

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

SUMMARY

The Desert Locust (SGR¹) activities continued in February in winter breeding areas along the Red Sea coasts.

In **Sudan**, adult locusts and hopper bands were controlled on more than 30,800 ha in the southern Red Sea by air and ground means during February. Vegetation is drying and soil has dried out in most of the surveyed sites.

Locusts continued breeding and developing in February on the coastal areas in **Eritrea** and **Saudi Arabia** where control operations are in progress. The situation was rather unclear in **Yemen** where surveys were not carried out and vegetation was drying up in winter breeding areas along the Red Sea and the Gulf of Aden. No locusts were reported in **Ethiopia, Somalia, Oman** or elsewhere in the central outbreak region during this month.

A few scattered adults and hoppers were reported north of Timbuktu and Kidal in **Mali**, but could not be

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

confirmed due to the ongoing insecurity situation. Survey operations continued during the first dekad of February in valleys and southern **Morocco**, but no locusts were observed during this time. Locusts were not reported in Tunisia or Libya and no reports were received in Algeria, Senegal or during February.

Forecast: In **Sudan**, locust will likely move to the interior of the country and a similar situation is likely in **Eritrea** and **Saudi Arabia** where locusts will move to the highlands in the interior of the countries and perhaps begin breeding. In **Yemen**, a few adults may persist in irrigated areas and in patches of green vegetation and perhaps begin breeding should rains fall during the forecast period. Other countries in the central, the western and the eastern outbreak regions will likely remain clam during the forecast period.

Active surveillance and monitoring remain critical to avoid unexpected surprises along the Red Sea coasts and elsewhere in the outbreak regions.

OTHER ETOPS

Red (Nomadic) Locust (NSE):

The NSE situation continued to be

serious and hoppers were expected to have begun forming in the primary outbreak areas in **Tanzania** where large NSE parental populations persisted prior to the onset of the rains (IRLCO-CSA).

Forecast: If left uncontrolled, swarms will form and damage crops and pasture and affect food security in the region. Frontline countries need to collaborate with the IRLCO-CSA and carry out intensive surveys and preventive and curative control interventions to avoid potentially significant crop losses (IRLCO-CSA).

Madagascar Locust Update

Two FAO helicopters stationed in the primary outbreak and invasion areas continued survey and control operations. The GoM Ministry of Agriculture (MoA) staff and technicians are making every effort to launch ground operations to fend off locust invasions. FAO is appealing for additional funds to complete the locust campaign that began in September 2013 and has controlled/prevented more than 1.3 million ha (>3.22 million acres) and also to strengthen GoM capacity to prevent future invasions and outbreaks.

Moroccan (DMA), Italian (CIT), Asian Migratory (LMI) Locusts in Central Asia and the Caucasus (CAC): No locusts were reported in CAC region in February. Hatching will

likely begin in the foothills of the rising temperature in spring, but significant developments are not likely during the forecast period (OFDA-AELGA).

African Armyworm (AAW): AAW outbreaks were reported attacking maize, rice, sorghum and pasture in February in **Mozambique** where 297 ha were reported damaged. Affected farmers launched control with technical and materials assistance from the MoA (IRLCO-CSA).

Forecast: AAW outbreaks will continue through the forecast period in the central outbreak areas in **Tanzania** and **Kenya** (IRLCO-CSA, OFDA/AELGA).

Quelea quelea (QQU): QQU birds were reported damaging sorghum in **Kenya** where aerial control was carried out by the MoA and DLCO-EA. QQU outbreaks were also reported in **Tanzania** and **Zimbabwe** during February (IRLCO-CSA, OFDA/AELGA).

Forecast: QQU birds will likely continue posing a problem to small grain cereal growers in **Kenya**, **Tanzania** and **Zimbabwe** during the forecast period (IRLCO-CSA, OFDA/AELGA).

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 assistance 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 close to 300 villages in 30 districts in collaboration with partners in **Ethiopia, Kenya and Tanzania** - click <http://bit.ly/1C782Mk> - to view project sites in the three countries (the map is work in progress and will soon be updated and finalized).*

The CBAMFEW 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 condition was fairly dry and ecological conditions were unfavorable in most of the western SGR outbreak regions. Only light rains were reported during the 1st and 2nd dekads of February in Gao, Kidal, Timbuktu, and far north and south Sikasso and Koulikoro in northern **Mali**. A few places in the Draa and Ziz-Ghris Oued Sakia El Hamra valleys and the southeast part of **Morocco** reported favorable conditions for locusts to survive and breed (CNLA/Chad, CNLA/Mali, NCDLC/Libya, CNLA/Mauritania, CNLAA/Morocco, CNLA/Tunisia).

In **Sudan** and **Yemen** vegetation was dry to drying in winter breeding areas except in irrigated places and wadis during February.

Normal to below normal rains were recorded in the NSE outbreak areas. Heavy flooding drenched NSE breeding areas in Lake Chilwa/Lake Chiuta plains along the borders of **Malawi** and **Mozambique** in January into February.

Country	Station	Rainfall mm
Tanzania	Masenge (Wembere plains)	90.0
Tanzania	Kaliua (Malagarasi Basin)	302.5
Tanzania	Mpanda (Iku-Katavi plains)	134.9
Tanzania	Muze (Lake Rukwa plains)	245.0
Mozambique	Nhamatanda (Buzi-Gorongosa plains)	192.0
Mozambique	Mafambisse (Buzi-Gorongosa plains)	192.0
Mozambique	Caia (Dimba plains)	134.0
Mozambique	Dimba (Dimba plains)	176.0

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 a univoltin (a single generation per year) insect, recently began exhibiting two generations per year. These anomalous manifestations and phenomena are a serious concern to farmers, rangeland managers, crop protection experts and others. Regular monitoring and documenting anomalous manifestations

*in pest behavior and habitats and timely reporting remain critical. **End note.***

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

SGR – Western Outbreak Region: In **Morocco**, survey operations continued during the first dekad of February in Guelmim-Es Smara and Laayoune-Boujdour-Sakia Al Hamra regions, but no locusts were observed during this time. **In Mali**, the SGR situation generally remained calm and no locusts were reported by the standby survey brigades in the northern region. However, limited activities may have occurred in Agulhoc and Timetrine in the north where security situation continued impeding survey and control operations. In **Mauritania**, the situation remained calm throughout winter breeding areas. No locusts were reported in **Chad, Libya** or **Tunisia** and no reports were received from **Algeria, Niger** or **Senegal** during this month (CNLA/Chad, CNLA/Mali, CNLA/Mauritania, CNLCP/Mali, CNLAA/Morocco, CNLA/Tunisia, NCDLC/Libya).

Forecast: In **Morocco**, ecological conditions are favorable in the Draa and Ziz-Ghris Oued Sakia El Hamra valley and southeast of the country for SGR to survive and breed. Some activities may occur in northern **Mali**, but could not be confirmed due to the security situation. Major developments are not likely in the western outbreak region during the forecast period. Regular surveillance remains necessary to check the impact of rising temperatures on locusts during the forecast period.

SGR (Desert Locust) – Central Outbreak Region: SGR persisted in winter breeding areas along the southern Red Sea coasts in **Sudan** during February. During the last

week of February, control operations concentrated in the southern coastal areas where vegetation was green and south of Suakin where several immature swarms measuring 200 to 1,000 ha were detected between Adobana and Karora and controlled by air. Several 5th instar bands, fledglings and gregarious immature/mature groups were also controlled near Adobana (18 01N/38 16E), Agetai and Aiterba (17 53N/38 19E) during this time. Immature and mature gregarious adult groups were detected in patches of green vegetation south of Suakin and controlled. Four immature swarms of various sizes were detected and treated on 9,000 ha in Melait by air (17 48 23N/38 22 04E), Gadimbower (17 56 08N/38 20 01E), Marammer (17 47 58N/38 21 32E) and Karora (17 45 17N/38 22 32E) in the southern Red Sea coast during the 3rd week of February. Ground control also treated numerous late instar hopper bands, fledglings and immature and mature gregarious groups on 2,250 ha in cropping and grazing areas near Adobana (18 01N/38 16E), Agetai and Aiterba (17 53N/38 19E) during this period. During the previous week, 11,177 ha (7,575 by air and 3,602 by ground means) were treated in coastal areas between Suakin and Port Sudan and to a lesser extent south of Suakin. Control operations treated 8,450 ha (4,750 ha by air and 3,700 ha by ground means) during the last week of February (PPD/Sudan).

Locust activities continued in February on the coastal areas in **Eritrea** and **Saudi Arabia** where control operations are in progress. The situation was rather unclear in **Yemen** where surveys were not carried out and vegetation was dry in winter

breeding areas along the Red Sea and the Gulf of Aden except in irrigated areas. No locusts were reported in **Ethiopia**, **Somalia**, **Oman** or elsewhere in the central outbreak region during this month (DLMCC/Yemen, LCC/Oman).

Forecast: Adult locusts will likely move from winter breeding areas to the interior of **Sudan** and begin breeding during the forecast period. A similar situation is likely in **Eritrea** and **Saudi Arabia** where locusts will move from the coastal areas into the highlands in the interior of the countries and, perhaps, begin breeding in areas of recent rainfall during the forecast period. In **Yemen**, small-scale breeding is likely in areas of recent rainfall, but overall the situation is expected to remain relatively calm during the forecast period. Low numbers of adults may appear in **Oman**, but the rest of the region will likely remain calm during the forecast period (DLMCC/Yemen, FAO-DLIS, LCC/Oman, PPD/Sudan).

SGR - Eastern Outbreak Region: The SGR situation remained calm during February.

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 situation remained a concern as ecological conditions continued developing in the outbreak areas. Hoppers of various densities are expected to have occurred in Ikuu-Katavi plains, Malagarasi Basin and Wembere plains in **Tanzania** where large parental populations persisted prior to the onset of the rains. If left uncontrolled, the hoppers will fledge, form swarms and invade cultivated crops and pasture in the

neighboring districts. Swarms may also migrate further and invade cropping areas and damage crops and pasture in neighboring countries and affect food security in the region (IRLCO-CSA, OFDA/AELGA).

Forecast: NSE will likely begin fledging and forming immature adults in the outbreak areas during the forecast period. IRLCO-CSA is planning to carry out survey and control operations in collaboration with the MoAs. IRLCO-CSA, an organization exclusively supported through membership dues, seeks financial support from Member Countries and development partners to undertake extensive survey and control operations.

Frontline countries need to collaborate with the IRLCO-CSA and carry out intensive surveys to establish the status of NSE populations and ready for preventive and curative control interventions to avoid loss crops and pasture.

Active surveillance, monitoring and preventive interventions remain critical to detect and abate the movement of hopper bands and swarms from breeding habitat and cause significant damage to crops and pasture.

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 and abate potentially devastating threats to food security and livelihoods of vulnerable populations in the region.

Madagascar Migratory Locust (LMC): No update was received at the time this report was compiled, but an earlier report indicates continued locust activities in the

outbreak areas. On January 21, 2015 FAO appealed for \$10.6 to abate a potentially devastating locust threat and complete the job that began in September, 2013. As of now, Belgium, France and GoM (through a loan from IFAD) contributed \$620,000, 500,000 Euro, and USD 600,000, respectively. Japan signed an agreement last April for USD 2 million to support the ongoing locust operations during the 2nd and 3rd phases.

Forecast: Locusts will continue threatening food security and livelihood of some 13 million people in the south and southwestern parts of the country - home to chronically food-insecure people. It is highly likely that another formal appeal will come from the UN/FAO to assist the ongoing fight against the locust infestations and to avert significant food insecurity in the greater south of Madagascar.

Italian (CIT), Moroccan (DMA) and Migratory (LMI) Locusts in Central Asia and the Caucasus (CAC): No update was received at the time this report was compiled or no activities are expected to have occurred during this time (OFDA-AELGA).

Forecast: CAC region may see small-scale locust activities during the forecast period (OFDA-AELGA).

Italian, Migratory and Moroccan locusts are a constant threaten to Central Asia and the Caucasus. These pests can profusely multiply and attack tens of millions of hectares and affect more than 20 million vulnerable rural inhabitants that eke a living primarily from farming and herding. With the ability to travel more than 100 km (60 miles) each day, these locusts can decimate dozens of hectares of crops and

pasture, including, cereal crops, cotton, fruit trees, leguminous plants, sunflower, tobacco, vineyard, vegetable, etc. over vast areas. Most of the countries affected by the three locust species are relatively new and lack the capacity to effectively control the pest (The once known as the centralized robust pest control capacity in these countries disappeared with the downfall of the Soviet system leaving each country to fetch for itself).

Currently, USAID/OFDA is providing a modest financial assistance through a grant to the UN/FAO to help strengthen/build the capacity at the national and regional levels to prevent and control the threats these notorious pests pose to vulnerable populations and the nations as a whole.

Timor and South Pacific: No update was received from East Timor in February, but ETOP presence is likely.

African Armyworm (AAW): AAW outbreaks were reported in Sofala (Nhamatanda, Gorongosa, Buzi, Dondo Chemba districts), Manica (Barue, Vanduzi, Gondola, Chimoio,, Macate, Sussundanga districts) and Tete (Tete and Moatize districts) in **Mozambique** in February. The pest was reported attacking maize, rice, sorghum and pasture on some 3,326 ha of which close to 297 ha were reported lost as a result. Affected farmers carried out control operations with technical and material (insecticides and sprayers) assistance from the MoA. AAW outbreaks were also reported in **Tanzania** in the southern region (IRLCO-CSA).

Forecast: AAW outbreak will continue in **Kenya** and **Tanzania** during the forecast period IRLCO-CSA, OFDA/AELGA).

Quelea (QQU): QQU bird outbreaks were reported causing damage to sorghum in Kitui County in **Kenya** where aerial control operations were carried out by the Crop Protection Department of the MoA in collaboration with DLCO-EA that provided a spray aircraft. In **Tanzania**, outbreaks were reported in Shinyanga Region. Survey operations are in progress by MoA to identify roosts and colonies and control. Quelea outbreaks were also reported damage sorghum and millet in Masvingo, Matebeleland South (Gwanda district) in Mashonaland Central (Dande district) Provinces in **Zimbabwe** during this period (DLCO-EA, IRLCO-CSA, OFDA/AELGA).

Forecast: QQU birds will likely continue posing a problem to small grain cereal growers (rice, sorghum, wheat) in **Kenya Tanzania** and in during the forecast period (IRLCO-CSA, OFDA/AELGA).

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 and 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 rodents in February. However, this pest is a constant threat to crops and produces and requires active surveillance and preventive interventions to avoid any major threats (OFDA/AELGA).

Front-line countries must remain vigilant. Invasion countries should maintain regular monitoring. DLCO-EA, DLCCs, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, etc., are encouraged to continue sharing ETOP information with stakeholders as often and as early as possible. Lead farmers and community forecasters must remain

vigilant and report ETOP detections to relevant authorities immediately.

Inventories of Pesticide Stocks for ETOP Control

Control operations treated 38,800 ha in **Sudan** during February. No update was available for **Eritrea** or **Saudi Arabia**

Note: Some of the data on pesticide inventories provided in the following table are not necessarily current due to the fact that some 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 alternatives 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 can effectively reduce 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. ETOP Pesticide Inventory in Frontline Countries

Country	Quantity (l/kg) [§]
Algeria	1,190,000~ ^D
Chad	43,400
Eritrea	-15,473~

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	633,718~
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 (<i>Spodoptera expempta</i>)
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	<i>Australian Plague Locust Commission</i>		<i>Animal and Plant Pests and Diseases</i>
Bands	<i>groups of hoppers marching pretty much in the same direction</i>	ETOP	<i>Emergency Transboundary Outbreak Pest</i>
CAC	<i>Central Asia and the Caucasus</i>	Fledgling	<i>immature adult locust /grasshopper that has pretty much the same phenology as mature adults, but lacks fully developed reproductive organs to breed</i>
CBAMFEW	<i>Community-based armyworm monitoring, forecasting and early warning</i>	GM	<i>GreenMuscle® (a fungal-based biopesticide)</i>
CERF	<i>Central Emergency Response Fund</i>	ha	<i>hectare (= 10,000 sq. meters, about 2.471 acres)</i>
CIT	<i>Calliptamus italicus</i>	IRIN	<i>Integrated Regional Information Networks</i>
CLCPRO	<i>Commission de Lutte Contre le Criquet Pèlerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)</i>	IRLCO-CSA	<i>International Red Locust Control Organization for Central and Southern Africa</i>
CNLA(A)	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>	ITCZ	<i>Inter-Tropical Convergence Zone</i>
CRC	<i>Commission for Controlling Desert Locust in the Central Region</i>	ITF	<i>Inter-Tropical Convergence Front = ITCZ)</i>
CTE	<i>Chortoicetes terminifera</i>	FAO-DLIS	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>
DDLC	<i>Department of Desert Locust Control</i>	Hoppers	<i>young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)</i>
DLCO-EA	<i>Desert Locust Control Organization for Eastern Africa</i>	Kg	<i>Kilogram (~2.2 pound)</i>
DMA	<i>Dociostaurus maroccanus</i>	L	<i>Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)</i>
DPPOS	<i>Department of Plant Protection and Quarantine Services</i>	LMC	<i>Locusta migratoriacapito</i>
DPV	<i>Département Protection des Végétaux (Department of Plant Protection)</i>	LMM	<i>Locusta migratoria migratorioides (African Migratory Locust)</i>
ELO	<i>EMPRES Liaison Officers</i>	LPA	<i>Locustana pardalina</i>
EMPRES	<i>Emergency Prevention System for Transboundary</i>		

MoAFSC	Ministry of Agriculture, Food Security and Cooperatives		of locust and other emergency cases.
MoARD	Ministry of Agriculture and Rural Development	USAID	the Unites States Agency for International Development
NCDLC	National Desert Locust Control, Libya	UN	the United Nations
NOAA (US)	National Oceanic and Aeronautic Administration	ZEL	Zonocerus elegans, the elegant grasshopper
NSD	Republic of North Sudan	ZVA	Zonocerus variegatus, the variegated grasshopper
NSE	Nomadacris septemfasciata		(This insect is emerging as a fairly new distractive dry season pest, largely due to the destruction of its natural habitat through deforestation, land clearing, for agricultural and other development efforts and from associated weather variability.)
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 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		

Who to Contact:

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