

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

Summary

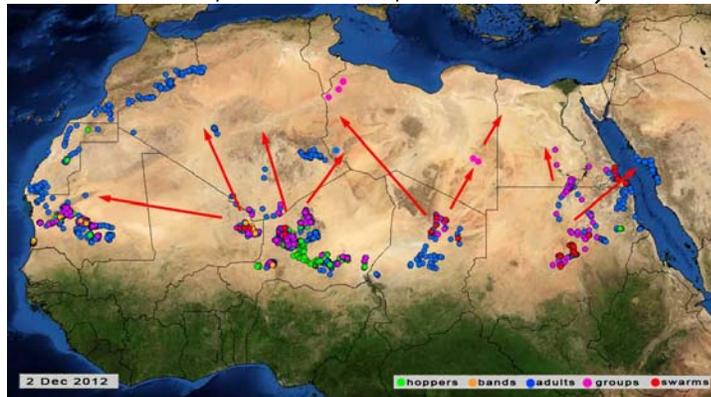
The Desert Locust (SGR¹) situation remained serious in November. Swarms and adult groups were reported in Mauritania, Niger and in bordering areas in northeast Mali as well as Sudan during this month. Swarmlet and groups continued forming and moving from Mali, Niger, and Chad to Algeria, Libya, southern Morocco, northwestern Mauritania and detected in southern Tunisia. Hopper bands and groups were reported in western Mauritania suggesting recent past breeding.

Adult groups and swarms from northern Sudan and southern Egypt moved to the winter breeding areas along the northeastern Red Sea coast of Sudan. A swarm was reported crossed the Red Sea and reached the northern coastal areas in Saudi Arabian where scattered adults were detected earlier. Other outbreak/invasion countries remained relatively calm during this period.

Aerial control operations were launched in Algeria, Niger and Sudan and ground control operations treated adult groups and hoppers in Algeria, Chad, Libya, Mauritania, Sudan and Egypt during this month.

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

Crop damage has not been reported during this period, but the pest can affect date palm trees (in oasis) and off season crops during migration (DLCD/Libya, DLCO-EA, DPPOS/India, FAO-DLIS, PPD/Sudan).



(Predicted locust movements, FAO-DLIS, December, 2012)

Forecast: More groups and small swarms are likely move from the Sahel to Northern and Northwestern Africa during the coming weeks. If so and weather permitting, they will settle in areas that receive rainfall, mature and begin laying eggs during the coming months giving rise to large-scale outbreaks in Morocco, Algeria and Libya during the next spring and a much busier 2013 summer.

Frontline countries have been alerted and will remain on the lookout. National contingency plans for the upcoming breeding seasons have been developed in most of these countries in collaboration with the regional commission and FAO. Preventive interventions are expected to be activated in many countries and encouraged in other countries. FAO, the National Locust Units and CLCPRO will issue regular updates to partners.

OFDA will continue monitoring the situation in close collaboration with colleagues in host-countries, regional entities, FAO partners and issue updates through its

monthly ETOPs SITREPs and *dekadal* (10 day) alerts and advise as often as necessary.

Other ETOPs

Red (Nomadic) Locust (NSE): No major activities were reported during November.

Forecast: Breeding will likely start and hoppers begin forming in February in the primary outbreak areas in Tanzania, Malawi, Mozambique, and Zambia where substantial numbers of parental stocks persisted. IRLCO-CSA is planning to launch extensive surveys early next year to assess the intensity breeding in these areas (IRLCO-CSA).

Madagascar Migratory Locust (LMC): No update was received on LMC at the time this report was compiled. The situation is expected to have begun developing as ecological conditions may have started improving on the foothills of the seasonal rains (AELGA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts in Central Asia and the Caucasus (CAC): The locust season ended in the. A late received report indicated large-scale invasions in the Aral Sea flood plains by LMI in September. Control operations were not deemed necessary during that time as wheat and rice crops were already harvested and cotton crops were not at a vulnerable stage.

Forecast: Substantial hatching will likely occur provided the Aral Sea flood plains do not experience massive

flooding during next spring. Active monitoring and vigilance remain essential (AELGA, FAO-AGPM).

Tree locust (Anacridium sp.): No report was received on tree locusts in November (AELGA).

African Armyworm (AAW): AAW caterpillars were attacking maize crop in Enbu in Kenya. Control was carried out by affected farmers with assistance from the Ministry of Agriculture (AELGA, DLCO-EA, IRLCO-CSA, PHS/Tanzania).

Forecast: AAW activities will likely continue in the primary outbreak areas. Trap operators are advised to monitor traps and provide accurate and timely forecast to the appropriate authorities (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): In Ethiopia, QQU bird control was concluded by the end of November. DLCO-EA reported that the aerial control operations it launched in Ethiopia during the two month period, from October through end of November, saved large quantities of small-grain crops (**Note: a single QQU bird can consume and/or destroy 6-10 grams of grain/day and a single QQU colony can contain millions of birds. End note**). QQU activities were not reported from other countries during this period (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: QQU birds will likely become problematic towards the end of February in areas where early planted small grain cereals start maturing. Efforts should be made to identify breeding sites and launch preventive control before the birds begin damaging crops (AELGA, IRLCO-CSA).

OFDA/AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring ETOP situations closely in all regions and issue updates and advices as often as necessary. **End summary**

Progress in SGR Frontline Countries:

Sahel West Africa's SGR frontline countries (FCs) namely **Chad, Mali, Mauritania, Niger** have established autonomous national locust control units (CNLA) that are responsible for all activities related to DL.

Funds provided by the African Development Bank, USAID, the World Bank, France, FAO, host-governments, neighboring countries and others enabled the FCs to equip CNLAs with the necessary tools, materials and strengthen the infrastructure as well as help train staff to prevent and respond to SGR outbreaks. This has helped frontline countries in the region to avoid the threats the SGR pose to food security and livelihoods of vulnerable communities.

Regardless, the ongoing insecurity situation in the region, particularly in northern Mali and parts of Niger continue undermining timely and effective survey and control interventions.

CNLAs' continued efforts *to prevent, mitigate, avert and/or respond to potentially devastating SGR outbreaks and invasions* with modest input are a good example of **sustainable disaster**

risk reduction and *deserve* encouragements and support.

OFDA ETOP Activities and Impacts

- OFDA/TAG continues pesticide risk reduction initiatives through stewardship network (PRRSN) programs to ensure safety of vulnerable populations and protect their assets as well as shared environment against pesticide poisoning and pollution. OFDA/TAG has successfully launched two sub-regional PRRSNs in Eastern Africa and the Horn. The Horn of Africa PRRSN initiative has created what we call a "model" Association dubbed as Pesticide Stewardship Association-Ethiopia (PSA-E).
- Discussions that began several months ago to launch similar PRR initiatives in North Africa and the Middle East were delayed by the unrests manifested in the regions. An effort is underway to resume dialogue with partners in the region.
- OFDA continued its assistance for DRR capacity strengthening programs through a cooperative agreement with FAO to mitigate, prevent, and respond to and reduce the risk of ETOP emergencies, including unsafe use and mishandling of pesticides and application platforms.
- OFDA's assistance for obsolete pesticide prevention and management has enabled FAO to develop a pesticide stock managing system (PSMS) that has streamlined pesticide inventory monitoring and management. Thanks to OFDA's contributions PSMS has enabled participating countries to conduct regular inventories and monitoring and make informed decisions to prevent accumulation

of obsolete stocks and thereby avoid costly disposal operations.

- For the first time, OFDA has started supporting a program to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) through FAO. The program is aimed at strengthening the capacity of affected countries to coordinate locust monitoring and reporting as well as jointly plan prevention and mitigation efforts to help abate and minimize the threats these pests pose to food security and livelihoods of vulnerable populations.
- OFDA just recently approved a three-year fixed obligation grant to support a project on scaling up community-based armyworm monitoring, forecasting and early warning. The project which is being implemented in Ethiopia, Kenya and Tanzania, aims at reducing the risk of armyworm threats to food security and livelihoods of rural communities and vulnerable populations.

Note: All ETOP SITREPs, including the current one can be accessed on our website:

http://transition.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/ end note.

Weather and ecological conditions

Moderate to good rains were recorded in November in a few places along the Red Sea coast improving breeding conditions in some of the winter breeding areas in northeast Sudan, southeast Egypt and northwestern Saudi Arabia. Dry conditions

prevailed in most of the SGR summer breeding areas in the interior of Sudan where locusts were only detected on patches of green vegetation in *wadis* and a few low lying areas. Other SGR outbreak/invasion areas remained fairly dry during this period. The southern migration of the ITCZ during November resulted in moisture deficit in most of the SGR habitat, but brought good rains and created favorable conditions in the primary NSE and AAW outbreak areas in the central and southern regions, from Tanzania to Zambia during the month (AELGA, DLCO-EA, IRLCO-CSA).

Note: *The shift in the ecology and changes in the weather patterns of ETOP habitats are believed to exacerbate the risk of pest outbreaks, resurgence and give way to emergence of new pests. Regular monitoring and reporting of anomalous changes in habitats and pest situation are essential. End note.*

Detailed accounts of the ETOP situation and predictions for the next six weeks are presented henceforth.

SGR - Western Outbreak Region: SRG swarms and groups continued forming in northeast Chad, Niger, Mauritania and Mali and moving north and northwest into Libya, Algeria, Mauritania, southern Morocco and southern Tunisia in November. Aerial control operations commenced in Algeria and Niger and treated hundreds of ha and ground operations treated adult groups and swarms in Algeria, Chad, Libya and Mauritania. The situation in northern Mali is expected to be similar to that in adjacent areas in Niger and Chad but could not be confirmed due to the continued insecurity situation. National survey teams continue to monitor cropping areas in central Mali where a few isolated locusts were detected. Other countries in the region remained calm during this period (CNLA/Mauritania, DLCD/Libya, FAO-DLIS).

Forecast: More groups and small swarms are likely move from the Sahel to Northern and Northwestern Africa during the coming weeks.

If so and weather permitting, they will settle in areas that receive rainfall, mature and begin laying eggs during the coming months giving rise to large-scale outbreaks in Morocco, Algeria and Libya during the next spring and a much busier 2013 summer. Other countries in the region will likely remain calm during the forecast period (AELGA, DLCO/Libya, FAO-DLIS).

SGR - Central Outbreak Region:

Scattered immature and mature adults and hoppers were reported in the summer breeding areas and adult groups and swarms were detected moving from summer breeding areas into winter breeding areas in Sudan during November. Surveys were conducted on more than 139,800 ha during this period and fifteen swarms and several immature gregarious adults groups and scattered populations were controlled on 26,689 ha mainly in the northwestern part of Khartoum State in the Red Sea and Northern States during this month. More than 22,836 liters of pesticides were used by aerial and ground means. An adult group was reported crossing the Red Sea and reaching Saudi Arabia. Some isolated adults were also reported in southern Egypt and along the Red Sea coast in Yemen. No locusts were reported elsewhere in the region during this period (AELGA, DLCO-EA, FAO-DLIS, PPD/Sudan).

Forecast: The presence of significant number of mature and immature adults and the potential for escapees from the summer breeding areas to the winter breeding areas along the Red Sea coast increases breeding during in Sudan the forecasting period, particularly in the north, Toker Delta where favorable conditions prevailed. Also, there is a risk of swarms and adult groups from southern Egypt reaching continue crossing into northern Sudan. Cross-border monitoring and preventive interventions remain essential

to avert unexpected surprises. Other countries in the region will likely remain relatively calm during the forecast period (DLCO-EA, FAO-DLIS, PPD/Sudan).

SGR - Eastern Outbreak Region: Low numbers of isolated solitary adults persisted in a few places in Rajasthan, India and in adjacent areas in Pakistan (DPPOS/India, FAO-DLIS).

Forecast: With the monsoon rains ending and vegetation drying out, locust numbers will remain calm during the forecast period (DPPOS/India, FAO-DLIS).

Red (Nomadic) Locust (NSE): No major NSE activities were reported in the IRLCO-CSA member countries during November.



NSE outbreak countries and localities (yellow) and localities (red dots) (IRLCO-CSA, 10/2012)

Forecast: The rains that fell during the latter part of October may have created favorable conditions for mating and possible egg laying, particularly in Malagarasi Basin in Tanzania, Buzi-Gorongosa in Mozambique and Lake Chilwa/Lake Chiuta plains in Malawi that

received significant rainfall. Mating and egg laying are expected to continue during the reporting months and form hoppers by mid-January to early February in Ikuu-Katavi and Wembere plains and Malagarasi Basin in Tanzania. Other outbreak areas, in Chilwa Lake Chiuta plains in Malawi, Buzi-Gorongosa plains in Mozambique, and Kafue Flats in Zambia where substantial numbers of parental stocks persisted will likely experience a similar situation. IRLCO-CSA is planning on extensive surveys towards late February to determine the intensity of breeding in the 2012/2013 season that has commenced in the outbreak regions at the foothills of the current seasonal rains (IRLCO-CSA).

Tree locust (*Anacridium sp.*): No update was received on tree locusts during this month.

Madagascar Migratory Locust (LMC): No update was received on the Malagasy locust at the time this report was compiled (AELGA).

Forecast: Some locust activities may have begun in the outbreak areas as the seasonal rains have commenced. Given an incomplete control of the outbreaks in previous years and considering the insufficient capacity available at the local level, it remains prudent that a well thought out strategy for preventive and curative interventions is put in place as early prior to subsequent breeding/outbreak seasons to abate any potential and imminent threatens the locusts pose to food security of vulnerable communities (AELGA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts in Central Asia and the Caucasus (CAC): No update was received in November and no further activities on ETOPs in the CAC (AELGA, FAO/AGPM, misc.).

According to information received from PPD Uzbekistan in a roundabout way and based on a late received update from FAO-AGPM, large-scale egg laying from LMI (migratory locust) was reported in and around the flood plains of the Aral Sea, particularly in Uzbekistan and perhaps Kazakhstan as well in September. The estimated infested areas in Uzbekistan alone exceed 160,000 ha with egg-pod densities ranging from 10 to 22 per square meter (equivalent to 1,000 to 2,000 nymphs per square meter when hatched). Wheat and rice crops previously in the infested areas had already been harvested and cotton crops were not at a vulnerable stage during the LMI invasion and hence, control operations were not necessitated in Uzbekistan. Should ecological conditions remain favorable (moist ground, but not heavily flooded habitat) extensive hatching could form massive hoppers next spring and possibly lead to extended outbreaks well into the following months (AELGA, FAO-AGPM, misc.).



(Locust prone CAC countries, FAO)

Most of the LMI outbreak areas in the Aral Sea zone contain ecologically sensitive ecosystems - river delta, wetlands and other fragile habitat - and are unsuitable for conventional pesticides. Survey operations are also extremely difficult and often require helicopters. Environmentally benign and safer pesticides such as target-specific bio-pesticides are hard to come by to

respond to large-scale invasions in such vast areas (AELGA, misc.).

Forecast: CIT, DMA and MLI will commence hatching during next spring provided conditions remain favorable. Regular survey and monitoring as well as preventive interventions must be maintained to the extent possible to avert any large-scale invasions and threats to crops and pasture. Local MoA and PPD staff and communities are advised to remain vigilant and report (AELGA, AGPM)

Timor and South Pacific: No update was received in November in Timor and South Pacific.

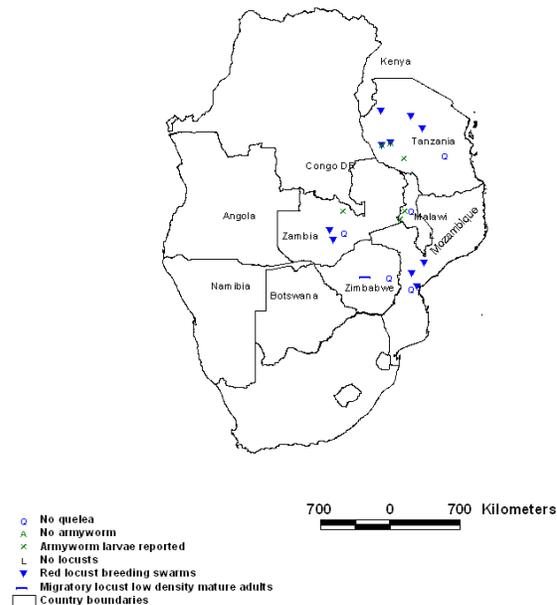
African Armyworm (AAW): Armyworm outbreaks occurred in Kasungu, Mchinji and Dowa districts in Malawi where the pest caused mild to severe damage to young maize crops in 53 villages.



(c) ARC
(Mature armyworm caterpillars devouring maize crops)

Outbreaks were also reported in Muchinga, Copperbelt and Southern provinces of Zambia and in Mbozi, Chunya and Sumbwanga districts in Mbeya, Rukwa and Katavi regions in Tanzania where the pest was seen attacking crops and pasture (see the next column for AAW outbreak areas). Affected farmers launched control operations with material and technical support from the Ministry of Agriculture in their respective countries (IRLCO-EA, PHS/Tanzania) (IRLCO-EA).

A prediction model developed by Lancaster University in UK, suggests that in years where AAW outbreaks occur before Christmas, more serious outbreaks will follow and threaten grass land and cropping areas in multiple countries over a long-period of time provided ecological conditions remain favorable.



AAW outbreak areas, in November, 2012, IRLCO-CSA)

Forecast: The AAW reported in Malawi, Zambia and Tanzania will likely spread to neighboring countries where ecological conditions are favorable. Trap operators are alerted to inspect traps on a daily basis and report any significant increases in moth catches to the national forecasting centers immediately. Mozambique and Zimbabwe should remain alert given that the outbreaks in Zambia and Malawi will likely begin migrating southwards in the coming months (IRLCO-CSA).

USAID/OFDA through **TAG** recently awarded a limited grant to the Desert Locust Control Organizations for Eastern Africa (DLCO-EA) for an AAW DRR project. The project titled "community-based armyworm monitoring, forecast and early warning", is aimed at strengthening national and local capacities for armyworm monitoring, forecasting and control.

DLCO-EA is implementing the project in Tanzania, Kenya and Ethiopia in collaboration with MoAs, farmers, research centers and academic institutions from participating countries (AELGA, DLCO-EA).

Quelea (QQU): QQU bird control that began in the first week of October in Meki area of Oromiya and progressed northward into Shewa Robit to Kombolcha in Amhara Region in Ethiopia was concluded by the end of November 2012. Although the bird population was relatively lighter than the previous years, control operations prevented the pest from destroying hundreds of thousands of tons of grain crops during the two month aerial control operations launched by DLCO-EA in collaboration with the MoA. More than 1,740 liters of avicides - Fenthion and bathion 60% ULV were used on roosts covering 800 ha saving considerable amount of grain crops (a single QQU bird can consume and destroy 6-10 grams of grain each day; a medium size QQU colony can contain a million and more birds) (*Bathion is not registered in Ethiopia and the pesticide was applied on a trial bases to determine its efficacy for possible future use against QQU*). QQU bird outbreaks were not reported from the IRLCO-CSA region or other DLCO-EA member-countries in November (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: QQU birds are not expected to cause problem during the forecast period (AELGA, IRLCO-CSA).

Facts: *QQU birds can travel ~100 km/day looking for food. An adult QQU bird can consume 3-5 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 update was received on rodents in November, but the pest remains a constant threat to both pre- and post-harvest crops and produces in many countries around the globe (AELGA).

Note: *Several raptor birds, such as barn owl, Tyto Alba and other animals are known nature's biological control agents that contribute to maintaining the balance between outbreaks and a period of lull. End note.*

Front-line countries where ETOP outbreaks first occur are advised to remain vigilant. Invasion countries should maintain the capacity to monitor and avoid any unexpected surprises. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs, ELOs, and others are encouraged to continue sharing information with partners and other stakeholders as often as possible. Lead farmers and community forecasters should be encouraged to remain vigilant and report any ETOP sightings to field agents and other contact persons.

Inventories of Acridid Pesticide Stocks

Inventory of ETOP pesticides changed in November due to control operations that took place in Algeria, Libya, Chad, Niger, Mauritania, Sudan, Egypt, and Ethiopia where several thousand ha were treated.

Mindful of the risk of pesticides becoming obsolete once passed their end-of-use, 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. All options should be explored to avoid the risks that old stocks pose to humans, the environment, and non-target organisms as well as the huge financial burden associated with disposing them.

A judiciously executed triangulation of stocks from countries with large inventories to where

there are immediate needs is a win-win deal worth considering.

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

Estimates of (ETOP-acridid) pesticide inventories

| Country | Quantities in '000 l/kg ^s |
|--------------|--------------------------------------|
| Algeria | 1,200~ |
| Chad | 102.66~ |
| Eritrea | 43.9~ |
| Egypt | Data not available |
| Ethiopia | 1.6+ ~ |
| Libya | 25 |
| Madagascar | Data not available |
| Mali | 208.8d~ |
| Mauritania | 182+ ~ |
| Morocco | 4,100~ |
| Niger | 45.00~ |
| Senegal | 156~ |
| Saudi Arabia | Date not available |
| Sudan | 609.9 |
| NSD | 860" |
| Tunisia | 167.6~ |
| Yemen | 33.00 + .527 kg GM~ |

These quantities include ULV, EC and dust formulations
 ~ data not necessarily current
 d = Mali donated 21,000 l for RL in Malawi, Mozambique and Tanzania late last year and FAO facilitated the triangulation
 + quantity reported in Agadez
 @ left-over stocks of Chlopyrifos from the 2003-5 DL campaign was tested for quality and found to be usable through 2012
 This includes EC, ULV and Dust for all crop protection uses
 GM = GreenMuscle
 b = biopesticide (Madagascar)

c = conventional pesticides (Madagascar)
 g = insect growth regulator (Madagascar)

LIST OF ACRONYMS

| | |
|------------|---|
| AAW | African armyworm (<i>Spodoptera exempta</i> - SEX) |
| AELGA | Assistance for Emergency Locust Grasshopper Abatement |
| AFCS | Armyworm Forecasting and Control Services, Tanzania |
| AfDB | African Development Bank |
| AME | <i>Anacridium melanorhodon</i> |
| APL | Australian Plague Locust |
| APLC | Australian Plague Locust Commission |
| CAC | Central Asia and the Caucasus |
| CERF | Central Emergency Response Fund |
| CIT | <i>Calliptamus italicus</i> |
| 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 | <i>Chortoicetes terminifera</i> |
| DDLC | Department of Desert Locust Control |
| DL | Desert Locust |
| DLCO-EA | Desert Locust Control Organization for Eastern Africa |
| DMA | <i>Dociostaurus maroccanus</i> |
| DPPOS | 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 | SARCOF | Southern Africa Region Climate Outlook Forum |
| GM | Green Muscle (a fungal- based biopesticide) | SGR | Schistoseca gregaria |
| ha | hectare (= 10,000 sq. meters, about 2.471 acres) | SWAC | South West Asia DL Commission |
| IRIN | Integrated Regional Information Networks | TAG | Technical Assistance Group |
| IRLCO-CSA | International Red Locust Control Organization for Central and Southern Africa | USAID | Unites States Agency for International Development |
| ITCZ | Inter-Tropical Convergence Zone | UN | the United Nations |
| ITF | Inter-Tropical Convergence Front = ITCZ) | ZEL | Zonocerus elegans, elegant grasshopper |
| FAO-DLIS | Food and Agriculture Organizations' Desert Locust Information Service | | |
| 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 | | |

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