

**Emergency Transboundary
Outbreak Pest (ETOP) Situation
Report for October with a
Forecast till mid-December, 2010**

Summary

The **Desert Locust (SGR¹)** activities increased in October along the Indo-Pakistan borders, in northwest Africa, and the Red Sea area. Ground control operations treated close to 8,000 ha on both sides of the Indo-Pakistan borders and 24 ha in Mauritania. Control operations were also carried out in Niger during this period. Hopper bands and mature adults were detected and control operations are in progress in several States in Sudan. Mixed populations of adult African Migratory locust (LMM), SGR, tree locust as well as grasshoppers were observed in several places in eastern Ethiopia. Localized outbreaks of late instar hoppers from previous hatching fledged in October in Somalia. An unconfirmed report of late instar hopper infestation was also reported east of Hargeissa. Scattered immature and mature adults and hoppers were reported in Tehama in Yemen (DDLCO/Libya, DLCO-EA, DPPQS/India, DLMCC/Yemen, FAO-DLIS, INPV/Algeria, PPD/Ethiopia and PPD/Sudan).

Forecast: Seasonal rains have ended and vegetation is drying or dry in most of the summer breeding areas of the northern Sahel in West Africa and the Red Sea areas. This will continue forcing adults to move to the winter

breeding areas where breeding will likely continue and increase locust numbers in some of these places. Active surveys and monitoring are essential to avoid any population build up and subsequent invasions. Other countries will likely remain calm during the forecast period (DDLCO/Libya, DLCO-EA, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan).

Other ETOPs

Red Locust (NSE): Swarms of NSE were detected in Ikuu-Katavi outbreak area of Tanzania in mid-October. Significant concentrations of NSE were also observed in several areas in Lake Chilwa/Lake Chiuta plains of Malawi during October due to grass burnings and receding floods. Low density populations of NSE were observed in about 3,000 ha in the Kafue Flats in Zambia. Mating and egg laying will likely progress during the forecast period. IRLCO-CSA will continue survey operations to identify hot spots.

Note:** A pilot project was launched on community based locust monitoring and reporting in Kafue Flats, Zambia in June 2010. The project involves farmers, fishermen and cattle herders to provide locust information to IRLCO-CSA. Information obtained through the initiative will be analyzed and used to plan surveys and control operations. **End note.

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts: No update was received at the time this report was compiled.

Madagascar Migratory Locust (LMC): A number immature and mature warms

¹ Definitions of all acronyms can be found on the last pages of this report.

of LMC were reported dispersed north and northwest the past months. Some were seen laying eggs. There is a likelihood of extensive breeding occurring during the upcoming breeding season. Should that be the case, Madagascar will experience one of the most severe locust outbreaks that could significantly affect food security and livelihoods of the most vulnerable communities.

The UN/FAO has issued an appeal to the international donors on behalf of the GoM and responses are coming through. The United States Agency for International Development is putting together an assistance package as part of its humanitarian response. Others will likely follow suit.

Aerial surveys have been launched in the traditional outbreak areas to map out potential hot-spots. Equipment and supplies are being pre-positioned. An aerial base has been established in Horombe Plateau in the south where primary outbreaks often start following the first and often abundant seasonal rains.

African migratory locust (LMM):

LMM infestations were reported in Shinile and Jijiga Zones in the Somali region and Humera in the northwestern part of Ethiopia. The pest was seen attacking sorghum and pasture (DLCO-EA, PPD/Ethiopia).

Armyworm (SEX): SEX activities were not reported in October, but armyworm moths will likely begin appearing and laying eggs in the southern and eastern coast outbreak region following the

seasonal rain (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): A DLCO-EA aircraft controlled QQU in 385 ha in Oromiya region of Ethiopia in October. The birds were seen feeding on *Teff*. DLCO-EA also controlled QQU on wheat in Nyandarua and Uasin Gishu in Kenya during this period. No QQU activities were reported in the IRLCO-CSA region during this period (DLCO-EA, IRLCO-CSA)

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

Progress 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 DL activities.

Funds provided by the African Development Bank, the World Bank, USAID, France, FAO, host-governments, neighboring countries and others enabled the FCs to equip CNLAs with necessary tools, materials and infrastructure as well as train staff and technicians to prevent and respond to DL outbreaks and invasions and avoid the threats they pose to vulnerable communities.

The overhaul of the CNLAs in all four countries is considered a significant improvement over the condition they were at during and prior to the 2003-05 upsurges. It is worth mentioning that the *CNLAs have been able to effectively avert a potentially devastating DL outbreak that began developing in Mauritania in 2009.*

OFDA ETOP Activities

- OFDA/TAG continues its initiatives in pesticide risk reduction through stewardship network (PRRSN) to help prevent pesticide related disasters and ensure safety of vulnerable people as well as protect their assets and the environment against pesticide pollution. OFDA/TAG has so far successfully launched two sub-regional PRRSNs in Eastern Africa and the Horn. Discussions are underway to launch similar initiatives in North Africa, Western Africa and the Middle East. Potential partners will be approached in Eastern Europe, Central Asia, the Caucasus as well as the LAC regions where OFDA/TAG intends to introduce similar initiatives.
- OFDA continues its support for capacity strengthening and pesticide disposal programs through FAO to mitigate, prevent and respond to DL emergencies and associated human health risks and environmental pollution.
- OFDA contributed to FAO's initiative to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) to help coordinate locust monitoring, reporting as well as interventions among neighboring countries. The ultimate goal of the initiative is to prevent and mitigate locust threats and improve food security and livelihoods of vulnerable communities. OFDA will continue its support for these initiatives.

Detailed accounts of ETOP situation and activities as well as ecological and weather conditions across

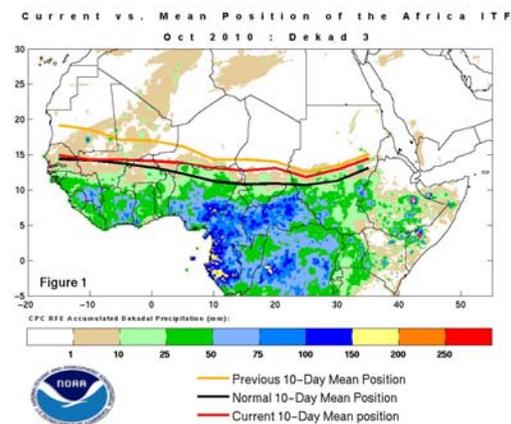
various regions are presented below.

This SITREP and all previous ones can be accessed on our website:

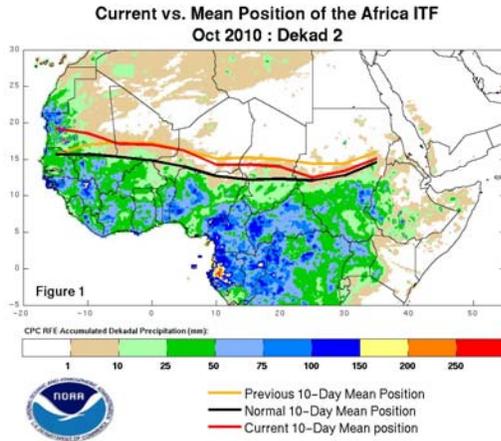
http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/

Weather and ecological conditions

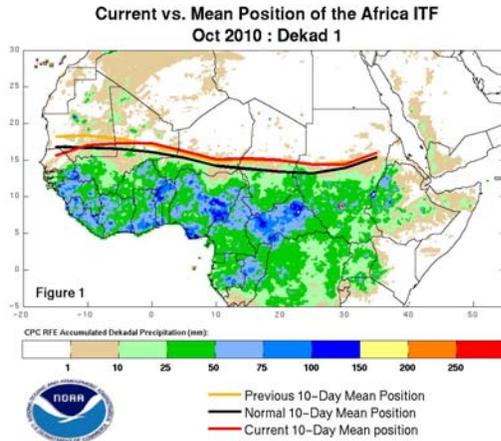
From October 21-31, 2010, the Inter-Tropical Front (ITF) moved south of its previous position, but remained north of its normal position many areas in Africa. Its mean western portion was near 13.9N. Rainfall decreased across many areas in the far western Sahel, but moderate amounts of precipitation persisted over parts of northern Nigeria and southern Niger. In its eastern portion, the front averaged around 13.1N, still ahead of its normal position and resulted in more moisture in southern Chad and Sudan (NOAA).



The front averaged around 16.6N across much of the Sahel, causing high moisture and ample rainfall in parts of extreme West Africa, including parts of Mali, Senegal and Mauritania between 11-20 October. The mean for its eastern portion was approximated at 13.8N, but still ahead of the normal climatological position (NOAA).

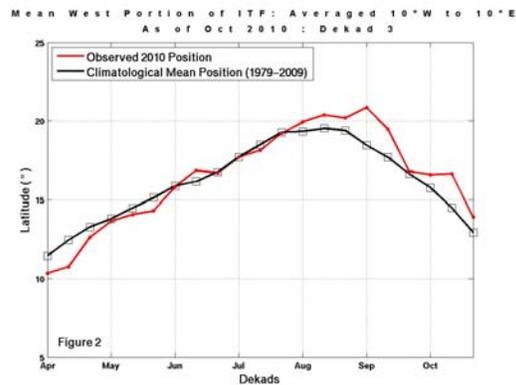


From October 1-10, 2010, the ITCZ was at 16.6N in the western portion, still north of its normal position. Its greatest southward retreat occurred in the far western Sahel resulting in ample moisture across portions of Mali, Burkina Faso, and western Niger. This pattern continued producing unusually heavy rains across many areas. The mean eastern portion of the ITCZ was around 14.9N; still north of its normal position for early October (NOAA).

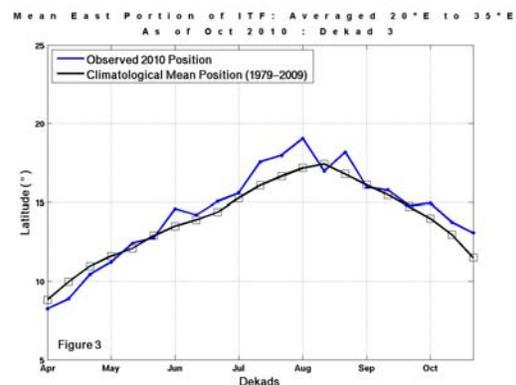


During the second week of October, moderate to heavy rains were reported in southeastern Senegal, southern Mauritania, and isolated areas in southern Mali and western Niger. However, dry weather prevailed in most areas in Senegal, The Gambia, Burkina Faso, and Niger. Rainfall was below average over southern Sudan, parts of Ethiopia and Somalia (NOAA).

West Region



East Region



The NSE outbreak areas remained dry and hot and vegetation was drying up rapidly in October. The receding flood waters in Kafue Flats and Lake Chilwa/Lake Chiuta (Malawi / Mozambique) created patches of green vegetation making it ideal for locusts to concentrate.

Extended weather forecast for sub-Saharan Africa for the period covering September-November shows an increased chance for below average rainfall along the east coast of Kenya and part of southern Somalia. In Northern Horn of Africa, there is an increased chance for above average rainfall over western Ethiopia and locally over southern Sudan. There is an increased chance for below average rainfall over southwestern Sudan, including portions of southern Darfur. Southern Africa region will likely experience localized above average rainfall over parts of northern Mozambique, southern Malawi, and parts of eastern South

Africa from Dec-Feb. Northwestern Mozambique, central Malawi, and some areas over southern Mozambique and western South Africa will likely experience below average rainfall (NOAA).

Note: *Changes in the weather pattern and the shift in the ecology of landscape are believed to exacerbate the risk of pest outbreaks and resurgence. Regular monitoring and reporting are essential.*
End note.

Detailed accounts of ETOP situations and activities

SGR - Western Outbreak Region

The **Desert Locust (SGR)**: In Mauritania, adult locusts that moved from the summer breeding areas in the south to the western/northwestern parts of the country bred and formed hopper groups in October. Control operations treated 24 ha during this period. Hopper groups were also controlled in central Tamesna in Niger. Scattered adults were detected in southern Algeria and southwestern Libya and low numbers of locusts were sighted in eastern Chad. No locusts were reported elsewhere in the region during this period (DDLC/Libya, FAO-DLIS and INPV/Algeria)

Forecast: Breeding will likely continue in areas of recent rainfall in Mauritania and locusts will likely form small groups during the forecast period. Other areas in the region will likely remain calm during the forecast period (DDLC/Libya, FAO-DLIS and INPV/Algeria).

SGR - Central Outbreak Region

A mature swarm and hoppers were detected in Northern State and scattered adults were reported in River Nile State and Tokar Delta in Sudan in October. Scattered solitary mature adults were also

sighted in Khartoum, North Kordofan and White Nile States during surveys carried out from 13 to 19 October. Control operations commenced in Northern State and River Nile State during the last week of October. Mixed populations of scattered, solitary adult SGR, LMM, tree locust and grasshoppers were reported in Shinile, Aysha, Berak and Jijiga in eastern Ethiopia. Localized outbreaks of late instar SGR hoppers that were detected in September in Jidale northeast of Ergavo in Somaliland fledged in October. An unconfirmed sighting of a late instar hopper infestation was reported east of Hargeissa. Isolated adults were detected in southern Egypt. Scattered immature and mature adults and hoppers were reported in Tehama in the west coast of Yemen (DLCO-EA, DLMCC/Yemen, FAO-DLIS, PPD/Ethiopia and PPD/Sudan)

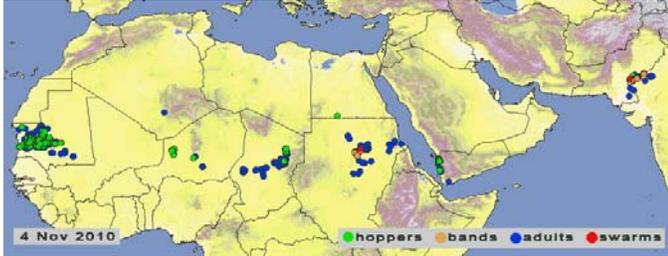
Forecast: Adult locusts will likely continue migrating to the winter breeding areas along the Red Sea coasts in Sudan and Yemen and cause small-scale breeding in areas of recent rainfall. Other countries will likely remain calm during the forecast period. Routine survey and monitoring are essential to avoid any surprises (DLCO-EA, DLMCC/Yemen, FAO-DLIS, AELGA, PPD/Ethiopia and PPD/Sudan).

SGR - Eastern Outbreak Region

The eastern outbreak region experienced a sudden increase in locust numbers along both sides of the Indo-Pakistan borders. Concentrations of hoppers and adults were seen forming groups in patches of green vegetation. Control operations treated 4,330 ha in India from 4-31 October and some 3,500 ha in Pakistan during the first half of October (DPPQS/India, FAO-DLIS).

Forecast: As vegetation continues drying up, locusts will likely begin moving to spring breeding areas in western Pakistan. Active surveys and monitoring are essential to

avoid any unnoticed population build-ups (DPPOS/India, FAO-DLIS).



(Locust #s increased in October, FAO-DLIS, 11/10)

Red Locust (NSE): Swarms of NSE were detected in mid-October in the western edge of Ikuu-Katavi outbreak area in Tanzania. Significant concentrations of NSE were also observed in patches of green vegetation in several areas in Lake Chilwa/Lake Chiuta plains of Malawi during surveys carried out in October. The concentrations were caused by a mix of drying up of vegetation, extensive grass burning and receding floods. Low density populations of NSE were observed in some 3,000 ha in the Kafue Flats in Zambia (IRLCO-CSA).

Forecast: The seasonal rain is expected to begin in November in NSE outbreak areas causing residual populations to mate. Breeding will commence in Lake Chilwa/Lake Chiuta plains (Malawi/Mozambique), Ikuu-Katavi, Malagarasi and Wembere (Tanzania), Kafue Flats (Zambia) and Dimba plains (Mozambique) during the forecast period. There is a chance of locust numbers increasing significantly and causing outbreaks in these areas during the forecast period. IRLCO-CSA will carry out surveys during the forecast period to ensure that undetected population build-up will not cause significant outbreaks and invasions and affect crops and pasture further down the line.

Madagascar Migratory Locust (LMC): A number of immature and mature swarms of the LMC were reported dispersed north and northwest over the past months. Some

were seen laying eggs. Immature swarms were also reported in areas close to the Capital City.

FAO and the National Locust Control Center (CNA) have put together a strategic action plan and maintain continued contacts with stakeholders and partners including host-government, development partners and others. FAO has fielded a campaign coordinator, logisticians, a locust specialist and other technical staff to assist and work with GoM/CNA in campaign operations, aerial surveys and assessment.

Aerial surveys have begun in the traditional outbreak areas to map out potential hot-spots. Equipment and supplies have been and are being pre-positioned where primary intervention actions will likely commence as soon as hopper groups and bands begin appearing following the seasonal rains that have started as of mid-October. An aerial base has been established in *Horombe Plateau* (near *Ihosi* town) in the south where primary outbreaks often start follow the first and often abundant spring rains (FAO-AGPP).

FAO and CNA have established a communication line for bi-weekly situation updates for GoM, development partners and other stakeholders. The results of the first aerial survey and intensive field assessment have been communicated to GoM, development partners and other stakeholders as of October 13th.

FAO has issued an appeal to the international donors on behalf of the GoM and responses are being anticipated. The US Agency for International Development is finalizing a response package as part of its humanitarian assistance and it is anticipated that others will likely follow.

Forecast: With the spring weather forecast predicting above average precipitation and

warm weather, there is a likelihood of extensive breeding occurring during the upcoming breeding season which will commence in November. Should that be the case, Madagascar will likely experience one of the most severe locust outbreaks in recent years and require large-scale control interventions through mid-2011 to minimize and prevent the damage that the outbreaks can cause to food security and livelihoods of vulnerable communities.

CNA and DPV must remain active and continue monitoring areas where egg laying is believed to have occurred or will likely occur and report and respond to any intervention activities as rapidly as possible.

OFDA/TAG will continue monitoring the situation in close collaboration with FAO, CNA and other partners and issue updates and advise as often as necessary.

African migratory locust (LMM): LMM infestations were reported in Shinile and Jijiga Zones in the Somali region and in Humera area in the northwestern part of Ethiopia. The pest was seen attacking sorghum crops and pasture (DLCO-EA) in Humera.

Moroccan (*Dociostaurus maroccanus* - DMA), Italian Locusts (*Calliptamus italicus* – CIT), Migratory locust, *Locusta migratoria* (LMI) in CAC: No update was received at the time this report was compiled, however, it is likely that DMA activities have ended in the CAC countries, but some activities may have persisted on other locusts in the region.



(map of locust prone CA countries, FAO)

Australian Plague Locust (APL): As hatchings continued and band formations intensified, widespread hopper infestations increased in New South Wales, eastern South Australia and northern Victoria, Australia during October. The majority of over-wintering eggs have now hatched and fledging commenced in many places as of late October. Large numbers of hopper bands have also been recorded in the western, southern and central parts of the country. Control operations are being undertaken by farmers and government agencies, including the APLC (APLC).

Forecast: Hopper infestations will likely continue and fledglings will soon commence and increase adult populations in southern areas during the forecast period. Swarms will begin appearing from early November on in northern areas and in December in the southern parts of the country. Should large numbers of hoppers persist through spring, massive high density locust populations will likely invade several regions of the country through the summer season (APLC).



(Australian plague locust, source: APLC)

The Timor and South Pacific: No update was received in October.

Armyworm (SEX): SEX activities were not reported in October, but armyworm moths will begin appearing and laying eggs in the southern and eastern outbreak regions as soon as the seasonal rainfall commences in November (AELGA, IRLCO-CSA). IRLCO-CSA has distributed pheromone traps to member states. Trap operators are advised to remain vigilant and report moth catches as often and as soon as possible (AELGA, IRLCO-CSA).

Quelea (QQU): A DLCO-EA aircraft launched control operations against QQU on 385 ha from 12 to 25 October in Meki district in Oromiya region of Ethiopia. The birds were seen feeding on **Teff** (a grain crop indigenous to Ethiopia) and roosting on *Typha* grass. DLCO also controlled QQU on wheat in Nyandarua and Uasin Gishu is Kenya in October. Additional outbreaks were reported in Nyandarua towards the end of the month. No QQU activities were reported in the IRLCO-CSA and there are imminent threats of invasions during the forecast period (AELGA, 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 colony composed of a million birds (very common) is capable of consuming and destroying 7-10 tons of

seeds/day (enough to feed 15,000-20,000 people for a day).



(A QQU roost, a file photo; free encyclopedia)

Rodents: No update was received at the time this report was compiled, but the pest remains a threat to both pre-harvest and post-harvest crops and produces. Barn owl, *Tyto alba* and several other raptor birds and animals are known as nature's biological control of rodents.

Front-line countries are advised to remain vigilant. Countries in the invasion zones should maintain the capacity to 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.

Acridid Pesticide Stocks

With the exception of India, Pakistan and Mauritania, control operations were not conducted elsewhere and pesticide inventories remained unchanged for the most part during this time.

The likelihood of some of the pesticides listed in the below box becoming obsolete increases as time goes by. Mindful of this, ETOP-prone countries, particularly those with large stocks, are encouraged to regularly test their stocks and determine whether they should retain, use, share or discard them immediately. All

options should be explored to avoid huge environmental and financial costs associated with handling and disposing of obsolete pesticides. *A judiciously executed triangulation of stocks from countries with large inventory to those where the need exists due to imminent threats from ETOP outbreaks is a double-edged alternative that is worthwhile considering.*

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

Country	Quantities in l/kg ^{\$}
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	17,280
Libya	Data not available
Mali	209,000%~
Mauritania	479,,976~@
Morocco	4,104,997~
Niger	28,240+
Senegal	519,000~
Saudi Arabia	Date not available
Sudan	880,964"
Tunisia	167,600~
Yemen	40,500 + 527 kg GM

\$These quantities include ULV, EC and dust formulations
~ data not necessarily current
% 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-DL campaign was tested for quality and found to be usable through 2012
^m This includes EC, ULV and Dust for all crop protection uses
GM = GreenMuscle

List of Acronyms

AELGA	Assistance for Emergency Locust Grasshopper Abatement
AME	Anacridium melanorhodon
APL	Australian Plague Locust
APLC	Australian Plague Locust Commission
CAC	Central Asia and the Caucasus
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
DL	Desert Locust
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DMA	Dociostaurus maroccanus
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
GM	Green Muscle (a fungal-based biopesticide)
ha	hectare (= 10,000 sq. meters)
IRIN	Integrated Regional Information Networks

IRLCO-CSA	<i>International Red Locust Control Organization for Central and Southern Africa</i>
ITCZ	<i>Inter-Tropical Convergence Zone</i>
ITF	<i>Inter-Tropical Convergence Front = ITCZ)</i>
FAO-DLIS	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>
Kg	<i>Kilogram (~2.2 pound)</i>
L	<i>Liter (1.057 quarts or 0.264 gallon or 33.814 US fluid ounces)</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>
NOAA	<i>National Oceanic and Aeronautic Administration</i>
NSE	<i>Nomadacris septemfasciata</i>
OFDA	<i>Office of U.S. Foreign Disaster Assistance</i>
PHD/S	<i>Plant Health Directorate/ Services</i>
PPD	<i>Plant Protection Department</i>
PPSD	<i>Plant Protection Services Division/Department</i>
PRRSN	<i>Pesticide Risk Reduction through Stewardship Network</i>
QQU	<i>Quelea quelea</i>
SEX	<i>Spodoptera exempta</i>
SGR	<i>Schistoseca gregaria</i>
SWAC	<i>South West Asia DL Commission</i>
TAG	<i>Technical Assistance Group</i>
USAID	<i>Unites States Agency for International Development</i>
UN	<i>the United Nations</i>

To learn more about our activities and the programs we support, please, visit our website at:

http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/

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