

**Emergency Transboundary
Outbreak Pest (ETOP) Situation
Report for November with a
Forecast till mid-January, 2012**

Summary

The desert locust (*SGR*¹) situation remained calm in the summer breeding areas in November. Only low numbers of adults have moved from the summer breeding areas in southern Mauritania to the northwest and from the interior of Sudan to the winter breeding areas in Tokar Delta on the Red Sea coast. Scattered adults were reported in parts of the central and southern Sahara in Algeria, but the situation remained calm. No locusts were reported and survey operations were not conducted in Libya during this period. Hoppers and adult populations persisted in parts of Tamesna, Niger and eastern Chad. A similar situation may be present in parts of northern Mali where surveys were hampered by the insecurity situation. Small-scale breeding is in progress near *Qunfidah* on the Red Sea coast in Saudi Arabia. The situation remained calm in Southeast Asia and other outbreak and invasion areas during this period (CNLA/Mauritania, DDLC/Libya, DLCO-EA, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia and PPD/Sudan).

Forecast: Locust numbers will decline in the northern Sahel as vegetation continues to dry out and only few adults will likely persist in *wadis* and in

patches of green vegetation. Small-scale breeding will commence with the onset of the winter rains on the coastal areas in Sudan, Eritrea and Yemen. Breeding that began on the Red Sea coast in Saudi Arabia will likely extend to coastal areas in the country and in Yemen during the forecast period. Should high temperatures persist on the southeast coast of Oman where unusually heavy rain was recorded on a stretch of some 1,000 km (600 miles), breeding will likely commence during the forecast period, but other areas will likely remain clam during this time (CNLA/Mauritania, DDLC/Libya, DLCO-EA, DPPQS/India, FAO-DLIS, PPD/Ethiopia and PPD/Sudan).

Other ETOPs

Red (Nomadic) Locust (NSE): Aerial surveys in the NES outbreak areas in Tanzania detected some 40,150 ha of potential breeding grounds. Low to medium density populations were detected in some of the outbreak areas. Breeding conditions progressively improved in most breeding areas in Tanzania where rainfall continued during the past month.

Forecast: Hoppers will begin appearing from December on in the outbreak areas in Tanzania, Malawi, Mozambique and Zambia. The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) has planned surveys in these countries to identify areas of potential hopper and band infestations (IRLCO-CSA).

Madagascar Migratory Locust (LMC): No update was received at the time this report was compiled. However, locust activities likely continued further developing (AELGA).

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

Forecast: Normal to above normal rainfall is predicted in October through December and could extend into January to March. Breeding and hatching are expected to progress in several places in the central gregarization zone and other zones during the forecast period. Vigilance, timely field assessments and reporting as well as rapid interventions are recommended to avert and prevent unexpected surprises (AELGA, FAO-CNA).

Note: *During the 2010-2011 locust emergency campaign in Madagascar, the United States Agency for International Development 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 crucial in assisting host-country to address the ETOP problem. End note.*

Tree locust (*Anacridium* sp.): Hoppers of tree locust were reported over an area measuring 5 km² in Loima district in Turkana and Chalib districts in Marsabit in Kenya.

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, some locust activities are likely in the region (AELGA).

Armyworm (AAW): AAW outbreaks were reported in Tabora Municipality, Singida and Mpwapwa districts of Tanzania and an unconfirmed outbreak

was reported in Nakonde district in Zambia. The caterpillars were seen feeding on pasture (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: AAW will further develop in Kenya, Malawi, Tanzania and Zambia in the coming months and extend to neighboring countries, including Mozambique and Zimbabwe. Trap operators and community-forecasters are advised to continue monitoring and reporting trap catches promptly to concerned authorities to facilitate appropriate interventions (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): QQU bird outbreaks were reported in the rift valley areas and in eastern Ethiopia where aerial operations sprayed more than 772 ha by the end of November. Outbreaks also occurred in irrigated rice fields in Kisumu and Siaya districts in Kenya where control operations were hampered by unfavorable weather conditions (DLCO-EA, IRLCO-CSA).

Forecast: QQU birds will remain posing a problem to small grain cereal growers in Siaya, Nyando, Kisumu and Kirinyaga districts of Kenya, Dodoma, Shinyanga, Morogoro and Mbeya regions of Tanzania, and eastern Ethiopia. Active monitoring and surveillance and timely interventions are essential (AELGA, DLCO-EA, 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, USAID, the World Bank, 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 SGR 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 SGR 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) programs to ensure safety of vulnerable people and protect their assets and the shared 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 in Ethiopia (PSA-E). Prospective partners have begun expressing interests to dub or work with the association. PSA-E will serve as 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 in capacity strengthening to mitigate, prevent, respond to and reduce risks of ETOP emergencies and associated pesticide human health threats as well as environmental pollutions.
- OFDA is supporting a program to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) through FAO to coordinate locust monitoring, reporting, prevention and mitigation efforts and abate the threats they pose to food security and livelihoods of vulnerable communities.

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 November, a marked decrease in temperature was observed in Libya, where the minimum temperatures ranged from 5–30 degree centigrade and the maximum temperatures ranged from 15–35 degree centigrade. Dry and hot weather persisted over most of the western and northern SGR summer breeding areas during this period. Light showers were recorded in the winter breeding areas along the Red Sea coasts and the Horn and unusually heavy rain was reported along the southeastern coast of Oman (DDLCO/Libya, DLCO-EA, FAO-DLIS, PPD/Sudan).

The rains that commenced in October continued well into November in most Red Locust outbreak areas in Malawi, Mozambique, Tanzania and Zambia where breeding conditions progressively improved over the past several weeks. Weather

data was not available for the outbreak areas in Kafue Flats and Mweru wa Ntipa at the time this report was compiled, but it is likely that conditions have improved in those areas as well (IRLCO-CSA).

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).

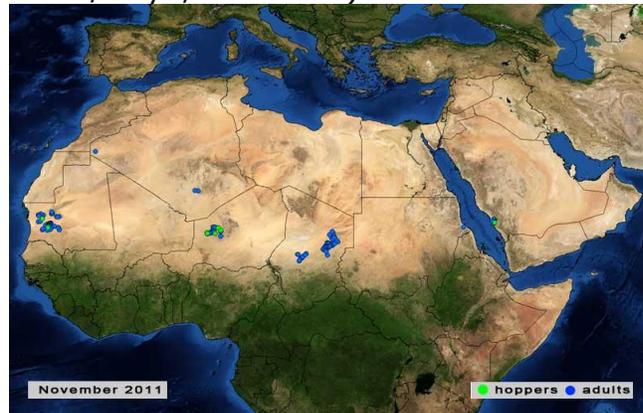
Note: Changes in the weather patterns and the shift in the ecology of landscape are believed to exacerbate the risk of pest outbreaks and resurgence. Regular monitoring and reporting are essential.
End note.

Detailed accounts of ETOP situation, activities and ecological conditions are presented below.

SGR - Western Outbreak Region: The desert locust (SGR) situation remained calm in the summer breeding areas in Sahel West Africa in November. Only low numbers of adults have moved from southern Mauritania to the northwest.

Scattered adults were reported in parts of the central and southern Sahara in Algeria, but the situation remained calm and survey operations were not conducted in Libya during this period. Hoppers and adult populations persisted in parts of Tamesna Plains, northern Niger where some 35 ha were treated during this period, and in eastern Chad. A similar situation may have persisted in parts of northern Mali where ground surveys were hampered by the insecurity situation in the area, but other countries in the region remained calm during this period (CNLA/Mauritania, DDLC/Libya, FAO-DLIS).

Forecast: As vegetation continues to dry out, locust numbers will decline in the northern Sahel and only a few adults will likely persist in *wadis* and patches of green vegetation. Low numbers of isolated solitary adults may persist near Ghat and Ghadames in the west and southwest of Libya. Other countries in the region will remain fairly calm during this period. Caution must be exercised in primary outbreak areas to avoid any surprises (CNLA/Mauritania, DDLC/Libya, FAO-DLIS).



(adult locusts moved from summer to winter breeding areas, FAO-DLIS-12/2011)

SGR - Central Outbreak Region: Adult locusts were reporting moving from the summer breeding areas in the interior of Sudan to the Tokar Delta on the Red Sea coast. A similar situation was reported on the Red Sea coasts in Saudi Arabia where small-scale breeding was in progress near *Qunfidah*. No locusts were reported in Yemen, eastern Ethiopia, northern Somalia and other countries in the regions

(DLCO-EA, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

Forecast: Small-scale breeding will commence with the onset of the winter rains on the costal areas in Sudan, Eritrea and Yemen. Breeding that began along the Red Sea coasts of Saudi Arabia will likely extend to other coastal areas including, Yemen should more rains begin falling. A similar situation is likely on the southeast coast in Oman if warm temperatures persist where unusually heavy rain was reported on a stretch of some 1,000 km (600 miles). Other areas will likely remain clam during the forecast period (DLCO-EA, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

SGR - Eastern Outbreak Region: The SRG situation remained calm in November in the summer breeding areas along the Indo-Pakistan borders. Only a few isolated solitary adults were reported in India in areas neighboring Pakistan. However, good rains that fell in Baluchistan region in western Pakistan will likely improve ecological conditions and allow small-scale breeding during the forecast period (DPPQS/India, FAO-DLIS).

Forecast: As floods continue receding and conditions become favorable in Tharparkar in southeast Pakistan where massive rains and flooding occurred in August and September, winter breeding will likely commence. Vigilance and timely interventions are crucial to avoid any invasions and outbreaks (DPPQS/India, FAO-DLIS).

Red (Nomadic) Locust (NSE): IRLCO-CSA and MoAFSC carried out aerial surveys over 184,400 ha in the Wembere, Ikuu-Katavi and Lake Rukwa plains as well as the Malagarasi Basin and Bahi Valley in Tanzania in November. A total of 40,150 ha were reported detected as potential NSE breeding grounds. Populations ranging

from 1-3 insects/m² of isolated individuals to scattered adults were detected in Bahi Valley, Malagarasi Basin, and North and South Rukwa Plains and more dense populations (3-8 insects/m²) were reported in Wembere and Ikuu-Katavi Plains. As rains continued falling in the outbreak areas, breeding conditions progressively improved (IRLCO-CSA).



(Red locust mating in Wembere plains in Tanzania, in November, 2011, IRLCO-CSA)

Forecast: NSE eggs will hatch and hoppers and bands will form during the forecast period. Low to medium size hopper bands are likely to form in Wembere and Ikuu-Katavi Plains, and Malagarasi Basin in Tanzania where high density residual populations persisted. If left uncontrolled, hoppers will likely fledge around March/April and form swarms and invade adjacent farmlands. Hopper bands will also likely develop in Buzi and Dimba Plains in Mozambique; Kafue and Lukanga swamps in Zambia and Lake Chilwa/Lake Chiuta Plains in Malawi. Survey and control operations will be coordinated by the IRLCO-CSA in collaboration with the MoAs in areas where high density hopper bands are present. IRLCO-CSA will be using Green Muscle, a biopesticide, in ecologically sensitive areas (IRLOC-CSA).

Tree Locust (*Anacridium* sp) hopper outbreaks were reported over 5 km² in Loima district in Turkana County and Chalbi district in Marsabit County in Kenya. MoA/Kenya provided a pesticide - Fenvalerate (Decis ULV) to affected

farmers to assist with control operations (IRLCO-CSA).

Madagascar Migratory Locust (LMC):

No update was received at the time this report was compiled. However, given that a wave of hatchings and hoppers and bands were detected in the center and north of Horombe during the previous months, locust activities likely continued in the transient gregarization zone, in Ranotsara, Zomandao, in the Horombe plateau and Ranohira in the southwest of Jangany Betroka, in Isoanala, the Manambien circle in Babaria in Belomotra and Andranovory plateau.



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

Forecast: Given the above normal rainfall predicted through December which will likely extend into January and onto March, breeding and hatching are expected to continue in the primary breeding and invasion areas during the forecast period. Timely field assessments and reporting as well as preventive interventions are essential to avert any unexpected surprises. If so, rapid interventions will be required to prepare for such scenario (AELGA, FAO-CNA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI): No update was received from CAC at the time this report was compiled. 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 site during that time. The acridids were seen in grasses but not posing any threats to crops (AELGA).



(Locust prone CAC countries, FAO)

Australian Plague Locust (APL): The November update was not available at the time this report was compiled. However, based on the previous activities and forecast for the month, high density hopper and band activities may have continued in parts of South Australia and formed adult populations during this period. Fledging may have occurred in the Corowa-Jerilderie area of the Riverina and swarms may have formed in some areas. Victoria may have experienced localized hopper developments and fledglings with most hatching likely experienced in the Grampians district.



(Australian plague locust, source: APLC)

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

Armyworm (AAW): AAW outbreak was reported in Sumbawanga district of Rukwa region of Tanzania. The pest was seen attacking cereal crops on some 35 ha. An unconfirmed AAW outbreak was reported in Nakonde district of the Northern Province in Zambia, but details were not available at the time this report was compiled. Although AAW activities were not reported in Kenya during this period, high moth catches were reported in the Coast and Eastern provinces in the country – an indication for a high likelihood of outbreaks occurring in these provinces. No AAW activities were reported in Malawi, Mozambique or Zimbabwe (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: AAW will likely continue developing in Tanzania and by the end of November and into early December, most IRLCO-CSA countries will likely experience some level of AAW activities. Pheromones and traps have been distributed to IRLCO-CSA member-states to monitor moth occurrences and forecast potential outbreaks. Trap operators are advised to regularly monitor and report moth catches to crop protection staff and prepare interventions. Community forecasters are encouraged to participate in monitoring, forecasting and alerting farmers (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): Low to high density QQU outbreaks were reported in eastern Ethiopia and the rift valley region where most crops were maturing or have already matured and become susceptible to QQU attacks. DLCO-EA began aerial control in mid-October and continued well into November in *Oromiya*, *Amhara* and *Harari* regional states and sprayed more than 772 ha with 1,550 liters of pesticides and

averted major crop damages. QQU outbreaks also occurred in Kisumu and Siaya districts in Kenya where the birds were attacking irrigated rice. Control operations were hampered by unfavorable weather conditions. No QQU activities were reported in other countries during this period (DLCO-EA, IRLCO-CSA).

Forecast: QQU birds will subside in some parts of Ethiopia, but likely remain a problem to small grain cereal growers in eastern parts of the country as well as in Siaya, Nyando, Kisumu and Kirinyaga districts of Kenya, Dodoma, Shinyanga, Morogoro and Mbeya regions of Tanzania. Active monitoring, surveillance and timely response interventions remain essential (AELGA, DLCO-EA, IRLCO-CSA).



(A QQU bird colony roosting on acacia)

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 35 ha sprayed in Niger, and 772 ha (1,550 l) of QQU operations in Ethiopia, Kenya and Zimbabwe, no pesticide use was reported during this month.

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	1.9+~
Libya	Data not available
Madagascar	1.6c + 0.00g + 1.1b
Mali	208.8d~
Mauritania	435.3~
Morocco	4,100~
Niger	28.21+
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

		<i>ETOP</i>	<i>Emergency Transboundary Outbreak Pest</i>
<i>AAW</i>	<i>African armyworm (Spodoptera expempta - SEX)</i>	<i>GM</i>	<i>Green Muscle (a fungal-based biopesticide)</i>
<i>AELGA</i>	<i>Assistance for Emergency Locust Grasshopper Abatement</i>	<i>ha</i>	<i>hectare (= 10,000 sq. meters, about 2.471 acres)</i>
<i>AME</i>	<i>Anacridium melanorhodon</i>	<i>IRIN</i>	<i>Integrated Regional Information Networks</i>
<i>APL</i>	<i>Australian Plague Locust</i>	<i>IRLCO-CSA</i>	<i>International Red Locust Control Organization for Central and Southern Africa</i>
<i>APLC</i>	<i>Australian Plague Locust Commission</i>	<i>ITCZ</i>	<i>Inter-Tropical Convergence Zone</i>
<i>CAC</i>	<i>Central Asia and the Caucasus</i>	<i>ITF</i>	<i>Inter-Tropical Convergence Front = ITCZ)</i>
<i>CERF</i>	<i>Central Emergency Response Fund</i>	<i>FAO-DLIS</i>	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>
<i>CIT</i>	<i>Calliptamus italicus</i>	<i>Kg</i>	<i>Kilogram (~2.2 pound)</i>
<i>CLCPRO</i>	<i>Commission de Lutte Contre le Criquet Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)</i>	<i>L</i>	<i>Liter (1.057 quarts or 0.264 gallon or 33.814 US fluid ounces)</i>
<i>CNLA/CNLAA</i>	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>	<i>LMC</i>	<i>Locusta migratoriacapito</i>
<i>CRC</i>	<i>Commission for Controlling Desert Locust in the Central Region</i>	<i>LMM</i>	<i>Locusta migratoria migratorioides (African Migratory Locust)</i>
<i>CTE</i>	<i>Chortoicetes terminifera</i>	<i>LPA</i>	<i>Locustana pardalina</i>
<i>DDLC</i>	<i>Department of Desert Locust Control</i>	<i>MoAFSC</i>	<i>Ministry of Agriculture, Food Security and Cooperatives</i>
<i>DL</i>	<i>Desert Locust</i>	<i>MoARD</i>	<i>Ministry of Agriculture and Rural Development</i>
<i>DLCO-EA</i>	<i>Desert Locust Control Organization for Eastern Africa</i>	<i>NOAA</i>	<i>National Oceanic and Aeronautic Administration</i>
<i>DMA</i>	<i>Dociostaurus maroccanus</i>	<i>NSE</i>	<i>Nomadacris septemfasciata</i>
<i>DPPQS</i>	<i>Department of Plant Protection and Quarantine Services</i>	<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>
<i>DPV</i>	<i>Département Protection des Végétaux (Department of Plant Protection)</i>	<i>PHD/S</i>	<i>Plant Health Directorate/ Services</i>
<i>ELO</i>	<i>EMPRES Liaison Officers</i>	<i>PPD</i>	<i>Plant Protection Department</i>
<i>EMPRES</i>	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>	<i>PPSD</i>	<i>Plant Protection Services Division/Department</i>
		<i>PRRSN</i>	<i>Pesticide Risk Reduction through Stewardship Network</i>
		<i>QQU</i>	<i>Quelea quelea</i>
		<i>SARCOF</i>	<i>Southern Africa Region Climate Outlook Forum</i>
		<i>SGR</i>	<i>Schistoseca gregaria</i>
		<i>SWAC</i>	<i>South West Asia DL Commission</i>
		<i>TAG</i>	<i>Technical Assistance Group</i>
		<i>USAID</i>	<i>Unites States Agency for International Development</i>

UN *the United Nations*
ZEL *Zonocerus elegans, elegant*
 grasshopper

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