

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

Summary

Desert Locust (SGR¹) activities continued in Libya and Algeria during May. Adult locusts from southeastern Algeria moved westward and reached Arlit in northern Niger on May 30 and detected in cultivations in areas that received rain during previous week. From February 1st through May 31st, close to 21,000 ha were controlled in Libya and 41,000 ha were treated in Algeria. FAO and the Commission for the Desert Locust Control in West Africa (CLCPRO) contributed \$400,000 and \$300,000, respectively to support locust operations in Libya. The insecurity situation and lack of access to several outbreak areas in the region prevented extensive survey and control operations.

Isolated adults were reported in Eritrea and southwestern coast in Pakistan. Scattered adults and hoppers were observed in Central Oman. No locusts were reported in other countries during May (DDLC/Libya, DLCO-EA, DPPQS/India, FAO-DLIS, INP/Algeria).

Forecast: Swarms and groups from Libya and Algeria will continue moving to green vegetation and reach northern Sahel where they will settle or move further south to cropping areas during

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

the forecast period. Niger is mobilizing survey teams to the northern part of the country to assess the situation. The insecurity in the region will likely hamper operations here and in neighboring Mali.



(Projected directions of DL movement, FAO-DLIS, 6/2012)

Potential implications: The current locust situation in the Algeria, Libya and northern Sahel is potentially dangerous as swarms could move south and coincide with the summer cropping season. This could be further complicated by the ongoing insecurity situation in the region. It is critical that locust that these are closely monitored and preventive interventions are implemented to the extent possible to reduce major threats (AELGA, DDLC/Libya, DLCO-EA, FAO-DLIS, INPV/Algeria).

OFDA/TAG will continue closely monitoring the situation and advise as necessary.

Other ETOPs

Red (Nomadic) Locust (NSE): No NSE update was received at the time this report was compiled. However, several dozens of swarms and groups that were detected in April in Ikuu-Katavi plains in Tanzania may have continued moving to adjacent areas and concentrate on green vegetation (see photo below). The seasonal grass burning may have begun and started intensifying

the situation or will do so soon and calling for rapid control interventions. In Malawi and Zambia, swarms may have persisted and could be threatening irrigated crops (AELGA, IRLCO-CSA).



(Red locust swarm in Ikuu Plain, Tanzania, 4/28/20120, IRLCO-CSA)

Forecast: More swarms will likely continue escaping from Ikuu-Katavi plains in Tanzania and perhaps move to other countries. Grass burning will continue intensify swarm formations. IRLCO-CSA will be mobilizing resources and continue soliciting assistance from development partners to conduct large-scale control operations and minimize the threat the locusts pose to food security and livelihoods of vulnerable populations (AELGA, IRLCO-CSA).

(Note: NSE outbreak areas are vast flat and treeless tall grass savanna found at 700 to 800 meters (2,300 to 2,600 ft.) above sea level. These areas are frequently flooded and suitable breeding grounds for NSE that breeds once a year, laying eggs at the onset of the rains in November/December. Hatching takes place in January and hoppers form and go through six to seven stages before fledging into immature adults by March to April.

Immature adults develop and form swarms that threaten crops and pasture.

Many of the NSE breeding areas are sensitive and protected area where a large variety of game animals and birds are present. This makes these areas rather sensitive and demands bio-rational tools, such as bio-pesticides and other selective and soft pesticides for controlling the locusts. Bio-rational is often expensive or not easily available making control interventions rather complicated (AELGA, PHS/Tanzania).

Madagascar Migratory Locust (LMC):

Several swarms and hoppers were detected over large areas southeast of Morondava on the western coast of Madagascar through late May (see photo below). LMC remained in its natural habitat until vegetation began to dry out. Insect grow regulators (IGR) were used against hoppers and conventional pesticides were sprayed to control adult locusts (IGRs don't work against adult locusts). FAO has been negotiating with partners in West Africa to triangulate pesticides to Madagascar and Libya (AELGA, FAO-ECLO, FAO-CNA).



(A locust swam in southeastern Morondava, FAO, May 10, 2012)

Forecast: More adults will likely continue appearing during the forecast period in

areas where good rains fell over the past months. Vigilance and timely interventions are essential to avert any major threats to agriculture and food security AELGA, FAO-CNA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts in Central Asia and the Caucasus (CAC): A late received report indicated hatching and hopper developments of DMA in many CAC countries. Control operations treated more than 127,000 ha in Afghanistan, Tajikistan and Uzbekistan. Control operations have also begun in Azerbaijan, but details were not available at the time this report was compiled. No activities were reported on CIT (FAO-ECLO).

Forecast: Hatching and hopper development will commence and continue in the coming months.

African Armyworm (AAW): AAW situation remained calm and only a few trap catches were reported in Rombo district in Tanzania during the first week of May (DLCO-EA, IRLCO-CSA, PHS/Tanzania).

Forecast: AAW season has ended in Tanzania and the northward migration of the pest will be insignificant. There is a chance of appearance of AAW in Kenya and Ethiopia where local breeding could occur during the forecast period. Trap operators and community forecasters are encouraged to continue monitoring the situation and alert farmers and FAs as needed (AELGA, DLCO-EA, and IRLCO-CSA).

Quelea (QQU): A late received report indicated that aerial QQU control operations were carried out on 565 ha in Tanzania and 570 ha in Kenya from mid- to late April. The birds were seen attacking or threatening Bulrush, finger millet, sorghum, rice and wheat in Tanzania and seed rice in Kenya. Control was carried out by DLCO-EA spray aircraft with Queleatox provided by the MoAs in each country (DLCO-EA).

Forecast: QQU birds will likely continue posing a problem to small grain crop growers during the forecast period and vigilance required (AELGA, IRLCO-CSA).

OFDA/AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue closely monitoring ETOP situations 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 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 deserve support and encouragements – a good example of

sustainable disaster risk reduction with modest input.

OFDA ETOP Activities and Impacts

- 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).
- Discussions that began several months ago to launch similar PRR initiatives in North Africa and the Middle East were halted by the unrests that occurred in the regions. A dialogue is underway in other regions and will also resume soon in the regions mentioned above.
- OFDA continued its assistance for DRR through capacity strengthening programs with FAO to mitigate, prevent, and respond to and reduce risks of ETOP emergencies and associated human health impacts and minimize environmental pollution.
- OFDA's modest assistance for obsolete pesticide prevention and management has enabled FAO to develop a dynamic system (PSMS) for monitoring, managing and reporting pesticide inventories in ETOP prone countries. This has enabled countries to launch regular monitoring and make decisions concerning their stocks and

ultimately, prevent accumulation of obsolete stocks.

- For the first time, OFDA is supporting a program through FAO to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) to coordinate locust monitoring and reporting as well as plan prevention and mitigation efforts to abate and minimize the threats they pose to food security and livelihoods of vulnerable populations.
- OFDA/AELGA is exploring community-based armyworm forecasting, monitoring and early warning to reduce the risk of AAW threats to vulnerable communities.

All ETOP SITREPs can be accessed on our website in the below link:

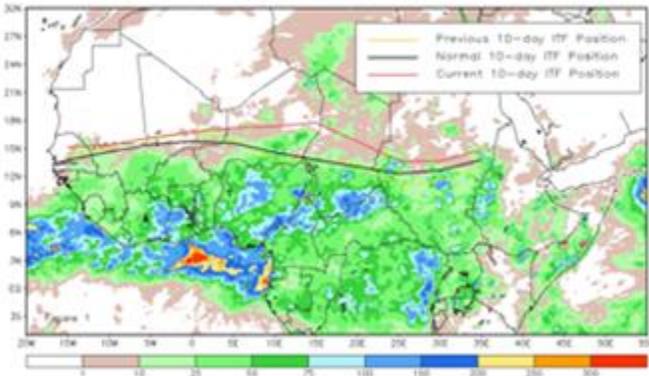
http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/

Weather and ecological conditions

During the past 30 days, above-average rainfall was observed in local areas in Mali, southern Niger, southern Chad, portions South Sudan Republic, in the summer breeding areas in the interior of Sudan, southwest Egypt, in portions of western Kenya, Ethiopia, southern Somalia and coastal East Africa. During the third decade of May, the Inter-Tropical Front (ITF or Front) pushed northward across the continent of Africa with its western mean position near 16.5N, 1.4 degrees north of the climatological average position and higher than its previous dekadal position. This was attributed to strong and moist southerly winds which resulted in rainfall in northern Niger, northern Chad and southern Libya. The Front also moved north to a mean position of 14.5N, 1.6 degrees north of its climatological average position for this period. This brought light to moderate rainfall to Burkina Faso, eastern Ethiopia and adjacent

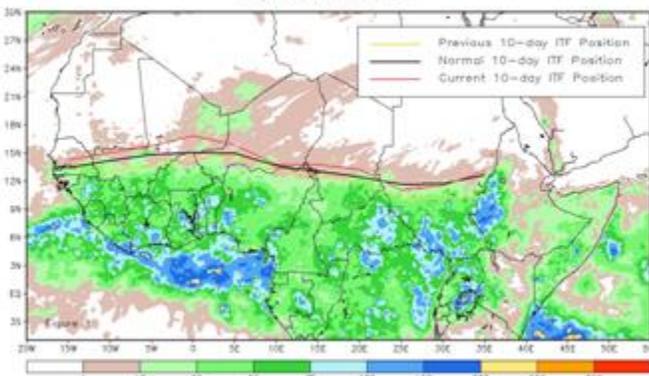
areas in northern Somalia, local areas in Kenya, the Arabian Peninsula, along the Red Sea coast of Yemen and the Sharqiya region in North Oman (FAO-DLIS, NOAA).

Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)
May 2012, Dekad 3



From May 11-20, 2012, the mean position of the Front for the western portion was at 15.4N, 1 degree above its normal position for this period. This was attributed to days of strong southerly winds from the Gulf of Guinea region to southern Algeria that brought moderate showers across parts of northern Mali and Niger.

Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)
May 2012, Dekad 2



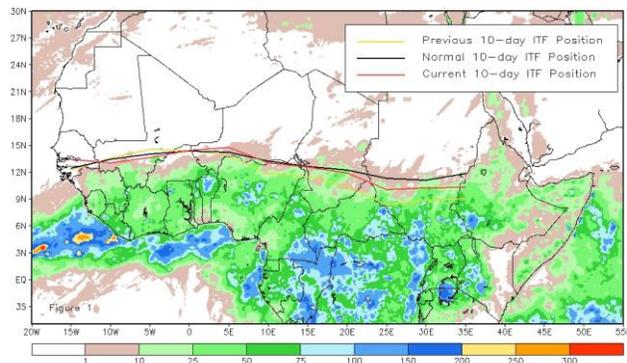
The eastern portion of the Front was located at 12.2N, still higher than its previous position and increased seasonable rainfall across parts of South Sudan, Sudan and western Ethiopia (see map, NOAA, 5/2012). Light to moderate rain occurred at isolated places in Bikaner division on 11th, 13th and 14th May, but overall dry

weather persisted here and in Jodhpur division in India during the fortnight. Overall, north Gujarat region remained dry, but light showers were recorded at isolated places in the Region on the 19th and 20th of May signaling a possibility of conditions becoming favorable for locusts to begin breeding.

The near average position of the Front in the western portion resulted in increased rains across parts of Burkina Faso; however, less rain was reported in parts of southern Mali and Guinea during the first dekad of May. The mean eastern portion of the ITF was approximated at 10.6N, northern of its previous position in April, but still low for early May. The southerly push is associated with strong northerly winds across eastern Sahara suppressing rains and moisture over South Sudan during the first week of May (see map, NOAA, 5/2012).

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

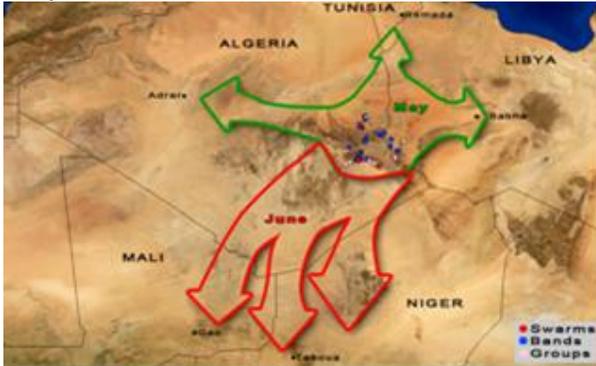
Current vs. Normal Dekadal ITF Position
and RFE Accumulated Precipitation (mm)
May 2012, Dekad 1



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

SGR - Western Outbreak Region: The SGR continued developing in southeastern Algeria and southwestern Libya in May. Hopper bands and groups formed in the northern part of the

outbreak area near Illizi, Algeria and on the southern edge of the Al Hamada-Al Hamra plateau in Libya. Fledglings began appearing and groups of immature adults were seen forming in southwest Libya and southeast Algeria during the first week of May.



(Projected directions of DL movement, FAO-DLIS, 6/2012).

As vegetation began drying out, adult groups were seen moving north and east from Libya and south and southwest from of Tassili Mountains to Tamanraset in Algeria during the last dekad of May. On May 30, adults reached northern Niger. The situation in other outbreak areas in Algeria, Libya as well as northern Mali and Niger is still unclear as survey operations are undermined by the insecurity situation and remoteness of some of these areas (DDLCO/Libya, FAO-DLIS, INPV/Algeria).

Interventions: Ground control operations continued in Libya and Algeria throughout May and controlled hoppers, bands and adult groups on more than 21,000 ha Libya and close to 41,00 ha Algeria since the current campaign began on February 1st. FAO is providing technical assistance and limited support to the Libyan locust control center through a Technical Cooperation Project. CLCPRO provided financial assistance to Libya to support the ongoing locust operations.

Forecast: More swarms and adult groups from Libya and Algeria will continue moving

to areas of green vegetation and to northern Sahel - Tamesna Plains and Air Mountains, and perhaps Djado Plateau, Dirko and Seguedine in northern Niger where heavy to light rains fell. A similar situation could occur in Adrar des Iforas in northeastern Mali. Swarms will settle or move to cropping areas during the forecast period.

Mali and Niger should remain on high alert, actively monitor the situation and launch preventive interventions to the extent possible to minimize migrations of the locusts and avert further threats. Mauritania and Southwestern Morocco could see small-scale breeding and other countries in the region should keep an eye on any movements (AELGA, DDLC/Libya, FAO-DLIS, INPV/Algeria).

SGR - Central Outbreak Region: Isolated adults were reported on the Red Sea coast in Eritrea and a similar situation may be present in central and northern Oman. No locusts were reported in other countries during May (DLCO-EA, FAO-DLIS).

Forecast: Small-scale breeding could commence in northern Oman and perhaps in Yemen, and the summer breeding areas in the interior of Sudan where rainfall was recorded. Solitary adults could begin appearing in northwestern plateau in Somalia, but overall the situation will remain calm during the forecast period (DLCO-EA, FAO-DLIS).

SGR - Eastern Outbreak Region: Mature adult locusts were detected during the first fortnight of April in the southwestern coast in Pakistan, but no locusts were reported in southeastern Iran during a joint border survey carried out. No locusts were seen along the Indo-Pakistan borders during this period although rainfall was reported in these regions (DPPQS/India, FAO-DLIS).

Forecast: Small-scale breeding could begin in western coast of Pakistan and southeastern Iran if additional rains fall, but significant

developments are not expected during the forecast period (DPPQS/India, FAO-DLIS).

Red (Nomadic) Locust (NSE): No update was received at the time this report was compiled. However, several dozen of NSE swarms and groups that were detected in April in Ikuu-Katavi plains in Tanzania may have continued escaping to adjacent areas where they may have congregated on green vegetation. The seasonal grass burning may have intensified the situation. The threat the swarms pose to an estimated 300,000 ha of cereal crops in western Tanzania is serious. Swarms may have also intensified in Malawi and Zambia and become a threat to irrigated crops in some areas. IRLCO-CSA carried out small-scale control in Ikuu-Katavi plains in late April, but large outbreak areas have yet to be treated. Rapid control interventions are required to curb the threat the pest poses (AELGA, IRLCO-CSA).

Forecast: Large swarms will likely escape from the outbreak areas in Ikuu-Katavi plains in Tanzania where only limited control was carried out. Swarm formation will intensify with grass burning which will start by June in the foot hills of the dry season. In Lake Chiuta/Lake Chilwa plains of Malawi, where large swarms have persisted, plans were underway to launch control. In Kafue Flats in Zambia swarms will likely form and threaten irrigated crops. IRLCO-CSA is calling on all concerned MoAs and personnel to remain vigilant and report any locust sightings immediately to IRLCO-CSA to facilitate appropriate action. The Organization -CSA is mobilizing resources and seeking assistance from [development] partners to launch large-scale control operation to minimize the threat the locusts pose to food security and livelihoods of vulnerable populations (AELGA, IRLCO-CSA).

(Note: *NSE breeding or outbreak areas are vast flat and treeless grasslands found at an altitude of 700 to 800 meters (2,300 to 2,600 ft) above sea level. These areas are usually are frequently flooded. NSE breeds in these areas once a year and lays eggs at the onset of the rains in November/ December. Eggs hatch by January and form hoppers that go through six to seven stages before they fledge into immature adults by March to April. Immature adults concentrate and form swarms that threaten crops and pasture. Many of the NSE breeding areas are protected conservation area where a large variety of game animals and birds are present. This rather demands bio-rational tools, such as bio-pesticides and other selective and soft pesticides which are, unfortunately, both expensive and hard to come by making control interventions rather complicated (AELGA, PHS/Tanzania).* **End note**)

Madagascar Migratory Locust (LMC): Several swarms, hoppers and bands were detected on more than 35,000 ha southeast of Morondava (see photo below) on the western coast of Madagascar as well as in LMC's natural vegetation in Manja and Mandabe areas east Morondava through early third dekad of May. The natural vegetation in the LMC transitory outbreak areas in East and South Morondava was at least 40% green and kept the locusts within their natural habitat during that time. IGRs were sprayed by air against hoppers and bands as of May 12 and continued until May 20. As immature adults began forming, control operations shifted to conventional pesticides to control adults.

According to the latest information from Madagascar, swarms continue to migrate from South to North over the area of Ankilizato/ Malaimbandy on the road to Morondava-Ambositra, at 80 and 160 km East Morondava. Three to four swarms measuring 100 to 500 ha are reported every day. FAO is working with partners in West Africa on triangulating pesticides to Madagascar as well as Libya (AELGA, FAO-ECLO, FAO-CNA).

Forecast: More adults will likely continue appearing during the forecast period in areas where good rains were reported over the past months. Vigilance and timely interventions are essential to avert any major threats to agriculture and food security.

USAID/OFDA will continue closely monitoring the situation through AELGA project as well as other means and advise accordingly (AELGA, FAO-CNA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts in Central Asia and the Caucasus (CAC): A late received report indicated that DMA began hatching and forming hoppers in many CAC countries. Control operations treated close to 80,000 ha in Afghanistan and some 47,000 ha in Tajikistan and Uzbekistan in April and part of May. Control operations have also started in Azerbaijan, but no details were available at the time this report was compiled. No activities were reported on CIT in the region (FAO-ECLC).

Forecast: Hatching and hopper formations will commence/continue in some countries and control operations will be required in the coming months (AELGA, FAO-ECLC).



(Locust prone CAC countries, FAO)

Australian Plague Locust (APL): No update was received for May at the time this report was compiled. However, eggs that were laid from local populations from

mid-March on and from redistributed adults continued diapausing and will do so till next spring and no activities are expected during the forecast period (APLC).



(Australian plague locust, source: APLC)

Timor and South Pacific: No update was received in May in Timor and South Pacific, but some activities are expected to have occurred during this period (AELGA).

African Armyworm (AAW): AAW outbreaks were not reported in May and only some trap catches were seen in Rombo, Tanzania. The situation remained calm in other countries during this period (DLCO-EA, IRLCO-CSA, PHS/Tanzania).

Forecast: AAW season has ended in Tanzania. Local breeding in Kenya and southern Ethiopia will begin and increase the number. Active monitoring and preventive intervention are recommended. Trap operators and community forecasters are encouraged to continue monitoring and alert farmers and report to relevant authorities as needed (AELGA, DLCO-EA, and IRLCO-CSA).

Quelea (QQU): A late received report indicated that aerial control operations were carried out against QQU birds by DLCO-EA and Tanzania MoA where QQU roosts and colonies were controlled over 565 ha in April. The pest was seen attacking bulrush, finger millet, sorghum, rice and/or wheat in different places. In Kenya, DLCO-EA and MoA carried out QQU control operations from 18-26 April in Siaya in Nyanza

Province against several roosts on Papyrus, Reeds and Blue Gum trees. The pest was seen threatening seed rice on 1,800 ha; 570 ha were sprayed with Queletox (DLCO-EA).

Forecast: QQU birds will likely continue being a problem to small grain crop growers in Kenya, Tanzania, Mozambique and Zimbabwe during the forecast period and vigilance is critical to protect crops (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 colony composed of a million birds (very common) is capable of consuming and destroying 7-10 tons or 7,000 to 10,000 kg of seeds/day, enough to feed 15,000-20,000 people for a day.

Rodents: No update was received on rodents in May, but the pest remains a constant threat to both pre- and post-harvest crops and produces in many countries around the globe.

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. 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 and community forecasters are encouraged to remain vigilant and report any ETOP sightings to field agents and other contact persons.

Inventories of Acridid Pesticide Stocks

ETOP pesticide inventory changed during May as control operations continued in Algeria and Libya (baseline data on pesticide inventory is not available for both countries) where more than 62,000 ha were sprayed in Libya (21,000 ha) and Algeria (41,000 ha) from February 1st through May 31st (DDLC/Libya, FAO-DLIS).

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 ([see page 1 for definition](#)) of stocks from countries with large inventory to where there are immediate needs is a double-edged alternative that is 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.**

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	Data not available
Mali	208.8d~
Mauritania	435.3~

Morocco	4,100~
Niger	28.21+
Senegal	156~~
Saudi Arabia	Date not available
NSD	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)

	(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
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)

LIST OF ACRONYMS

AAW	African armyworm (<i>Spodoptera expempta</i> - SEX)
AELGA	Assistance for Emergency Locust Grasshopper Abatement
AFCS	Armyworm Forecasting and Control Services, Tanzania
AfDB	African Development Bank
AME	Anacridium melanorhodon
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

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>
NSD	<i>Republic of North Sudan</i>
NSE	<i>Nomadacris septemfasciata</i>
OFDA	<i>Office of U.S. Foreign Disaster Assistance</i>
PHD	<i>Plant Health Directorate</i>
PHS	<i>Plant Health Services, MoA Tanzania</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>
SARCOF	<i>Southern Africa Region Climate Outlook Forum</i>
SGR	<i>Schistoseca gregaria</i>
SWAC	<i>South West Asia DL Commission</i>
TAG	<i>Technical Assistance Group</i>
USAID	<i>United States Agency for International Development</i>
UN	<i>the United Nations</i>
ZEL	<i>Zonocerus elegans, elegant grasshopper</i>

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

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