

**Emergency Transboundary
Outbreak Pest (ETOP) Situation
Report for September with a
Forecast till mid-November, 2011**

Summary

The desert locust (SGR¹) situation remained relatively calm in most of Sahel West Africa and northern Africa in September due to poor rainfall. Only limited breeding occurred during this period and isolated adults were reported in northeast Morocco. Good rains were reported in northern Chad and western lowlands in Eritrea where ecological conditions are expected to improve and small-scale breeding will likely begin.

Good rains fell in September on the Red Sea coast of Yemen and in adjacent areas of Saudi Arabia. Small-scale breeding is probably underway in Yemen but surveys are being undermined by the ongoing situation in the country (FAO-DLIS). Low numbers of adults persisted along both sides of the Indo-Pakistan border (CNLA/Mauritania, CNLAA/ Morocco, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia and PPD/Sudan).

Forecast: During the forecast period, adult are expected to start moving from southeast Mauritania to the west and northwest (Trarza and Inchiri). In Mali and Niger, locusts are likely to concentrate in vegetation that remains green. Environmental conditions will

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

continue improving and adults will likely begin appearing and breeding in areas of recent rainfall in Hoggar, Algeria. Locusts will also start to move from the interior of Sudan and western Eritrea to the Red Sea coast. In the Indo-Pakistan area breeding conditions are expected to improve once the flood waters recede. Vigilance should be maintained in all outbreak and invasion areas to avoid any surprises.

Other ETOPs

Red (Nomadic) Locust (NSE): NSE situation remained relatively calm in IRLCO-CSA member-countries in September, only residual populations that escaped control operations in May and June 2011 persisted in the outbreak areas in Tanzania. Localized concentrations of NSE may be present in patches of unburned vegetation in Malawi, Mozambique and Zambia (IRLCO-CSA).

Forecast: Grass burning is almost complete in most of the NSE outbreak areas. Locusts that concentrated on patches of unburned vegetation will mature and begin breeding with the onset of the rains. IRLCO-CSA will be conducting surveys in the outbreak countries during the forecast period to assess locust populations and undertake control operations as necessary (IRLCO-CSA).

Madagascar Migratory Locust (LMC): Mating, egg laying and early instar hoppers and bands were observed in the Horombe towards the mid-September. A swarm was sighted in Babaria heading west to Isoanala during the first week of September. A 5km x 1km immature adult swarm was observed on the Belomotra and Andranovory plateau during the second dekad of September. Hoppers, immature and mature solitary and

transient locusts were detected during surveys carried out by CNA from 6-16 September in the transient gregarization and initial multiplication zones (FAO-CNL).

Forecast: Normal to above normal rainfall is in the forecast for October-December (and will likely extend well into the January to March), hence breeding and hatching will continue progressing in Analamary, Vavalovo, Ianakafy, Iaborotra in the central gregarization zone and other zones during the forecast period. Vigilance, timely field assessments and reporting as well as preventive interventions are essential to avert any unexpected surprises (AELGA, FAO-CNA).

Note: *During the 2010-2011 locust emergency campaign in Madagascar, the United States Agency for International through the Office of Foreign Disaster Assistance (OFDA) responded in time and favorably to the appeal issued by FAO to support the campaign operations spearheaded by the FAO-CNA. That response was perceived crucial in assisting host-country tackle the ETOP problem. End note.*

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts in Central Asia and the Caucasus (CAC): No update was received from CAC at the time this report was compiled. However, on September 9, AELGA Senior Advisor detected mixed populations of immature and mature adults and hoppers in the vicinity of an archeological site of an old Albanian city southeast of Gabala in northeastern

Azerbaijan. The AELGA advisor also detected a couple of solitary adult locusts that resembled *Acrida oxycephala* at the archeological site. The acridids were observed in grasses and no crops were threatened (AELGA).

Armyworm (AAW): AAW operations continued in Tigrey zone of northern Ethiopia. As of the first dekad of September, close to 539,000 ha were reported infested and more than 120,049 ha were controlled with 94,439 l/kg of pesticides and traditional methods in all 8 administrative regions. There were no reports of AAW outbreaks in the IRLCO-CSA region or other countries during this period (IRLCO-CSA, PPD/Ethiopia).

Forecast: AAW season is expected to come to an end in northern Ethiopia and some activities will likely begin occurring in Kenya and Tanzania with the onset of the seasonal rains in October and by the end of November and early December, most IRLCO-CSA countries will likely experience some level of AAW outbreaks (IRLCO-CSA, PPD/Ethiopia).

Quelea (QQU): QQU birds were reported damaging cereal crops in several districts in Kenya and control operations were in progress at the time this report was compiled. In Zimbabwe, the birds were reported in East, Central and West Mashonaland as well as Midlands provinces where 4,423 ha of irrigated wheat crop were sprayed (IRLCO-CSA).

Forecast: Quelea birds will likely continue causing problems to wheat and rice in Kenya and to irrigated winter wheat crops in Zimbabwe until harvest is completed in November (IRLCO-CSA).

OFDA/AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring ETOP situations 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 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 help train staff to prevent and respond to DL outbreaks and avoid the threats they pose to food security and livelihoods of vulnerable communities.

CNLAs' efforts to avert, mitigate or respond to potentially devastating DL outbreaks and invasions need to be supported and encouraged.

OFDA ETOP Activities

- OFDA/TAG continues its initiatives in pesticide risk reduction through stewardship network (PRRSN) to ensure safety of vulnerable people as well as protect their assets and the environment against pesticide pollution. OFDA/TAG successfully launched two

sub-regional PRRSNs in Eastern Africa and the Horn. The Horn of Africa PRRSN initiative has created a sub-set Association under the rubric of Pesticide Stewardship Association and registered in Ethiopia (PSA-E). Prospective partners have begun expressing interests to dub or work with the association. PSA-E will likely serve as a blue print or a guinea pig for similar structures in the future.

- Discussions that began several months ago to launch similar PRR initiatives in North Africa and the Middle East were halted by the ongoing situation in the regions. A dialogue is underway in other regions.
- OFDA continues its assistance for capacity strengthening to mitigate, prevent, respond to and reduce risks of ETOP emergencies and associated human health threats as well as environmental pollutions.
- OFDA I supporting through FAO a program to strengthen national and regional capacities to coordinate locust monitoring, reporting, prevention and mitigation efforts to abate the threats they pose to food security and livelihoods of vulnerable communities in Central Asia and the Caucasus (CAC).

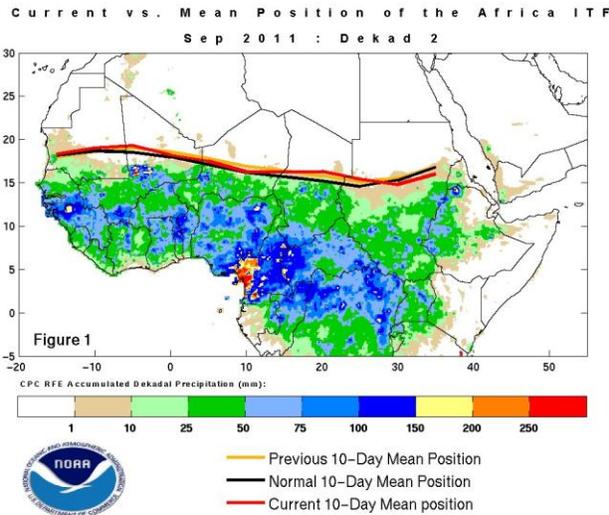
All SITREPs can be accessed on our website at:

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

Weather and ecological conditions

During second dekad of September, the ITF's remained north of the climatological mean position over Mali and Chad due to strong moist southerly winds in the Gulf of Guinea, while it advanced further south along its eastern

segment over Sudan. Its mean western portion was approximated 18.1N, north of its normal mean position by 0.4 degree and at 15.6N, slightly behind the climatological mean position in the eastern portion (see map). During the first dekad of the month, the Front began its seasonal retreat to the south across Africa. It also experienced a rapid southward movement relative to its position during the third dekad of August.

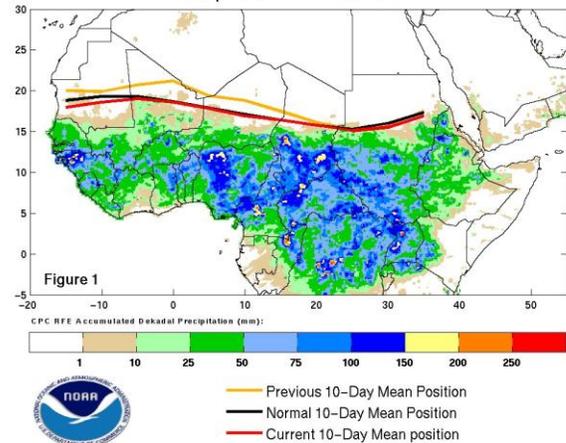


The mean western portion of the ITF was approximated at 18.2N, behind the mean position by 0.3 degree and its eastern portion was located near 15.8N and trailed the average position by only 0.3 degrees (see map)(NOAA 9/2011) .

The weather conditions in NSE outbreak areas remained dry and hot in September, though light rains were received in some areas in Zambia and Tanzania. Seasonal rains for crop cultivation are expected in October in Kenya and Tanzania and from November in Malawi, Mozambique, Zambia and Zimbabwe.

Very heavy rains and flooding occurred in September in southeast Pakistan until the monsoon rains began declining as of September 20th (FAO-DLIS).

Current vs. Mean Position of the Africa ITF
Sep 2011 : Dekad 1



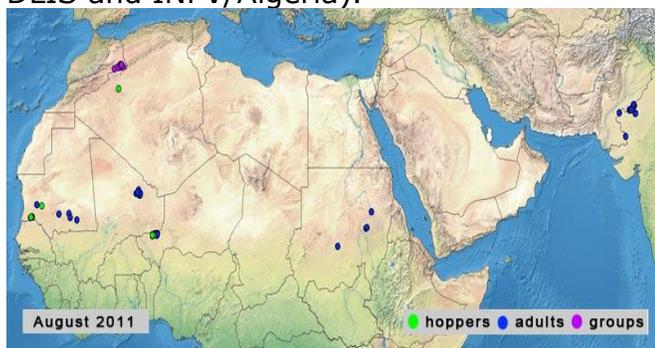
During the period from October to December, 2011, most of contiguous Southern African Development Community (SADC) is expected to receive normal to below-normal rainfall with the exception of northern parts of Tanzania and southern Madagascar where above-normal rainfall is predicted. The rest of the continental SADC and most of Madagascar and Mauritius are likely to receive normal to above-normal rainfall (SARCOF).

From January to March, 2012, the south eastern continental SADC as well as the northern parts of Tanzania and Madagascar are expected to receive above-normal rainfall. The western flank of contiguous SADC is expected to receive below normal rainfall (**Note:** October to March is the main rainfall season over most of southern Africa. Owing to the differences in the rainfall-bearing systems, the rainy season has been divided into two three-month periods, i.e. October to December and January to March **End note**) (SARCOF).

Note: Changes in the weather patterns 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 situation, activities and ecological conditions are presented below.

SGR - Western Outbreak Region: The SGR situation remained relatively calm in September in the summer breeding areas in the Sahel and in North Africa largely due to poor rainfall causing conditions to become unfavorable. Only limited breeding occurred in parts of Mauritania and perhaps Mali and Niger, but locust numbers remained low. Isolated adults were reported in northeastern Morocco. No report was received from other countries due to the ongoing security situation (CNLA/Mauritania, CNLAA/Morocco, FAO-DLIS and INPV/Algeria).



SGR breeding observed in parts of summer breeding areas, FAO-DLIS, 10/2011)

Forecast: During October, locust adults are expected to start migrate from southeast Mauritania to the west and northwest (Trarza and Inchiri). In Hoggar and the extreme south in Algeria, environmental conditions will continue improving and adults will likely begin appearing and perhaps start breeding, particularly in wadis where rains fell recently (CNLA/ Mauritania, CNLAA/Morocco, FAO-DLIS and INPV/Algeria).

SGR - Central Outbreak Region: Survey operations were carried out in Ethiopia and Sudan in September in the summer breeding areas and only very few mature, solitary adults were seen in Sudan. No locusts were detected in Ethiopia. Good rains fell in the western lowlands in Eritrea where ecological conditions are favorable.

Good rains also fell in September on the Red Sea coast of Yemen and in adjacent areas of Saudi Arabia. Small-scale breeding is probably underway in Yemen but surveys are undermined by the ongoing security problem (FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

Forecast: Small-scale breeding will likely begin in Sudan and in parts of Eritrea where good rains fell during September. Small-scale breeding is also expected to occur on the Red Sea coasts of Yemen where good rains fell and scattered adults may be present, but could not be confirmed. Locusts could also appear and breed in adjacent areas in Saudi Arabia during the forecast period. Vigilance should be maintained to detected and prevent any unforeseen developments (AELGA, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

SGR - Eastern Outbreak Region: Low numbers of adults persisted in Cholistan Pakistan and Rajasthan, India. Small-scale breeding was observed in Cholistan.

Forecast: Very heavy rains and floods occurred in Tharparkar, southeast Pakistan for the second consecutive month. The rains began declining as of 20 September and floods will begin receding soon. Once the floods recede, conditions will become favorable and locusts will start breeding. Vigilance and timely interventions are crucial to avoid any invasions and outbreaks (DPPQS/India, FAO-DLIS).

Red (Nomadic) Locust (NSE): The NSE situation remained generally calm in IRLCO-CSA member-countries in September. However, residual populations that escaped control operations in May and June 2011 persisted in the outbreak areas in Tanzania. In Malawi, Mozambique and Zambia, localized concentrations of locusts that were forced out of their habitat by grass burning are present in patches of green vegetation (IRLCO-CSA).

Forecast: Vegetation burning that forced locusts to form concentrations in patches of

green vegetation is almost completed in most of the NSE outbreak areas. These locust populations will mature and begin breeding with the onset of the rains. IRLCO-CSA will be conducting surveys in the outbreak countries during the forecast period to assess locust populations and launch control operations as necessary (IRLCO-CSA).

Madagascar Migratory Locust (LMC): A wave of hatchings were detected and 1st instar hoppers and bands were observed on patches of several square meters in the center and north of Horombe (the initial multiplication areas) at the end of the 1st half of September. In the transient gregarization zone, in the dry lowland areas of Ranotsara and Zomandao, where *Heteropogon contortus* (wild oats) is dominant, low populations of locusts (50-200 individuals/ha) were detected and in areas where *Hyparrhenia rufa* (*senbelet*, *thatch grass*.) dominated, 200-1,000 immature and mature adult locusts/ha were observed.

On the Horombe plateau and Ranohira in the southwest of Jangany (part of the initial multiplication zone), mixed populations of immature, transient and gregarious and mature solitary adults and solitaro-transient populations were observed in different biotopes at densities ranging from 250 to 3,000 insects/ha. Mating, laying and 1st instar hoppers (50-80 insects/m²) covering 200-800 m² were observed on some 40 ha in Vavalovo, next to the locust station (see photo).

In Analamary, solitaro-transient adults at densities varying from 5,000-10,000 insects/ha were detected. Hatching began at the end of the 1st dekad of September and hoppers and bands were detected east of Betroka.



LMC hoppers were observed in Vavalovo on 8 September, 2011 (photo: FAO-CNA)

Mature solitaro-transient adults were reported in Isoanala and a swarm was sighted in the Manambien circle in Babaria in the first week of September. The swarm headed west to Isoanala and will probably begin laying soon. Swarms were also signaled in the transient multiplication zones during the 2nd dekad and headed northwest and may have reached the Befandriana lowland in the basin of Ankazoabo. A 5x1 km swarm composed of immature adults was observed on the Belomotra and Andranovory plateau in the densation zone (see photo, FAO-CNA).



A locust swarm seen in the Belomotra à Andranovory plateaux pn 13 September, 2011 (Photo - FAO)

According to the final report CNA presented at a workshop on 29 August to 2nd September, a total 356,198 ha were infested and 252,471 ha were controlled and protected by air and ground

means during the 2011-11 campaign (FAO-CNA).

Forecast: Given that ecological conditions are relatively favorable for locusts to persist and develop in the central gregarization zone and considering the normal to above normal rainfall forecast for October-December, breeding will likely increase and hatching will continue progressing in Analamary, Vavalovo, Ianakafy and Iaborotra. Should the wind direction change during the forecast period, swarms that were observed will likely disperse to adjacent areas and invade the southeast region of the transient multiplication zone, e.g., Androy, etc. If so, rapid interventions will be required to prepare for such scenario. Vigilance and timely planning and information sharing remain crucial (FAO-CNL).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) in Central Asia and the Caucasus (CAC): No update was received on the locust situation in CAC at the time this report was compiled.



(Locust prone CAC countries, FAO)

On September 9, AELGA Senior Technical Advisor observed mixed populations of immature and mature adults and various stages of hoppers in the vicinity of an old Albania city archeological site southeast of Gabala in northeastern Azerbaijan. A couple of solitary adult locusts that

resembled *Acrida oxycephala* were also detected at the archeological site during that time. The acridids were detected in grasses but not posing any threats to crops.

Australian Plague Locust (APL):



(Australian plague locust, source: APLC)

Some of the eggs that were laid in April may have begun hatching or will start hatching during the forecast period (AELGA, APLC).

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

Armyworm (AAW): AAW operations continued in Tigrey zone of northern Ethiopia. As of the first dekad of September, close 539,000 ha were reported infested in 196 districts in all 8 regions and more than 120,049 ha were controlled with 94,439 l/kg of pesticides and traditional methods. There were no reports of AAW outbreaks in any of IRLCO-CSA or other DLCO-EA member countries during August (PPD/Ethiopia, IRLCO-CSA).

Forecast: AAW season is expected to come to an end in northern Ethiopia and some activities will likely occur in Kenya and Tanzania with the onset of the seasonal rains in October and by the end of November and early December, most IRLCO-CSA countries will likely experience some level of AAW outbreaks (DLCO-EA and IRLCO-CSA, PPD/Ethiopia). Pheromone traps and lures are distributed to IRLCO-CSA member-states to monitor moth occurrences and forecast outbreaks. Armyworm trap operators are

encouraged and advised to service their traps in preparation to the 2011/2012.

Quelea (QQU): QQU birds were reported damaging cereal crops in Eldoret, Kisumu and Bunyaa districts of Kenya where control operations were in progress at the time this report was compiled. In Mashonaland East, Mashonaland Central, Mashonaland West and Midlands provinces in Zimbabwe QQU birds were controlled on 4,423 ha of irrigated wheat crop using *Fenthion* (IRLCO-CSA). No report was received from other frontline countries at the time this update was compiled.

Forecast: QQU birds will continue to pose serious threat to irrigated cereal crops in Kenya and Zimbabwe until November when harvesting will be complete (IRLOC-CSA).



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

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).

Rodents: No rodent outbreak or infestation was reported during this month, but the pest remains a constant threat to both pre- and post-harvest crops and

produces in many countries around the globe.

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.

Front-line countries where ETOP outbreaks first occur are advised to remain vigilant. Countries in the invasion zones 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, community forecasters, etc., should be encouraged to be on the look out and report any ETOP sightings to field agents and other contact persons.

Inventories of Acridid Pesticide Stocks

With the exception of AAW and/or QQU operations in Ethiopia, Kenya and Zimbabwe, no reports of pesticide use were received at the time this update was compiled.

Mindful of the fact that pesticides become obsolete once past their shelf-lives, ETOP-prone countries, particularly those with large stocks, but are less likely to use them within a reasonable time, are encouraged to test their inventories regularly and determine whether they should use, retain, share or discard them immediately. All options should be explored to avoid severe human health impacts as well as huge environmental and financial burdens associated with handling and disposing of large stocks of obsolete pesticides.

A judiciously executed triangulation of stocks from countries with large inventory to where the need exists is a double-edged alternative that is worth considering.

Note: The core message of **pesticide stewardship [networking] Program** is to

strengthen the national and regional pesticide delivery systems by linking partners at different levels and thereby reduce pesticide related health risks, avoid environmental pollution and improve food security as well as ultimately contribute to the national economy. **End note.**

Estimated (acridid) pesticide inventories

Country	Quantities in '000l/kg ^{\$}
Algeria	1,800~
Chad	108.09~
Eritrea	43.9~
Egypt	Data not available
Ethiopia	2.5+~
Libya	Data not available
Madagascar	1.6c + 0.00g + 1.1b
Mali	209d~
Mauritania	435.3~
Morocco	4,100~
Niger	28.24+
Senegal	156~~
Saudi Arabia	Date not available
Sudan	860"
Tunisia	167.6~
Yemen	33.00 + .527 kg GM

These quantities include ULV, EC and dust formulations
 ~ data not necessarily current
 ~~ as of September 28, 2011
 l = 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
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>
DDLDC	Department of Desert Locust Control
DL	Desert Locust
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DMA	<i>Dociostaurus maroccanus</i>
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
GM	Green Muscle (a fungal-based biopesticide)
ha	hectare (= 10,000 sq. meters, about 2.471 acres)

IRIN *Integrated Regional Information Networks*
 IRLCO-CSA *International Red Locust Control Organization for Central and Southern Africa*
 ITCZ *Inter-Tropical Convergence Zone*
 ITF *Inter-Tropical Convergence Front = ITCZ)*
 FAO-DLIS *Food and Agriculture Organizations' Desert Locust Information Service*
 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*
 NSE *Nomadacris septemfasciata*
 OFDA *Office of U.S. Foreign Disaster Assistance*
 PHD/S *Plant Health Directorate/ Services*
 PPD *Plant Protection Department*
 PPSD *Plant Protection Services Division/Department*
 PRRSN *Pesticide Risk Reduction through Stewardship Network*
 QQU *Quelea quelea*
 SARCOF *Southern Africa Climate Outlook Forum*
 SGR *Schistoseca gregaria*
 SWAC *South West Asia DL Commission*
 TAG *Technical Assistance Group*
 USAID *Unites States Agency for International Development*
 UN *the United Nations*

ZEL *Zonocerus elegans, elegant grasshopper*

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