha'000
Feb	5.38	4.17	37.28	3.15	49.98
Jan	16.55	10.48	23.68	.678	51.39
Dec	38.0	5.89	10.99	24.1	78.98
Nov	10.2	20.7	466	15.99	47.36
Total	70.13	41.24	72.42	43.92	227.71

SGR control operations on the Red Sea coasts, Nov. 2013 thru Feb. 2014; (source: various)

**Forecast:** Locust infestations are expected to decline in winter breeding areas along the Red Sea coasts where aggressive control and unfavorable ecological conditions persisted. Adult groups and small swarms are expected to form and move to spring breeding areas in the interior of **Saudi Arabia**, northern **Sudan**, and perhaps parts of northern **Somalia**. Some activities are likely in spring breeding areas in eastern **Ethiopia** and **Oman** and perhaps start breeding if rains fall in the coming months. Other countries in the region will remain calm during the forecast period.

*Vigilance and active monitoring, reporting and preventive interventions remain essential to abate locust migration to neighboring countries* (CRC, DLCO-EA, DLMCC/Yemen, FAO-DLIS, LCC/Oman, PPD/Sudan).



SGR situation in February (source: FAO-DLIS, Mar., 2014)

**SGR - Eastern Outbreak Region:** No locusts were reported in southeastern **Iran**, southeastern/southwestern **Pakistan** or **India** during this period (DPPQS/India, FAO-DLIS).

**Forecast:** Small-scale breeding is likely in areas of recent rainfall in southeast **Iran** and western **Pakistan** and cause locust numbers to increase slightly, but significant developments are not expected in the region during the forecast period (DPPQS/India, FAO-DLIS)

**Red (Nomadic) Locust (NSE):** NSE is expected to have successfully bred in most of the outbreak areas. Hopper groups and bands may have begun forming during late February in Ikuu-Katavi, North and South Rukwa Valley, Wembere plains and Malagarasi basin in **Tanzania**; Lake Chilwa/Lake Chiuta plains along the borders of **Malawi** and **Mozambique**; Buzi and Dimba plain in **Mozambique** and to a lesser extent in the Kafue Flats in **Zambia** (IRLCO-CSA).

**Forecast:** Hoppers will fledge and form immature adults in the primary outbreak areas in **Tanzania**, **Malawi** and **Mozambique** and to a lesser extent in **Zambia** during the forecast period. If left uncontrolled, they will likely form swarms by April into early May and begin migrating to

neighboring areas and threaten crops and pasture. Some swarms may continue on and reach cropping areas in **Zimbabwe, Botswana, Uganda, Rwanda, Burundi** and perhaps **Kenya** and threaten crops and pasture in the Region. *Aggressive survey, monitoring and preventive as well as curative interventions remain critical to avert major developments and threats.* (IRLCO-CSA<sup>3</sup>, OFDA/AELGA).

**IRLCO-CSA** has issued an alert and appealed to its member-states and development partners to avail resources to maintain aggressive and timely survey, monitoring and coordinated control operations to avert any serious damage the pest could cause to crops and pasture and impact food security in the affected regions down the line.

### Madagascar Migratory Locust (LMC)

Significant progresses were reported over the past dekads: extensive surveys, monitoring and control interventions were intensified; based on the results of extensive surveys carried out during the 2<sup>nd</sup> dekad of January, operational air-bases were re-deployed to Toliara and Morondava to operate closer to major invasion/development areas; three helicopters, one fixed-wing aircraft and numerous ground-based vehicles have been dispatched.

**Control operations:** Aggressive control operations from the 3<sup>rd</sup> dekad of January on continued in February. By the end of January, some 80,000 ha were reported treated or protected and a month later, 236,000 ha were reported treated/protected since the current campaign began on 26<sup>th</sup> September, 2013 (DPV-FAO, FAO-ECLO).

**Pesticides inventory:** Based on information available at the time this report was compiled,

<sup>3</sup> IRLCO-CSA member-countries = Botswana, Kenya, Malawi, Mozambique, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe

by the end of the 1<sup>st</sup> dekad of February, pesticide inventory was reported at 176,580 l/kg (680 kg of *GreenMuscle*, 35,057 l Chlorpyrifos and 140,850 l Teflubenzuron 50 UL); 12,000 l of Chlorpyrifos and 320 kg of *GreenMuscle* are expected to arrive in the country soon (DPV-FAO).

**Crop damage:** It is reported that hoppers destroyed 10 ha of maize crop east of the eucalyptus forest in Antanimieva in the transitional multiplication area in the northwest and another 14 ha of maize crop was also reported damaged in Belo –sub-Tsiribihina in the central invasion areas in the west (DPV-FAO).

**Commodity price:** The price of paddy rice in the local markets has decreased from 645-817 Ariary/kg to 650-870 Ariary/kg in the invasion areas and from 550-1150 Ariary/kg to 550-1020 Ariary/kg in the outbreak areas during the 1<sup>st</sup> dekad of February compared to the 3<sup>rd</sup> dekad of January. However, these prices are still higher compared to those of 2011- 2013 around the same month. The price fluctuation was associated with the expected potential impact of late rains and locust invasions on rice production (source: Bulletin No. 4 of the Rural Development Action Plan – DPV-FAO). Given the current situation the latter assumption remains valid.

**Forecast:** The 2<sup>nd</sup> generation breeding that commenced in late January and continued through February will cause locust numbers to continue during the forecast period. *Vigilance, aggressive surveillance, monitoring and timely preventive and curative interventions remain imperative to avert any major crop damage in the coming months.*

**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 locusts were reported in CAC during this period (OFDA/AELGA).



(Locust prone CAC countries, FAO)

**Forecast:** Locust activities are expected to commence in CAC during the forecast period (FAO-ECLO, OFDA/AELGA).

**Tree locusts:** No reports were received on Tree Locusts in Turkana County in Kenya where infestations were reported previously or elsewhere during February (OFDA/AELGA).

**Timor and South Pacific:** No update was received from E. Timor in February (OFDA/AELGA).

**African Armyworm (AAW):** AAW outbreaks were reported in Tanga and Coast Regions of **Tanzania** where control operations were launched by the affected farmers with technical and material assistance from the Ministry of Agriculture Food Security and Cooperatives (IRLCO-CSA).

**Forecast:** AAW outbreaks will likely occur in **Kenya** and **Tanzania** and isolated late outbreaks may appear in **Malawi** and **Mozambique**. Active surveillance and timely reporting and preventive interventions remain critical (DLCO-EA, IRLCO-CSA, OFDA/AELGA)

**Quelea (QQU):** Serious QQU outbreaks were reported causing damage to sorghum and millet crops in Kitui and Makueni counties in **Kenya** and aerial control was carried out by Crop Protection Services Division of the MoAL using a DLCO-EA spray aircraft. QQU outbreaks were also reported attacking sorghum, millet and rice in Kilimanjaro and Shinyanga Regions in **Tanzania**. Control operations were in preparation at the time this report was compiled. No QQU activities were reported in other DLCO or IRLCO member countries, but monitoring is in progress in cropping areas in IRLCO-CSA member-states (DLCO-EA, IRLCO-CSA).

**Forecast:** QQU outbreaks will likely continue in **Kenya** and **Tanzania** begin appearing in **Mozambique** and **Zimbabwe** with the rain-fed and irrigated small grain cereal crops being at risk damage. Active surveillance and timely interventions remain essential to avert any crop losses during the forecast period (IRLCO-CSA, OFDA/AELGA, PHS/Tanzania).



QQU roosts in Kitui, Kenya in February (Courtesy: Daily Nation Kenya, March, 2014)

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

**Rodents:** No reports of rodent outbreaks were received during February. 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 and invasion countries are cautioned to maintain regular monitoring. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, and others are encouraged to continue sharing ETOP information from the field with partners and stakeholders as often as available. Lead farmers and community forecasters are encouraged to remain vigilance and report any ETOP sightings to field agents and concerned authorities immediately.

### **Inventories of National Stocks of Acridid Pesticides**

Pesticide inventory showed a modest change in February as few countries were engaged in control operations: Eritrea (5,380 ha), Sudan (4,166 ha), Yemen (3,150 ha), Saudi Arabia (37,283 ha), Somalia (76 ha, bio-pesticide). No changes were reported in other countries during the reporting month.

**Note:** Some of the inventories shown below are not necessarily current, as many countries tend to their inventories after activities are concluded and/or use acridid pesticides for controlling other agricultural pests. **End note.**

Mindful of the risk of pesticides becoming obsolete passed their use of life and posing serious health and environmental threats and become considerable financial burdens, ETOP countries with large inventories and 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 safely discard them.

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 dozens of countries to identify stocks that require testing, or put to an immediate use, or shared or promptly disposed.

OFDA/AELGA encourages countries to continue exploring options that are proven safe and effective in preventing the risks pesticide stockpiling could pose to vulnerable populations and communities, their shared environment and assets as well as beneficial organisms and to minimize and ultimately avoid 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 donated 200,000 l of pesticides to Madagascar to support the ongoing locust campaign. Other countries, including Mauritania, Algeria and Senegal pledged large quantities of pesticides to Madagascar. Just recently, Saudi Arabia donated 25,000 l of pesticides to Yemen locust campaign. These are good examples of a solidarity that heralds a win-win situation where by donating countries are not only assisting the receiving country, but also avoiding a potential threat that could otherwise cost millions of dollars in disposing large pesticide stocks once they become obsolete and unsafe to use.

**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 I/kg <sup>§</sup>
Algeria	1,190,000~ <sup>D</sup>
Chad	43,400
Eritrea	-9,780~
Egypt	Data not available
Ethiopia	1,600~
Libya	25,000
Madagascar	176,580
Mali	32,000 <sup>D</sup>
Mauritania	49,000 <sup>D</sup>
Morocco	3,757,000~ <sup>D</sup>
Niger	42,805~
Oman	20,000
Senegal	156,000~ <sup>D</sup>
Saudi Arabia	Data not available
Sudan	805,474~
Tunisia	36,575~
Yemen	263.080@ + 527 kg GM~

<sup>§</sup>Include different kinds of pesticides in ULV, EC and dust formulations  
~ data not current

<sup>D</sup> = Morocco, Senegal, Mauritania and Algeria donated/pledged 200,000 I, 30,000 I, and 30,000 I of pesticides to Madagascar in 2013; Mali donated 21,000 I for NSE in Malawi, Mozambique and Tanzania in 2012 and FAO facilitated the triangulation process and received 32,000 I from Morocco;

Mauritania donated 25,000 and 30,000 I of pesticides to Libya in 2012 and Madagascar 2013

GM = *GreenMuscle*<sup>™</sup> (fungal-based biological pesticide)

@includes donations from Saudi Arabia

**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 Pèlerin 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  
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

	<i>developed reproductive organs and hence cannot breed</i>	PRRSN	<i>Pesticide Risk Reduction through Stewardship Network</i>
GM	<i>Green Muscle (a fungal-based biopesticide)</i>	QQQU	<i>QQUelea QQUelea</i>
ha	<i>hectare (= 10,000 sq. meters, about 2.471 acres)</i>	SARCOF	<i>Southern Africa Region Climate Outlook Forum</i>
	<i>Integrated Regional Information Networks</i>	SGR	<i>Schistoseca gregaria</i>
IRLCO-CSA	<i>International Red Locust Control Organization for Central and Southern Africa</i>	SWAC	<i>South West Asia DL Commission</i>
ITCZ	<i>Inter-Tropical Convergence Zone</i>	TAG	<i>Technical Assistance Group</i>
ITF	<i>Inter-Tropical Convergence Front = ITCZ)</i>	Triangulation	<i>The process whereby pesticides are donated by a country or countries, with large inventories with no immediate need, to a country or countries with dire need and a third party steps into the negotiation table and assists with shipments, etc. Usually FAO plays the third party role.</i>
FAO-DLIS	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>		
Hoppers	<i>young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)</i>	USAID	<i>Unites States Agency for International Development</i>
Hopper bands	<i>groups of hoppers aggregated and marching in unison and pretty much in the same direction</i>	UN	<i>the United Nations</i>
Kg	<i>Kilogram (~2.2 pound)</i>	ZEL	<i>Zonocerus elegans, the elegant grasshopper</i>
L	<i>Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)</i>	ZVA	<i>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.</i>
LMC	<i>Locusta migratoriacapito</i>		
LMM	<i>Locusta migratoria migratorioides (African Migratory Locust)</i>		
LPA	<i>Locustana pardalina</i>		
MoAFSC	<i>Ministry of Agriculture, Food Security and Cooperatives</i>		
MoARD	<i>Ministry of Agriculture and Rural Development</i>		
NCDLC	<i>National Desert Locust Control, Libya</i>		
NOAA	<i>National Oceanic and Aeronautic Administration</i>		
NSD	<i>Republic of North Sudan</i>		
NSE	<i>Nomadacris septemfasciata</i>		
OFDA	<i>Office of U.S. Foreign Disaster Assistance</i>		
PHD	<i>Plant Health Directorate</i>		
PHS	<i>Plant Health Services, MoA Tanzania</i>		
PPD	<i>Plant Protection Department</i>		
PPSD	<i>Plant Protection Services Division/Department</i>		

### Who to Contact:

If you have any questions, comments or suggestions, or know someone who would like to subscribe to this report, please, feel free to contact:

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