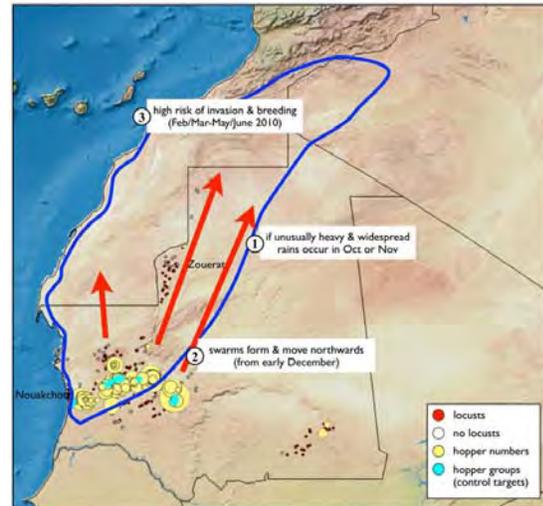


**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for October with a forecast
till mid-December, 2009**

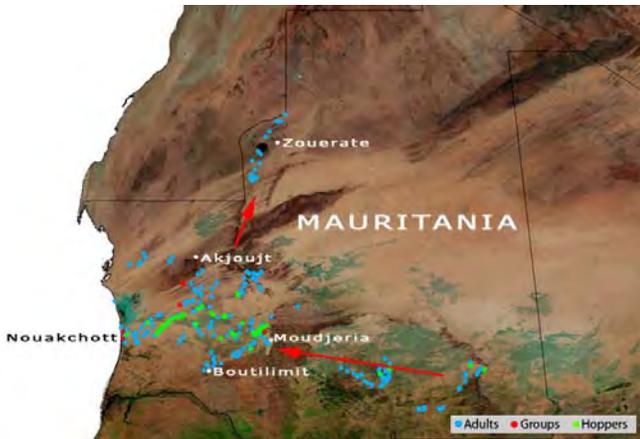
Summary

Desert Locust activities increased in western **Mauritania** in October. Survey and control teams from the National Locust Control Centre (CNLA) controlled second generation hoppers and adults on some 4,214 ha during this month (close to 4,280 ha have been treated since the current control operations began on September 11). Survey and control operations are in progress in **Mauritania** and neighboring countries are on the look out. CNLA's better coordinated proactive interventions coupled with limited initial populations compared to the 2003-04 outbreaks and the dwindling October rains will likely reduce the threat of larger-scale outbreaks and invasions during the forecast period. A few solitary adults were detected in **southern Morocco** and adjacent areas and low numbers of adults were observed in central **Mali**, northern **Niger** and **Chad**. The DL situation remained fairly calm in the Red Sea region and the Horn of Africa. Only some scattered solitary adults were reported in the summer breeding areas in **Sudan**, and coastal areas in **Eritrea** and **Yemen** and scattered adult populations were controlled on 37 ha in northeastern **Ethiopia** during this period. Other countries in the western, central and eastern outbreak regions remained calm (CNLA/Mauritania, CNLAA/Morocco, DLCO-EA, DPV/Niger, FAO-DLIS, PPD/Ethiopia, DPPQS/India).



The Desert Locust outbreak in western Mauritania should be contained unless unusually heavy and widespread rains occur in the next six weeks. (FAO-DLIA, 10/09)

Forecast: The current outbreak in **Mauritania** is smaller than that of 2003-04. Countries in the western outbreak and invasion areas are better prepared and can launch preventive interventions more rapidly than before. As the vegetation dries up and ecological conditions become less favorable, adult locusts will migrate further north where egg laying may take place should favorable conditions exist. Unless more rains fall in the coming weeks, it is likely that locust numbers will decline and breeding will end sooner. Other outbreak and invasion areas are expected to remain relatively calm during the forecast period. However, it is advisable that countries in outbreak areas maintain vigilance and continue monitoring the situation to avoid any unexpected invasions (AELGA, CNLA/Mauritania, CNLAA/Morocco, DLCO-EA, DPPQS/India, DLCU/Libya, FAO-DLIS, and PPD/Ethiopia).



The DL situation began developing in western Mauritania as of September 2009 (Source: FAO-DLIS, 10/09)

OFDA Pest & Pesticide Activities

- OFDA/TAG continued its initiatives in **pesticide risk reduction** through stewardship network (PRRTSN) to ensure safety of vulnerable communities as well as protecting their assets and the environment. OFDA/TAG launched the second sub-regional PRRTSN workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Adama-Nazareth, Ethiopia. More than 30 participants from Djibouti, Ethiopia and Sudan attended the workshop. Eritrea and Somalia did not participate. Similar initiatives are being discussed with partners in **Kenya, Ghana** and Egypt.
- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to

prevent, mitigate and respond to DL emergencies.

- OFDA co-sponsored assessments and project development missions for locust operations in Central Asia, the Caucasus and neighboring countries (EECAC). The assessments lead to a regional workshop held in Kazakhstan late October, 2009.
- Seed money provided by OFDA to FAO's pesticide disposal and prevention program leveraged more than \$2.2 million from GEF and other sources. These funds are being used to develop/implement obsolete pesticide disposal and prevention initiatives/activities in EECAC countries.
- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors.

Other ETOPs

The **Red Locust** situation remained relatively calm in October. Grass burning continued concentrating populations and creating open grounds for egg laying in the outbreak areas. Egg laying will likely commence with the onset of the seasonal rains in November. The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) is

preparing to undertake surveys in November in **Tanzania** and **Malawi** to assess the size of the residual populations, project potential hopper developments in early 2010 and alert member-countries to prepare for interventions (IRLCO-CSA).

Armyworm situation remained calm in October. However, it is likely that this will change with the start of the seasonal rains in the southern outbreak regions. IRLCO-CSA supplied pheromone traps and accessories to member-countries to monitor armyworm developments. Trap operators, including community forecasters where applicable, are encouraged to stay on the look out.

Quelea bird control operations were launched from September 10th through October 23rd in **Ethiopia** where the birds were threatening *Teff*, wheat and sorghum crops. The birds were also reported damaging sorghum and pearl millet in western **Eritrea** and threatening irrigated rice crops in Kilimanjaro Region in **Tanzania**. No reports were received from other outbreak or invasion countries during this period (DLCO-EA, IRLCO-CSA).

No updates were received on other **ETOPs** at the time this report was compiled.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring the situation and advise. End summary

This and other SITREPS can be accessed on our website at:

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

Weather and ecological conditions

During the third dekad of October, the African portion of the Intertropical Front (ITF) was located near 13.2N degrees, while the normal for this time of year is 12.3N degrees. The southward movement of the ITF continued during this period, but it was well north of the normal position during this period except in Senegal and western Mali (Figure1). During the second dekad of the month, the Front was located near 14.0N degrees, while the normal for that time of year is 13.8N degrees. The Front stopped moving further south during the second dekad and remained close to its normal position for this time of year due to its earlier southerly slide (Figure 2). From October 1-10, 2009, the Front was located near 14.1N degrees, 1 degree lower than its normal position for this time of year and it returned to the below normal position it maintained for the majority of the season (Figure 3) (NOAA, AELGA, FAO-DLIS, PPD/Addis, UN/IRIN).

Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
October 2009 Dekad 3

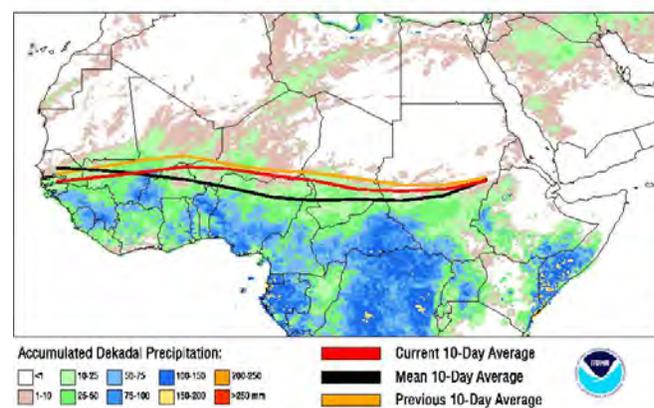


Figure 1

Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
October 2009 Dekad 2

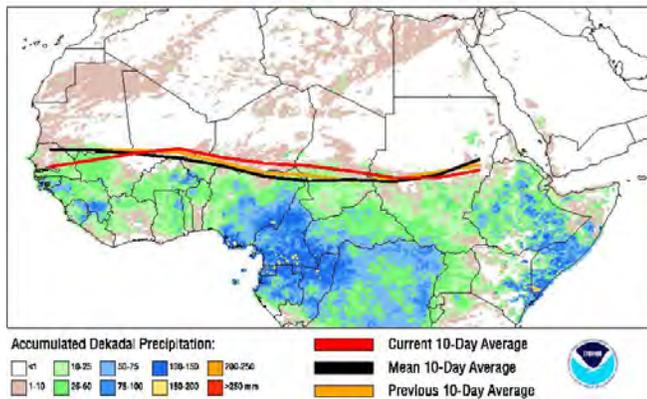


Figure 2

Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
October 2009 Dekad 1

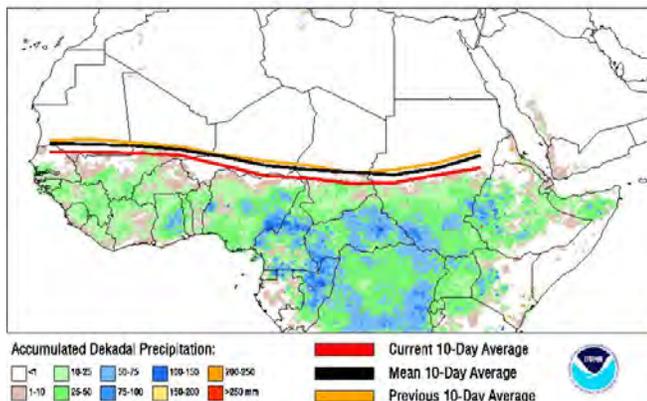


Figure 3

10 degrees west to 10 degrees east latitude

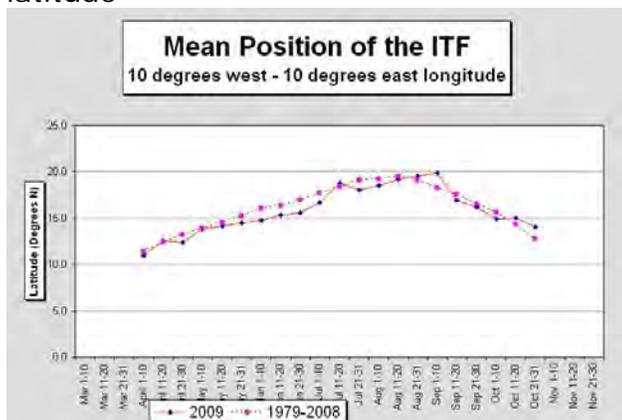


Figure 4a

20-35 degrees east longitude

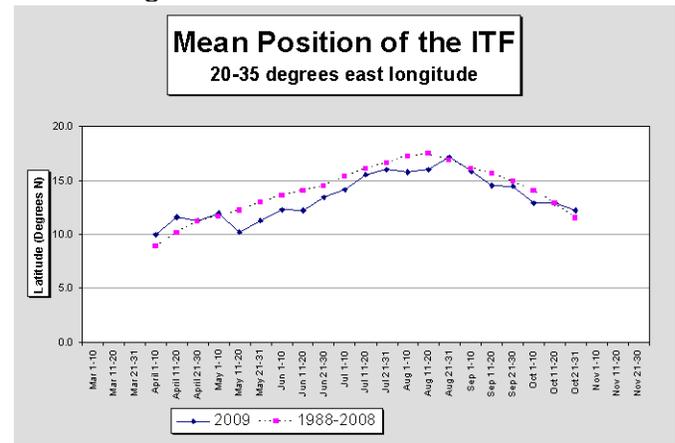


Figure 4b

Rainfall was above average most of October over parts of the Sahel, and below average along the Guinean coast and over much of southern Ethiopia and Somalia, parts of Kenya, parts of central Africa, including Cameroon, northern Congo, and southern DRC during this period. Moisture surpluses were evident over portions of southern Africa, including central Angola, Botswana, and local areas in South Africa (NOAA).

During the last seven days of October moderate to heavy rains continued over southern Somalia and eastern and coastal Kenya, while much of the remaining Greater Horn of Africa had below normal to near normal rainfall. Rainfall was below average over much of Cameroon, Congo, parts of western Tanzania, Zambia, Zimbabwe and Madagascar (NOAA).

Dry and hot conditions prevailed over most of the red locust outbreak areas in October. Rainfall will likely begin in the red locust outbreak areas of **Tanzania, Mozambique** and **Malawi**. Flood water levels receded in the Wembere plain of **Tanzania** creating ideal conditions for red locust breeding. In **Kenya** rainfall started in late October and ecological conditions improved in armyworm breeding areas.

(Note: Changes in the weather pattern and the shift in the landscape are believed to increase the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF THE ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

The Desert Locust activities increased in western **Mauritania** in October. Seventeen survey and control teams from CNLA treated second generation hoppers and adults on some 4,214 ha during this month (close to 4,280 ha have been treated since the current control operations began on September 11). The outbreak resulted from summer breeding and compounded by adults that migrated from the southern part of the country concentrating on green vegetation within an estimated area of about 400 km by 250 km east of Nouakchott (CNLA/Mauritania, FAO-DLIS). Survey and control operations are in progress. CNLA's better organized proactive interventions coupled with limited initial populations compared to the 2003-04 outbreaks and the dwindling October rains, suggest that the threat of continued and larger local outbreaks and invasions of other countries in the weeks to months will likely be abated during the forecast period. Some adult locusts have begun appearing in southern **Morocco** but only low numbers of adults were reported in central **Mali**, northern **Niger** and **Chad**. Joint survey operations commenced on October 20 between **Niger** and **Chad** in areas where rainfall was recorded in the recent past and vegetation is still green. The joint survey is expected to continue for two weeks and awareness raising will be carried out among local inhabitants, defense force and security staff to obtain information on the locust situation in areas where DPV staff

cannot access for security reasons (CNLA/Mauritania, CNLAA/Morocco, DLCO-EA, DPV/Niger, FAO-DLIS).

Member-countries of the commission for the DL control in the western region met from 27 October to 1 November and assessed the current situation in light of CNLA's capacity and the forecast for the coming months. The group commended actions taken by GoM and suggested that additional teams may help bring the situation under control more rapidly and effectively.

Forecast: The current outbreak is smaller than that of 2003-04 and unless more rains fall in the coming weeks and locust numbers increase significantly, CNLA should be able to put the situation under control. The decline in rainfall in October and the drying up of vegetation will render ecological conditions unfavorable and force adult locusts to migrate further north where egg laying may take place should favorable conditions exist there. Other outbreak and invasion areas in the western regions are expected to remain relatively calm during the forecast period, but they are being advised to stay on alert mode (AELGA, CNLA/Mauritania, CNLAA/Morocco, DPV/Niger and FAO-DLIS).

DL - Central Outbreak Region

The DL situation remained fairly calm in the Red Sea region and the Horn of Africa. Only some scattered solitary adults were reported in the summer breeding areas in **Sudan**, along the Red Sea coasts in **Eritrea** and **Yemen** and northern Somalia (unconfirmed). Scattered adults were controlled on 37 ha in Wello in northeastern **Ethiopia** in mid-October. No locusts were reported in other countries in central outbreak and invasion areas and significant developments are not expected during the forecast period (DLCO-EA, FAO-DLIS, and PPD/Ethiopia).

Forecast: Given the relatively low number of locust activities detected this year, it is likely that winter breeding will be minimal. This will likely keep most of the invasion countries in the Central region relatively calm and only isolated breeding may occur in areas where ecological conditions are favorable and adult locust persist, but significant developments are not likely during the forecast period (AELGA, DLCO-EA, FAO-DLIS, PPD/Ethiopia).

DL- Eastern Outbreak Region

Ecological conditions remained unfavorable in most of the summer breeding areas in the eastern outbreak region along the **Indo-Pakistan** border and the locust situation remained calm with only a few scattered adults reported in this region in October (DPPSC/India, FAO-DLIS).

Forecast: As a result of unfavorable conditions that persisted in the summer breeding areas along the **Indo-Pakistan** borders, only a few adults may be seen, but significant activities are not expected during the forecast period (DPPQS/India, FAO-DLIS).

Central Asia and the Caucuses

No reports were received on migratory pests in CAC region in October.

Forecast: ETOP activities will remain inactive during the forecast period.

The **Red Locust** situation remained calm in October in the outbreak and invasion areas. Only concentrations of residual populations persisted in the Ikuu-Katavi, Lake Rukwa and Malagarasi Basin in **Tanzania** and low density populations persisted in the Kafue Flats of **Zambia** during this period (IRLCO-CSA).

Forecast: Plans are underway for IRLCO-CSA to undertake surveys in November in the outbreak areas in **Tanzania**, including Ikuu-Katavi, Lake Rukwa and Malagarasi Basin and Wembere plain where locust activities have not been reported for quite some time and the receding flood waters have created ideal conditions for egg laying. IRLCO-CSA will also be undertaking surveys in Lake Chilwa/Lake Chiuta in **Malawi** in November. This will help determine the level of the existing residual populations, project potential hopper developments and alert concerned countries to prepare for interventions as necessary.

The Timor and South Pacific

No update was received in October.

Australian Plague Locust

No update was received on the **Australian Plague Locust** (APL) at the time this report was compiled.

Armyworm situation remained calm in all outbreak and invasion countries in October.

Forecasting: The situation will likely change and armyworm may begin appearing with the onset of the seasonal rains in the southern outbreak and invasion. IRLCO-CSA provided pheromone traps and accessories to its member-countries for monitoring armyworm developments. Armyworm trap operators, including community-based forecasters are advised to ready their traps and monitor and forecast as early as possible.

Quelea bird control operations were launched from September 10th through October 23rd in Oromya and the South-central parts of **Ethiopia** where the birds were seen threatening *Teff*, wheat and sorghum crops. The birds were also reported threatening irrigated rice crops in Kilimanjaro Region in **Tanzania**. *Quelea*

birds were also reported in western **Eritrea** where they were seen feeding on Sorghum and Pearl Millet. No reports were received from other outbreak or invasion countries during this period (DLCO-EA, IRLCO-CSA).

Forecast: Quelea breeding will occur 4-8 weeks after the start of the rain season in the southern region and new populations may then damage cereals as they mature later in the season. The bird will also continue threatening crops in other outbreak areas till harvest during the forecast period (AELGA, IRLCO-CSA).

Front-line countries in ETOP outbreak zones are advised to remain vigilant. Countries in the invasion zones are expected to strengthen their capacity to avoid any unexpected surprises. DLCO-EA, IRLCO-CSA, national PPDs/DPVs and autonomous locust/ETOP units and ELOs are encouraged to continue sharing information with partners and stakeholders as often as possible.

Pesticide Stocks

Pesticide inventories remained unchanged in October in most of the outbreaks/invasion countries except in **Mauritania** and **Ethiopia** where some 4,214 ha and 35 ha, respectively were treated in October.

Country	Quantities in l/kg@
Algeria	1,800,000**
Chad	108,085
Eritrea	44,800
Ethiopia	22,341++
Mali	209,000%
Mauritania	485,000
Morocco	4,105,300
Niger	69,000
Senegal	519,000
Saudi Arabia	??
Sudan	735,676
Tunisia*	167,600*

Yemen	Info not available
some of these pesticide have expired or will soon expire	
*Most current data not available	
**Most current data not available	
~ this represents DL stock	
Mali donated 21,000 l to RL operations in Malawi, Mozambique and Tanzania late last year and FAO facilitated the triangulation	
++ data needs verification	

Point of Contact:

For more information please, visit us at website:

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

Or send an e-mail to:
Yeneneh T. Belayneh;
ybelayneh@ofda.gov

**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for November with a
forecast till mid-January, 2010**

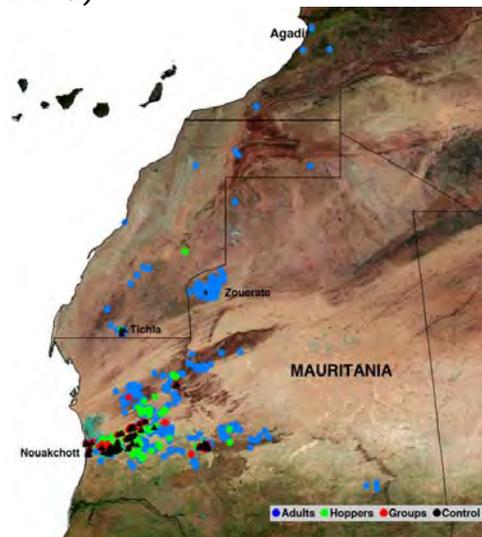
Summary

The Desert Locust situation continued developing in western **Mauritania** in early to mid-November. The national locust control center (CNLA) treated close to 9,560 during this month (close to 13,770 ha since 11 September, 2009). CNLA staff and three survey specialists – two from **Morocco** and one from **Libya** continued operations in **Mauritania** in November. Treatable targets declined towards the end of the month as large numbers of hoppers were controlled and those that escaped fledged and adults continued migrating further north into southern **Morocco** and northern **Mauritania**.

Solitary immature and mature adults and hoppers were detected in the extreme south of **Morocco** where the latter were controlled on November 18th in 400 m² in three locations in Tichla. Hoppers were also controlled on 225 ha in central **Algeria**. An unconfirmed report indicated the presence of hopper bands in *In Abanghati* in *Tamesan* in **Niger** and a team has been dispatched to confirm the report. Scattered solitary adults were detected during surveys carried out in southwest **Libya**.

The Red Sea region and Horn of Africa remained fairly calm. Only some scattered solitary adults and small-scale breeding were reported in the winter breeding areas in northeast **Sudan** along the coast. No locusts were

detected during surveys carried out on the coastal areas in **Saudi Arabia** and **Oman** and no locusts were reported in **Ethiopia, Somalia, Kenya** or other countries in the central, western and eastern outbreak regions in November (CNLA/Mauritania, CNLAA/Morocco, DLCO-EA, DDLC/Libya, DPP/Ethiopia, DPPOS/India, DPV/Niger, and FAO-DLIS).



The locust situation is improving in W Mauritania (FAO-DLIS, 12/09)

Forecast: As ecological conditions continue deteriorating in the outbreak areas in **Mauritania**, locust numbers will likely continue declining there. Only scattered adults will likely persist in southern **Morocco**, **Algeria**, northern **Mali** and **Niger** and southwest **Libya** where small-scale breeding may occur if favorable conditions persist. Small-scale breeding will likely occur and locust numbers could slightly increase along the coastal areas in northeast and Tokar Delta in **Sudan** and **Eritrea**, **Saudi Arabia** and **Yemen**. Isolated adults may begin appearing in spring breeding areas in southeast coast of **Iran** and west coast of **Pakistan**, but

significant developments are not likely during the forecast period.

OFDA Pest & Pesticide Activities

- OFDA/TAG continued its initiatives in **pesticide risk reduction** through stewardship network (PRRTSN) to avoid pesticide related disasters ensure safety of vulnerable communities as well as protect their assets and the environment. OFDA/TAG launched the second sub-regional PRRTSN workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Adama-Nazareth, Ethiopia. More than 30 participants from Djibouti, Ethiopia and Sudan attended the workshop. Similar initiatives are being discussed with partners in **Kenya, Ghana** and **Egypt**.
- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in the Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to prevent, mitigate and respond to DL emergencies.
- OFDA co-sponsored assessments and project development missions for locust management and operations in Central Asia, the Caucasus and neighboring counties (EECAC). The assessments lead to a regional workshop held in Kazakhstan late October, 2009 aimed at developing programs for a

coordination of locust operations in the region.

- Seed money provided by OFDA to FAO's pesticide disposal and prevention program leveraged more than \$2.2 million from GEF and other sources. These funds are being used to develop/implement obsolete pesticide disposal and prevention initiatives in EECAC countries.
- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors and presented a paper on pesticide risk reduction as a humanitarian intervention.

Other ETOPs

The International Red Locust Organization for Central and Southern Africa (IRLCO-CSA) and the Ministry of Agriculture in **Malawi** carried out survey operations in the Red Locust outbreak areas in November 2009. Low density isolated populations were detected in Lake Chilwa and Lake Chiuta plains and Mpatsanjoka Dambo in **Malawi**. Breeding is expected to have commenced with the onset of rains in the outbreak areas in **Tanzania** and **Mozambique** in November. IRLCO-CSA will be surveying all outbreak areas in **Tanzania** in December 2009 to estimate potential outbreak in the 2010 outbreak season (IRLCO-EA).

Armyworm: Positive trap catches were reported in **Tanzania** throughout the month with moth catches progressively increasing from 1-3/trap at the beginning of the month to 210/trap at the end of the month. The highest trap catch was reported in Mengwe Chini, Kilimanjaro Region. Primary outbreaks were reported towards the end of the month in Mbozi District, Mbeya region. An outbreak was reported in the Panda Delta areas of the Coastal Region of **Kenya** in November (DLCO-EA, AELGA, IRLCO-CSA).

Forecast: Moth catches will likely increase and larval infestations will appear in several places in **Tanzania** and **countries in the southern outbreak region** will likely experience armyworm presence in areas where favorable conditions persist. Regular trap monitoring and assessing crops and pasture are advisable (DLCO-EA).

DLCO-EA aircraft treated *Quelea* roosts and colonies in 125 ha in Amhara and Oromya regions of **Ethiopia** in mid-November. The birds were seen feeding on sorghum and wheat crops. *Quelea* roosts were controlled in 48 ha in sugar cane in **Tanzania**. *Quelea* activities will likely continue in these regions and breeding will likely commence in **Kenya, Mozambique** and other countries and new populations will likely threaten crops here and in adjacent areas (AELGA, DLCO-EA, IRLCO-CSA).

No updates were received on other **ETOPs** during this period.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring

the situation and advise. End summary

This and other SITREPS can be accessed on our website at:

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Weather and ecological conditions

During the last week of November, isolated areas in **southeastern Kenya, coastal Tanzania, northern Mozambique**, parts of **Malawi** and **Zambia** recorded above average rainfall, but dry conditions persisted across much of the **Greater Horn of Africa (GHA)** where eastern **Kenya** and **southern Somalia** registered rainfall deficits. Parts of **Zimbabwe, southern Mozambique, eastern South Africa, northern Botswana**, the area along the border between **Namibia** and **Angola**, and the western sectors of Angola received above average precipitation.

During the second week of November the **GHA** experienced dry conditions, except **Tanzania**, where portions of the central areas parts of **Zambia** and northern **Zimbabwe, southern Cameroon** and the **Guinea** coast recorded above average rainfall. Rainfall was below average in **South Africa** and dry conditions persisted in western **Angola**. Seasonably dry weather prevailed over most of the Sahel West and only light to moderate rains fell on 1-2 November near Zouerate in **Mauritania**. Rains have not fallen in the outbreak area since late September, but vegetation remains green in *wadis* and low laying areas between the sand dunes in **Mauritania**. Large parts of Lake Chilwa/Lake Chiuta Red Locust outbreak areas, shared by **Malawi** and **Mozambique**, were still flooded and covered with green vegetation. In other

outbreak areas, extensive burning had taken place creating ideal ecological conditions for egg laying (NOAA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPPOS/India, DPV/Niger, FAO-DLIS, IRLCO-CSA, and PPD/Ethiopia).

(Note: Changes in the weather pattern and the shift in the landscape are believed to increase the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF THE ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

The DL situation continued developing in western **Mauritania** in November. Three survey experts, two from **Morocco** and one from **Libya** were dispatched on November 16 to assist CNLA. Ground operations have sprayed 13,768 ha since the current campaign began on 11th September and 9,554 ha were treated in November. Hoppers as well as immature and mature adults were seen forming groups near Moudjeria and Nouakchott earlier in the month, but treatable targets declined towards the end of the month as large numbers of hoppers were controlled and those that escaped fledged and adults continued migrating further north into southern **Morocco**.

Solitary immature and mature adults and hoppers (presumably resulting from adults that migrated from Mauritania in October) were detected in the extreme south of **Morocco** where the latter were controlled in 400 m² in three locations in Tichla on November 18th. Survey and control teams have been deployed to the region since October.

Locally bred hoppers were controlled on 225 ha in central **Algeria** and an

unconfirmed report from travelers indicated the presence of hopper bands in *Abanghati, Tamesan in northern Niger* and a team has been dispatched to confirm the report. In **Libya** surveys were carried out in November in the spring breeding areas in Alhamada Alhamra, Ghadames, Derj, and Ghat in the southwestern part of the country. Favorable conditions were present in areas that received rain in September and October in Ghat. Scattered solitary adults were detected in wade Tin-fjaj (26 07 05 N/09 32 14E), wade Tin-hilal (26 09 33N/09 32 26E), wade Intalaq (26 07 59N/09 07 33E) and wade Tanzouft (24 59 28N/10 14 42E) in Ghat (AELGA/OFDA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DLCO-EA, DPV/Niger and FAO-DLIS).

Forecast: As ecological conditions continue deteriorating in the outbreak areas in **Mauritania**, locust numbers will continue declining. Only some scattered adults will likely persist in northern **Mauritania**, southern **Morocco**, central **Algeria**, northern **Mali**, southwest of **Libya** where small-scale breeding may occur if favorable conditions persist. Ecological conditions are favorable in some areas in *Tamesna* and east Air in northern **Niger**, but rainfall has stopped and significant activities are not likely in the coming months (AELGA/ OFDA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPV/Niger and FAO/DLIS).

Note: Member-countries of the commission for the DL control in the western region (CLCPRO) met from 27 October to 1 November and assessed the current situation in light of CNLA's capacity and the forecast for the coming months. The group commended actions taken by GoM through CNLA and suggested that additional teams may help bring the situation under control rapidly and effectively. **Morocco** responded with two survey experts and **Libya** provided

a survey expert and **\$300,000** to support **Mauritania**. **End note.**

DL - Central Outbreak Region

The DL situation remained fairly calm in the Red Sea region and the Horn of Africa in November except in northeastern **Sudan** where conditions were favorable and breeding was reported along the coast. No surveys were carried out in **Eritrea** or **Yemen** and no locusts were reported during this period. No locusts were detected in **Saudi Arabia** during surveys carried out in November on the coastal areas. No locusts were reported in Ethiopia, Kenya, Somali, Oman or other countries in the region (DLCO-EA, FAO-DLIS and PPD/Ethiopia).

Forecast: Small-scale breeding will likely occur and lead to a slight increase in locust numbers along the coastal areas in northeast and Tokar Delta in **Sudan** and in **Eritrea**, **Saudi Arabia** and **Yemen**, but other countries will likely remain clam during the forecast period (AELGA, DLCO-EA, FAO-DLIS, and PPD/Ethiopia).

DL- Eastern Outbreak Region

Ecological conditions remained unfavorable in most of the summer breeding areas in the eastern outbreak region along the **Indo-Pakistan** border and the locust situation remained calm with only a few scattered adults reported in November. No locusts were detected during surveys carried out in Jodhpur, Jaisalmer, Barmer, Bikaner, Phalodi, Jalore, Nagaur, Suratgarh, Churu, Bhuj and Palanpur of the Scheduled Desert Area (SDA) of Rajasthan and Gujarat States (DPPSC/India, FAO-DLIS).

Forecast: Despite the light rains that fell in Churu Division in Rajasthan and some parts of Gujarat, these areas will likely remain relatively free of locusts. Unfavorable

conditions persisted in the summer breeding areas along the **Indo-Pakistan** borders and only a few adults may be seen during the forecast period. Isolated adults may begin appearing in spring breeding areas in the southeast coast of **Iran** and west coast of **Pakistan**, but significant developments are not likely during the forecast period. However, regular surveillance is advised throughout the area to avoid unexpected surprises (DPPQS/India, FAO-DLIS).

Central Asia and the Caucuses

No reports were received on migratory pests in CAC region in November.

Forecast: ETOP activities will remain inactive during the forecast period.

Red Locust: The IRLCO-CSA and the Ministry of Agriculture with financial support from the UN-FAO carried out aerial surveys in the Red Locust outbreak areas in **Malawi** in November. Low density isolated populations were detected on some 78,000 ha in **Lake Chilwa** and **Lake Chiuta** plains and **Mpatsanjoka Dambo**. No locusts were sighted in the secondary outbreak areas in **Ndindi Marshes** and **Kuselicumvenji Estate**. Breeding is expected to have commenced in November with the onset of rains in the outbreak areas in **Tanzania** and **Mozambique** where significant residual populations existed after control operations were carried out from June to August 2009 (IRLCO-EA).

Forecast: Red locust breeding commenced with the onset of the seasonal rains and hoppers will begin appearing sometime in January depending on prevailing weather conditions of each outbreak area. In **Tanzania**, where significant residual populations existed and gregarious hoppers are expected to occur in Ikuu-Katavi, Malagarasi and Rukwa Valley during the early part of 2010 provided breeding

conditions become suitable. Residual populations in Buzi-Gorongosa and Dimba plains in **Mozambique** will likely begin breeding and form gregarious hoppers in January if conditions become favorable. Breeding will likely continue in **Malawi**. IRLCO-CSA will undertake pre-breeding surveys of all outbreak areas in **Tanzania** in December 2009 to identify egg laying areas, estimate the 2010 season outbreak, alert member countries as well as prepare for potential intervention options including Green Muscle for hopper control (AELGA, IRLCO-CSA).

The Timor and South Pacific

No update was received in November.

Australian Plague Locust

According information received from the **Australian Plague Locust** (APL), swarms were reported in Central West New South Wales during the first half of November. By mid month, swarms were also detected in the Trangie–Tullamore and the Peak Hill–Parkes areas and various stages of residual nymphs were also seen in many areas during this period.

Low to medium density populations were detected in western New South Wales and low density adult populations were reported in the Far West region and in most of the Far Southwest and Riverina in the Ivanhoe–Mossgiel area. Several small swarms were detected near Binya-Barellan. Low density late instar nymphs were widespread in the Condobolin–Hillston area and in the Lachlan and parts of the Riverina LHPA areas. Low density populations persisted in most of inland Queensland in early November. Migration occurred in Southwest Queensland in mid-November. South Australia remained relatively calm in November.

Forecast: Breeding will continue and populations will significantly increase in areas that received rain in western and southern New South Wales, South Australia and Southwest Queensland. Swarms will likely form in many of these regions during the forecast period.

Armyworm: Positive trap catches were reported in the Southern Highlands and in Tanga region in North Eastern **Tanzania** in November with the numbers progressively increasing from 1-3 moths/trap at the beginning of the month to 210 moths/trap at the end. The highest trap catch was reported in Mengwe Chini, Kilimanjaro Region. Primary outbreaks were reported in Mbozi District, Mbeya region during the last week of the month (DLCO-EA). An armyworm outbreak was also reported in Pana Delta on the Coastal Region of **Kenya** in November.

Forecast: Moth catches will likely increase and larval infestations will appear in the Southern and Central Regions of **Tanzania** and in areas where favorable conditions persist in the southern outbreak region. The pest will likely begin migrating northward following the seasonal wind in the coming months. Active surveillance and monitoring are essential. Trap operators, including community-based forecasters are advised to continue monitoring and forecasting to assist timely interventions (AELGA, DLCO-EA).

Quelea: Aerial control operations by DLCO-EA treated roosts and colonies in some 125 ha in Amhara (Antsokia, Lomigora and Kemise) and Oromya (Kyo and Koso) regions of **Ethiopia** from 11-16 November, 2009. The birds were seen feeding on sorghum and wheat crops. Two *Quelea* roosts were sprayed in 48 ha on sugar cane and the birds were also seen attacking irrigated rice crops in Moshi region in **Tanzania**. No activities were reported in **Kenya** or the IRLCO-CSA region or the Sahelian West Africa at the time this report was compiled, but it is likely

that the birds are present in these regions (AELGA, DLCO-EA).

Forecast: The birds will likely persist in the above countries and breeding will likely commence in **Mozambique, Tanzania, Kenya** and new populations could start threatening crops as the season progresses. Vigilance must be maintained in monitoring and intervening (AELGA, IRLCO-CSA).

Front-line countries in ETOP outbreak zones 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/DPVs and autonomous locust/ETOP units and ELOs are encouraged to continue sharing information with partners and broader stakeholders as often as possible.

Pesticide Stocks

Pesticide inventories remained unchanged in November in most of the outbreaks/invasion countries except in **Algeria, Mauritania**, and **Morocco** where some 225 ha, 9,554 ha and 400 m² were sprayed respectively.

Country	Quantities in l/kg@
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	22,800
Mali	209,000%~
Mauritania	480,000~
Morocco	4,105,300~
Niger	30,920+
Senegal	519,000~
Saudi Arabia	Not available
Sudan	735,676~
Tunisia	167,600~
Yemen	info not available
Note: some of these pesticide have expired or will expire soon ~ data may not be most current % Mali donated 21,000 l for RL in Malawi,	

Mozambique and Tanzania late last year and
FAO facilitated the triangulation
+ quantity reported from Agadez

Point of Contact:

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**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for December with a
forecast till mid-February, 2010**

Summary

Groups of immature adults and hoppers of **desert locust** were detected in *wadis* and between sand dunes in Tamesna northern **Niger** and controlled in more than 1,600 hectares in December. The situation improved and locust numbers were significantly reduced in western **Mauritania** where an outbreak developed in early October and control operations effectively treated thousands of ha in the past months. Groups of hoppers were treated in 15 ha in Central Sahara in **Algeria** in December. Some breeding was reported on the Red Sea coasts in **Egypt** and **Eritrea** and scattered adults were reported on the coastal areas in **Sudan, Saudi Arabia, Yemen** and **northwest Somalia**. Elsewhere, The situation remained calm elsewhere in the region during the reporting period (CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPPQS/India, DPV/Niger, and FAO-DLIS).

Forecast: Small-scale breeding will likely occur in winter breeding areas along the Red Sea coasts in **Egypt, Eritrea, Sudan, Saudi Arabia** and **Yemen**, and perhaps northwestern **Somalia** if rains fall during the forecast period. Elsewhere, the situation will likely remain calm and only a few adults will persist in **Mauritania, Mali, Morocco, Niger** and **Algeria** during the forecast period.

OFDA Pest & Pesticide Activities

- OFDA/TAG continued its initiatives in **pesticide risk reduction** through stewardship network (PRRTSN) to avoid pesticide related disasters ensure safety of vulnerable communities as well as protect their assets and the environment. OFDA/TAG launched the second sub-regional PRRTSN workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Adama-Nazareth, Ethiopia. More than 30 participants from Djibouti, Ethiopia and Sudan attended the workshop. Similar initiatives are being discussed with partners in **Kenya, Ghana** and **CRC/FAO**.
- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in the Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to prevent, mitigate and respond to DL emergencies.
- OFDA co-sponsored assessments and project development missions for locust management and operations in Central Asia, the Caucasus and neighboring counties (EECAC). The assessments lead to a regional workshop held in Kazakhstan late October, 2009 aimed at developing programs for a coordination of locust operations in the region.
- Seed money provided by OFDA to FAO's pesticide disposal and prevention program leveraged more than \$2.2

million from Global Environment Facility and other sources. These funds are being used to develop/implement obsolete pesticide disposal and prevention initiatives in EECAC countries.

- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors and presented a paper on pesticide risk reduction as a humanitarian intervention.

Other ETOPs

The International **Red Locust** Control Organization for Central and Southern Africa (IRLCO-CSA) and **Tanzania** Ministry of Agriculture Food Security and Cooperatives (MoAFSC) carried out aerial surveys from 8-18 December on more than 225,700 ha in the primary outbreak areas in the country. Funds from the United Nation Central Emergency Response Fund (CERF) provided through Food and Agriculture Organization (FAO) were used to launch the survey operations. Low density populations were detected in some parts of the outbreak areas where rains were recorded and breeding conditions improved over the past months.

Forecast: Hatching will commence and low to medium-size hopper bands will likely form in January in the outbreak areas in **Tanzania, Mozambique** and **Zambia** where significant residual populations were detected earlier in the season. IRLCO-CSA is planning on

carrying out survey and control operations against hopper bands using *GreenMuscle*, a fungal-based biological pesticide, in ecologically sensitive areas (IRLCO-CSA).

African Armyworm outbreaks were reported in **Malawi, Tanzania** and **Zambia**. The caterpillars were observed feeding on maize and pasture. Control operations were carried out by affected farmers with assistance from the MoA (IRLCO-CSA, Mushobozi).

Forecast: Armyworm outbreaks will likely continue in **Malawi, Tanzania** and **Zambia** and perhaps extend to **Mozambique** and **Zimbabwe** and threaten crops and pasture during the forecast period. Trap operators are advised to continue collecting trap data and forward it to the national forecasting officers immediately. Community forecasters are advised to engage in monitoring and reporting armyworm sightings. Outbreak countries are encouraged to share armyworm information with neighboring countries as often as possible. Preventive interventions are recommended to the extent possible.

Quelea birds were reported damaging irrigated rice crops in **Kenya** where control operations were carried out by the Desert Locust Control Organization for Eastern Africa (DLCO-EA) in collaboration with the Ministry of Agriculture. *Quelea* activities were not reported in **Tanzania, Malawi, Mozambique** and **Zambia** during this period but other outbreak and invasion

countries may be experiencing infestations (AELGA, IRLCO-CSA).

Forecast: *Quelea* birds will likely continue being a problem to small grain cereal growers in **Kenya** and also likely threaten crops in other outbreak countries. Active surveillance and reporting are advised (**AELGA, IRLCO-CSA**).

Rodents: Rodents pose a threat to oil palm crops in **Thailand** where barn owls (*Tyto alba*) are being used to control the pest (OFDA/RDMA).

No updates were received on other ETOPs in December.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring the situation and issue advice. End summary

This and other SITREPS can be accessed on our website at:

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

Weather and ecological conditions

Above average rainfall was recorded across parts of central Africa and portions of southern Africa, including northern **Angola, Zambia**, and parts of western **Tanzania** during the last week of December. During previous weeks, southern **Ethiopia, Kenya, southern Somalia, southern Mozambique, northern Madagascar**, parts of **South Africa**, coastal **Tanzania**, northern **Uganda, Zambia** and **Zimbabwe** registered above average rainfall. Below average rainfall was recorded in **northern**

Mozambique and over much of central **Tanzania** during the same period. Most of the DL outbreak areas remained relatively dry and only light rains were recorded in some areas (NOAA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPPOS/India, DPV/Niger, FAO-DLIS, IRLCO-CSA).

(Note: Changes in the weather pattern and the shift in the landscape are believed to increase the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF THE ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

The DL situation significantly improved in December in western **Mauritania** where control operations effectively controlled hoppers and adults on thousands of hectares since September 2009. Very little rain fell and vegetation continued drying out during the reporting period. Consequently, only a few groups of locusts were controlled in 75 ha during the first ten days of December and the threat diminished thereafter.

Groups of immature adults and hoppers were detected in areas of green vegetation in *wadis* and between sand dunes in Tamesna in northern **Niger**. The national Crop Protection (DPV) staff treated close to 1,601 ha from the second dekad of December. Security protection was provided by the national army during survey and control operations. Survey and control operations continued to abate further locust developments and reduce the DL threat level. Locust infestations may also be present in eastern **Mali** in areas adjacent to Tamesna **Niger**. However,

the ongoing security problems continue undermining survey and control operations.

Forecast: The DL situation will likely remain calm in the northwest outbreak areas and only some adults will persist in **Mauritania, Mali, Morocco, Niger** and **Algeria** during the forecast period (AELGA/ OFDA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPV/Niger and FAO/DLIS).



Locusts are present in Mauritania, Niger and along the Red Sea coasts, source: FAO-DLIS, 01/10)

DL - Central Outbreak Region

The DL situation remained fairly calm in the central outbreak region in December. Only small-scale breeding was reported along the Red Sea coasts in **Egypt** and **Eritrea** and scattered adults were reported on the coastal areas in **Sudan, Saudi Arabia, Yemen** and **northwest Somalia**. No locusts were reported in Ethiopia, Kenya, Oman or other countries in the region during this period (AELGA, FAO-DLIS).

Forecast: Small-scale breeding will likely continue in winter breeding areas along the Red Sea coasts in **Egypt** and **Eritrea** and commence in **Sudan, Saudi Arabia** and **Yemen**, and perhaps northwestern **Somalia** provided that rains fall during the forecast period. Active surveillance and reporting are advisable (AELGA, FAO-DLIS)..

DL- Eastern Outbreak Region

Ecological conditions remained unfavorable in December in most of the winter breeding areas in the eastern outbreak region along the **Indo-Pakistan** border and the locust situation remained calm during this period. No locusts were detected during surveys carried out in Jodhpur, Jaisalmer, Barmer, Bikaner, Phalodi, Jalore, Nagaur, Suratgarh, Churu, Bhuj and Palanpur of the Scheduled Desert Area of Rajasthan and Gujarat States (DPPSC/India, FAO-DLIS).

Forecast: Light rains fell in Churu Division in Rajasthan, some parts of Gujarat **India** but most of the summer breeding areas along the **Indo-Pakistan** borders remained dry. Light rain was also reported in parts of spring breeding areas in western **Pakistan** and conditions may slightly improve and a few adults may be seen here and in southwestern **Iran** sometime during the forecast period, but significant developments are unlikely (DPPQS/India, FAO-DLIS).

Central Asia and the Caucasuses

No reports were received on migratory pests in CAC region in December and the situation will likely remain inactive during the forecast period.

Far East: Rodents continue posing a threat to oil palm crops in **Thailand** where barn owls are being used to control them (OFDA/RDMA).



Barn owl (*Tyto alba*)

Red Locust: The International Red Locust Control Organization for Central and

Southern Africa (IRLCO-CSA) and the Ministry of Agriculture Food Security and Cooperatives (MoAFSC) **Tanzania** carried out aerial survey of the Wembere plain, Ikuu-Katavi plains, Lake Rukwa plains and Malagarasi Basin in **Tanzania** to assess the parental locust populations and breeding conditions. Survey operations were supported by funds provided by the UN/CERF through FAO. Isolated, low density parental populations (<1 locusts/m²) were detected in some parts of the outbreak areas where breeding conditions continued to improve over the past several weeks (IRLCO-CSA).

Forecast: Hatching will commence in January and result in low to medium-size hopper bands in areas where significant residual populations were detected prior to the onset of the rains in Ikuu-Katavi, South and North Rukwa plains and Malagarasi Basin in **Tanzania**, Buzi and Dimba plains in **Mozambique** and Kafue and Lukanga swamps in **Zambia**. IRLCO-CSA will carry out survey and control operations where high density hopper bands will be located and will use *GreenMuscle* to control the pest in ecologically sensitive areas (IRLCO-CSA, AELGA).

African Armyworm outbreaks were reported in Kasungu and Mzuzu Agricultural Development Divisions of **Malawi**, in Same, Mwanza, Morogoro, Kilwa, Rombo and Arusha districts of **Tanzania** and in Lusaka Province of **Zambia**. The caterpillars were reported feeding on maize and pasture. Control was carried out by the affected farmers with assistance from the national MoAs

Forecast: Armyworm outbreaks are likely to continue in **Malawi**, **Tanzania** and **Zambia** and perhaps extend to **Kenya**, **Mozambique** and **Zimbabwe** during the forecast period. Trap operators are advised to continue collecting trap catches and

forward data to the national forecasting officers in time to make adequate preparations to help mitigate further development and minimize damage to crop/pasture. Neighboring countries are encouraged to share armyworm information as often as possible. Preventive interventions are recommended to abate further development and mitigate consequential damage to crops and pasture.



Armyworm larvae attacking crop fields in Tanzania, (source: Wilfred Mushobozi, Jan. 2010)

Quelea bird outbreaks were reported damaging irrigated rice crops in Nyando and Siaya districts in **Kenya**. Control was carried out by DLCO-EA in collaboration with the MoA. The bird may also be causing damage to small grain crops in other outbreak/invasion countries where updates were not received at the time this report was compiled (AELGA, IRLCO-CSA).

Forecast: **Quelea** birds will likely continue being a problem to small grain cereal growers in Siaya, Nyando, Kisumu and Kirinyaga districts in **Kenya**, Dodoma, Shinyanga, Morogoro and Mbeya regions of **Tanzania**, and Chokwe district of **Mozambique** and other outbreak/invasion countries. Active surveillance, reporting and preventive interventions are recommended (AELGA, IRLCO-CSA).

The Timor and South Pacific

No update was received in December.

Australian Plague Locust

Based on a model forecast previously put out by the **Australian Plague Locust** (APL), hatching and hopper developments are expected to have progressed in December and fledglings may have commenced in late December into early January in several places in New South Wales, Queensland and South Australia.

Forecast: It is likely that locust populations will significantly increase and form swarms in the above mentioned regions during the forecast period.

Front-line countries in ETOP outbreak zones 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/DPVs and autonomous locust/ETOP units and ELOs are encouraged to continue sharing information with partners and broader stakeholders as often as possible.

Pesticide Stocks

Pesticide inventories remained unchanged in December in most of the outbreaks/invasion countries except in **Niger, Algeria,** and **Mauritania** where some 1,601 ha, 15 ha, and 75 ha were sprayed respectively during this month.

Country	Quantities in l/kg@
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	22,800
Mali	209,000%~
Mauritania	480,000~
Morocco	4,105,300~
Niger	26,920+
Senegal	519,000~

Saudi Arabia	Not available
Sudan	735,676~
Tunisia	167,600~
Yemen	info not available
<p>Note: some of these pesticide have expired or will expire soon ~ data may not be most current % Mali donated 21,000 l for RL in Malawi, Mozambique and Tanzania late last year and FAO facilitated the triangulation + quantity reported from Agadez</p>	

Point of Contact:

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**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for January with a forecast
till mid-March, 2010**

Summary

The **desert locust** (DL¹) situation remained calm in January in the winter breeding areas. Only a few scattered adults were detected in northern **Mauritania**, the Air Mountains in northern Niger, northeastern **Morocco** and southern Algeria. Small-scale breeding occurred in northwest **Mauritania** and northern **Niger**, but locust numbers remained relatively low due to unfavorable conditions that prevailed over much of these areas. Largely unfavorable ecological conditions also prevailed in the winter breeding areas along the Red Sea coasts and as a result only few scattered immature and mature adults were detected in **Egypt**, **Sudan** and **Yemen**. No locusts were reported in January in other countries in the western, central and the eastern outbreak regions (CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, DPPQS/India, CNLA/Niger, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

Forecast: Small-scale breeding is likely in the Air Mountains in northern Niger, northern Mauritania, southern Algeria and southeastern Morocco if conditions improve during the forecast period. Locust numbers will remain low along the Red Sea coasts and breeding will occur only if conditions improve during the forecast period. A few adults may appear

¹ Definitions of all acronyms can be found at the end of the report

and breed along southeast Iran and southwest **Pakistan** if more rains fall in areas that already received light rain, nevertheless, significant developments are not likely. Other countries in the outbreak and invasion zones will likely remain calm in the coming months. However, regular surveillance and monitoring are recommended in frontline countries (CNLA/Mauritania, CNLAA/Morocco, DPPQS/India, CNLA/Niger, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

OFDA Pest & Pesticide Activities

- OFDA/TAG continued its initiatives in pesticide risk reduction through stewardship network (PRRSN) to avoid pesticide related disasters and ensure safety of vulnerable communities as well as protect their assets and the environment. OFDA/TAG launched the second sub-regional pesticide risk reduction workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Ethiopia. Similar initiatives are being discussed with partners in **Kenya**, **Ghana** and **CRC/FAO**.
- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in the Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to prevent, mitigate and respond to DL emergencies.
- OFDA co-sponsored assessments and project development missions for locust management and operations in

Central Asia, the Caucasus and neighboring countries (CAC). The assessment missions has developed a proposal for a five-year program to strengthen capacity at the national and regional levels to help better coordinate locust monitoring, information sharing, prevention and control interventions.

- Seed money provided by OFDA enabled FAO's pesticide disposal and prevention program to leverage more than US \$2.2 million from Global Environment Facility and other sources. These funds are being used to develop and assist with the implementation of obsolete pesticide disposal and prevention initiatives in Eastern Europe and the CAC.
- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors and presented a paper on pesticide risk reduction as a humanitarian intervention.

Other ETOPs

An outbreak of 2nd and 3rd instar **red locust** hoppers was reported on January 31st in Mpete village North of Rukwa Plain in Sumbawanga district in **Tanzania**. No further activities were reported in the other outbreak areas.

Forecast: Hatching is expected to commence and form hopper bands in **Tanzania, Mozambique and Zambia** in areas where substantial parental

populations persisted after last years control operations. IRLCO-CSA and member countries will be carrying out intensive ground and aerial surveys and assess the locust status during the forecast period (AELGA, IRLCO-CSA)

Widespread **armyworm** outbreaks were reported in January in several districts in **Kenya, Malawi and Tanzania** where maize and pasture were attacked. Control operations were carried out by affected farmers with material and technical assistance from the Ministries of Agriculture. Small-scale outbreaks were also reported in Mashonaland and Central Province in **Zimbabwe**.

Forecast: Armyworm infestations will likely continue in **Kenya, Malawi and Tanzania** and the pest may begin invading other countries, including **Mozambique** and perhaps **Ethiopia** during the forecast period. Active monitoring, timely reporting and preventive interventions are essential (AELGA, DLCO-EA, IRLCO-CSA).

Quelea birds: A single roost containing an estimated 2.5 million birds was detected in Chokwe district of **Mozambique** in January, but no crop was under a threat. No reports were received in other *Quelea* outbreak areas (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: Outbreaks will likely occur in **Kenya, Tanzania, Mozambique** and other countries where small grain cereal crops may reach a susceptible stage. Active surveillance and monitoring are essential (AELGA, IRLCO-CSA).

Rodents: Rodents pose a threat to oil palm crops in **Thailand** where barn owls (*Tyto alba*) are being used to control the pest (OFDA).

No updates were received on other **ETOPs** in January, but some activities may commence in CAC countries during the forecast period.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring the situation and issue advice. End summary

This and other SITREPS can be accessed on our website at:

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

Weather and ecological conditions

In January, rainfall was above average over northern Madagascar, **Tanzania**, portions of the Maize Triangle of **South Africa**, central and western **Botswana**, and northern **Namibia**, but below average over southern **Madagascar**, much of **Mozambique**, **Zimbabwe**, and parts of southern **Zambia**. In contrast, dry conditions and moisture deficits persisted over central **Mozambique** and parts of eastern **Zimbabwe**, southern Madagascar, southern **Zambia**, and parts of **Tanzania**. Normal rainfall was recorded at all locations near the Red Locust outbreak areas and breeding conditions improved in Red Locust, Armyworm and *Quelea* outbreak regions.

Dry weather with mild temperatures during the day and cold spells at night prevailed in northern **Sudan**. Extensive cloud cover persisted and northerly wind dominated the

coastal areas. Light showers were recorded in the first and second dekads of January in from Suakin to Osaif in north and south of Toker Delta to the Borders ad close to Eritrea. Thus, breeding conditions slightly improved in some parts of the region. Moisture deficit was recorded in eastern and southeastern **Ethiopia**. Light rainfall was recorded in a few places in Jodhpur and Bikaner divisions in Rajasthan and a few isolated places in Gujarat, Saurashtra and Kutch, **India** between 3rd–13th January and dry conditions persisted thereafter. Fairly dry conditions persisted in the western outbreak areas (NOAA, DDLC/Libya, DPPQS/India, CNLA/Niger, FAO-DLIS, IRLCO-CSA, PPD/Ethiopia ad PPD/Sudan).

(Note: Changes in the weather pattern and the shift in the landscape are believed to increase the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

A few scattered adult locusts were detected in northern **Mauritania**, the Air Mountains in northern **Niger**, northeastern **Morocco** and southern **Algeria**. Small-scale breeding occurred in northwest **Mauritania** and northern **Niger** during this period, but locust numbers remained relatively low due to unfavorable conditions that prevailed over much of these areas. No locusts were reported in Libya or Tunisia during this period.

Forecast: The DL situation will likely remain calm in the northwest outbreak areas. Locusts that moved from the Tamesna Plains to the Air Mountains in northern **Niger** will likely breed in areas

where favorable conditions exist. It is to be recalled that the Niger National Locust Control Unit (CNLA) treated more than 1,600 ha in Tamesna in December. Adult locusts that moved to southern **Algeria** will likely start breeding if and when conditions improve. Some scattered adults will persist in northern **Mauritania** and southeastern **Morocco**. Significant developments are not likely during the forecast period (AELGA/OFDA, CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya, CNLA/Niger and FAO/DLIS).



Locust numbers remained low in January in all breeding areas (source: FAO-DLIS, 2/10)

DL - Central Outbreak Region

The DL situation remained relatively calm in the Central region in January. Only low density (50-150 insects/ha) solitary immature and mature adults were detected in some 80 ha during surveys along the north and southern parts of the Red Sea coast, in the Tokar Delta, Khor Baraka and in El diib west of the Red Sea Hills in **Sudan** that covered more than 15,960 ha. Unfavorable ecological conditions that prevailed along the Red Sea coasts resulted in a few scattered immature and mature adults in **Egypt** and **Yemen**. The situation remained calm in **Ethiopia**, **Somalia** and other countries in the central region (FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

Forecast: Locust numbers will remain low along the Red Sea coasts and breeding will occur only if conditions improve during the

forecast period. Other countries in the region will likely remain calm in the coming months, however, regular surveillance and monitoring are recommended in frontline countries (AELGA, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

DL- Eastern Outbreak Region

Ecological conditions remained unfavorable and the locust situation remained calm in January in spring breeding areas along the **Iran-Pakistan** borders. No locusts were detected during surveys carried out in Jodhpur, Jaisalmer, Barmer, Bikaner, Phalodi, Jalore, Nagaur, Suratgarh, Churu, Bhuj and Palanpur of the Scheduled Desert Area of Rajasthan and Gujarat States (DPPOS/India, FAO-DLIS).

Forecast: The DL situation will likely remain calm and only a few adults may appear and breed along the borders of southeast **Iran** and southwest **Pakistan** should more rains fall in areas where light rains fell earlier. Significant developments are not likely during the forecast period (DPPOS/India, FAO-DLIS).

Central Asia and the Caucasus

No updates were received on locusts in the CAC at the time this report was compiled.. However, some activities are likely during the forecast period in the outbreak areas.

Far East: Rodents continue posing a threat to oil palm crops in **Thailand** where barn owls are being bred and used as biological control agents (OFDA/RDMA).



Barn owl (*Tyto alba*)

Red Locust: An outbreak of 2nd and 3rd instar hoppers was reported on January 31st in Mpete village 30 km North of Rukwa Plain in Sumbawanga district in **Tanzania**. No further activities were reported in any other outbreak areas although some activities were expected to have occurred during this time.

Forecast: Hatching will likely commence and form hoppers and bands in February in the outbreak areas in Iku-Katavi, North and South Rukwa Valley plains and Malagarasi basin in **Tanzania**; Buzi and Dimba plains in **Mozambique** and the Kafue Flats in **Zambia** where escapee parental populations persisted after last years control operations. IRLCO-CSA and member countries in the outbreak areas will be carrying out intensive ground and aerial surveys during the forecast period and assess the locust status (AELGA, IRLCO-CSA)

It is to be recalled that IRLCO-CSA and **Tanzania** Ministry of Agriculture Food Security and Cooperatives (MoAFSC) carried out aerial surveys from 8-18 December on more than 225,700 ha in the primary outbreak areas. Funds for the survey activities were provided by the United Nation Central Emergency Response Fund (CERF) via Food and Agriculture Organization (FAO).

Armyworm: Outbreaks continued in Narok, Baringo, Mogotio, Kajiado Thika, Nairobi, Kiambu, Njiru, and Nyeri districts in Central and Rift Valley Provinces in **Kenya** where pasture and late planted Maize were reported attacked (maize plants higher than 30 cm are not susceptible to armyworm). In **Kenya**, The pest was first reported damaging crops and pasture in coastal area in Tana River, Machakos, Taita–Taveta in December. Outbreaks were also reported in Morogoro, Iringa, Tabora, Kilimanjaro, Arusha, Kilindi and North Ungunja in **Tanzania** where the pest was seen attacking paddy rice, maize and pasture. In **Malawi**,

outbreaks were first reported in December in Mzuzu and Kasungu and by January infestations were spread to Karonga, Lilongwe, Salima, Machinga and Blantyre Agricultural Development Division. Ground control operations were carried out by affected farmers with technical and material assistance, including knapsack and vehicle mounted sprayers and pesticides from MoAs. Small-scale infestation was also reported in maize fields in Bindura district in Mashonaland and Central Province in **Zimbabwe** (DLCO-EA, IRLCO-CSA).

Forecast: Armyworm outbreaks will likely continue in **Kenya, Tanzania** and **Malawi** and **Mozambique** may experience some outbreaks if rainfall improves during the forecast period. There is also a slight chance of infestations occurring in southern **Ethiopia** and other countries on the **ITCZ** route. All outbreak and invasion countries are advised to maintain regular surveillance and monitoring and trap operators report moth catches as rapidly as possible. Outbreak countries are encouraged to share pest information with neighboring countries as often as possible. Community forecasters are advised to engage in monitoring and reporting armyworm sightings. Preventive interventions are recommended to the extent possible.

Quelea: A single roost containing an estimated 2.5 million birds was detected in Chokwe district in **Mozambique** in January, but no crops were threatened. No reports were received on *Quelea* activities in other countries prone to the pest (DLCO-EA, IRLCO-CSA).

Forecast: Outbreaks are likely during the forecast period in **Kenya, Tanzania, Mozambique** and other countries where small grain cereal crops may reach a susceptible stage. Active surveillance and

monitoring are essential (AELGA, IRLCO-CSA).



Facts: Quelea birds can travel ~100 km/day looking for food. Each bird can consume 3-5 g of grain and perhaps destroy about the same amount each day. A colony of up to 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/day).

The Timor and South Pacific

No update was received in January.

Australian Plague Locust

Several mid-to late instar hopper bands developed in early January in Southwest Queensland. Fledging commenced in the second week of January, formed the first swarms and continued to develop throughout the month. Swarms began migrating from mid-January on causing locust density to increase in parts of Central West and South Central Queensland and in Far Western New South Wales. Sporadic egg laying occurred at many locations in Queensland after mid-January. Swarms also developed in the New South Wales Northwest Plains and in western Riverina by late January (APLC).

Forecast: Localized high density hoppers will develop in many regions in Queensland and New South Wales. There is also a likelihood of hoppers developing in Southwest Queensland and Central West Queensland by early to mid-February. Egg

laying will likely occur in areas that will receive rain in the coming months.



(Australian plague locust, source: APLC)

Should rains fall in early February and more eggs hatch, widespread swarm development and infestations will likely occur in several states in autumn (APLC).

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as often as possible.

Pesticide Stocks

Pesticide inventories remained unchanged in January in all countries as control operations were not carried out during this period.

Country	Quantities in I/kg@
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	22,800
Mali	209,000%~
Mauritania	480,000~
Morocco	4,105,300~
Niger	26,920+
Senegal	519,000~
Saudi Arabia	Not available
Sudan	706,653
Tunisia	167,600~
Yemen	??info not available

Note: some of these pesticide have expired or will soon expire
 ~ data may not be most 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

<i>ITCZ</i>	<i>Inter-Tropical Convergence Zone</i>
<i>FAO-DLIS</i>	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>
<i>Kg</i>	<i>Kilogram</i>
<i>L</i>	<i>Liter</i>
<i>MoAFSC</i>	<i>Ministry of Agriculture, Food Security and Cooperatives</i>
<i>MoARD</i>	<i>Ministry of Agriculture and Rural Development</i>
<i>NOAA</i>	<i>National Oceanic and Aeronautic Administration</i>
<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>
<i>PPD</i>	<i>Plant Protection Department</i>
<i>PPSD</i>	<i>Plant Protection Services Division/Department</i>
<i>PRRSN</i>	<i>Pesticide Risk Reduction through Stewardship Network</i>
<i>TAG</i>	<i>Technical Assistance Group</i>

List of Acronyms

<i>AELGA</i>	<i>Assistance for Emergency Locust Grasshopper Abatement</i>
<i>APLC</i>	<i>Australian Plague Locust Commission</i>
<i>CAC</i>	<i>Central Asia and the Caucasus</i>
<i>CERF</i>	<i>Central Emergency Response Fund</i>
<i>CLCPRO</i>	<i>Commission de Lutte Contre le Criquet Pélerin dans la Région Occidentale</i>
<i>CNLA/CNLAA</i>	<i>Centre National de Lutte Antiacridienne</i>
<i>CRC</i>	<i>Commission for Controlling Desert Locust in the Central Region</i>
<i>DDLC</i>	<i>Department of Desert Locust Control</i>
<i>DL</i>	<i>Desert Locust</i>
<i>DLCO-EA</i>	<i>Desert Locust Control Organization for Eastern Africa</i>
<i>DPPQS</i>	<i>Department of Plant Protection and Quarantine Services</i>
<i>DPV</i>	<i>Département Protection des Végétaux</i>
<i>ELO</i>	<i>EMPRES Liaison Officers</i>
<i>EMPRES</i>	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>
<i>ETOP</i>	<i>Emergency Transboundary Outbreak Pests</i>
<i>IRIN</i>	<i>Integrated Regional Information Networks</i>
<i>IRLCO-CSA</i>	<i>International Red Locust Control Organization for Central and Southern Africa</i>

Point of Contact:

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

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

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**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for February with a forecast
till mid-April, 2010**

Summary

The **desert locust** (DL¹) situation remained calm in February in winter breeding areas due to unfavorable ecological conditions. Only a few scattered solitary adults and/or hoppers were reported in northern **Mauritania**, southwest **Libya** and along the Red Sea coasts in **Sudan** and **Saudi Arabia**. A similar situation may exist in northern **Niger** and **Mali** where surveys were undermined by the ongoing security situation. No locusts were reported in other outbreak regions during this time (CNLA/Mauritania, DDLC/Libya, DPPQS/India, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

Forecast: Scattered adults will likely persist in winter breeding areas. Only small-scale breeding may occur in spring breeding areas along the **Iran-Pakistan** borders where good rains fell in February and in northwest Africa provided rains fall in the coming weeks. However, locust numbers will likely remain low and the situation will be calm during the forecast period (CNLA/Mauritania, DPPQS/India, CNLA/Niger, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

OFDA Pest & Pesticide Activities

- OFDA/TAG continued its initiatives in pesticide risk reduction through

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

stewardship network (PRRSN) to help prevent pesticide related disasters and ensure safety of vulnerable people and communities as well as to protect their assets and the environment. OFDA/TAG launched the second sub-regional pesticide risk reduction workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Ethiopia. Similar initiatives are being discussed with partners in **Kenya**, **Ghana** and **CRC/FAO** in **Cairo**.

- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in the Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to prevent, mitigate and respond to DL emergencies.
- The assessment missions that OFDA co-sponsored with FAO in Central Asia, the Caucasus and neighboring counties (CAC) has developed a proposal based on a five-year program aimed at strengthening national and regional capacities to help better coordinate locust monitoring, information sharing, prevention and control interventions.
- USD 200,000 in seed money provided by OFDA enabled FAO Pesticide Disposal and Prevention program to leverage an additional USD 2.2 million from the Global Environment Facility, Green Cross Switzerland, and other sources. These funds are used to help strengthen national capacities and develop and implement obsolete

pesticide disposal and prevention initiatives in Eastern Europe and CAC.

- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors and presented a paper on pesticide risk reduction as a humanitarian intervention.

Other ETOPs

Medium to high density hopper bands of red locust persisted in the North Rukwa plain, **Tanzania** where more than 3,000 ha were infested.

Forecast: Hoppers are expected to fledge into immature adults during the forecast period in most of the outbreak areas. IRLCO-CSA is planning to launch ground and aerial surveys to establish the intensity of the populations and to carry out control operations before locust populations and groups form swarms (AELGA, IRLCO-CSA)

Armyworm larvae were reported attacking maize, sorghum, sugarcane and grazing land in several districts in the Rift Valley Province in **Kenya** in February. Control operations were carried out by the affected farmers with technical and material assistance by the Ministry of Agriculture. Armyworm caterpillars were also reported attacking paddy rice in **Zanzibar, Tanzania**

Forecast: The armyworm season has come to an end in the southern outbreak

region and more outbreaks are not expected in the coming months, however, the pest will continue posing a threat to small-grain crops and pasture in **Kenya, Tanzania**, perhaps **Ethiopia**. Countries in the armyworm migration route are advised to maintain vigilance and monitor the pest. Community forecasters are advised to engage in monitoring and reporting armyworm sightings and preventive interventions are recommended to the extent possible (AELGA, DLCO-EA, and IRLCO-CSA).

Quelea outbreaks were reported in Chokwe district, Ghaza Province in **Mozambique** in February. Breeding is expected to have commenced in **Tanzania, Zimbabwe** and other countries where the bird will likely pose a threat to rain-fed and irrigated crops (AELGA, IRLCO-CSA).

Forecast: Quelea birds will likely pose a threat to irrigated rice in several districts in the Rift Valley Province of **Kenya** and in other countries in the region (AELGA, IRLCO-CSA).

Rodents: Rodents pose a threat to oil palm crops in **Thailand** where barn owls (*Tyto alba*) are being used to control the pest (OFDA).

No updates were received on other **ETOPs** in February, but some activities may have commenced and continue into the forecast period in CAC countries.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring

the situation and issue advice. End summary

This and other SITREPS can be accessed on our website at:

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

Weather and ecological condition

Most of the DL outbreak areas remained fairly dry with the exception of spring breeding areas in southeastern **Iran** where moderate rains fell in February. Light rain was reported in Bikaner and Jodhpur in Rajasthan and in Saurashtra, **India** during the last week of February. Above normal rainfall was recorded in February in some areas in central **Ethiopia**, much of **Uganda** and the adjacent region, much of **Zambia** and **Mozambique**, parts of **Botswana**, parts of South Africa. Rain continued in February in all locations near Red Locust outbreak areas in **Malawi**, **Mozambique**, **Tanzania** and **Zambia**. Partial flooding occurred in Buzi and Dimba plains in **Mozambique**, North Rukwa and Wembere plains in **Tanzania** towards the end of the month, but unlikely to affect successful breeding.

During the last week of February, rainfall was above average over much of **Uganda** and neighboring region, much of central **Mozambique**, much of **Zambia**, parts of northern **Zimbabwe**, parts of **Botswana**, and southern part of **South Africa**. **Libya** experienced mild weather with maximum temperatures ranging from 13-31 degrees Celsius and minimum temperatures from 10-15 degree C, but no rain was reported. In **Sudan**, winter breeding areas along the Red Sea coast and the hinterland experienced mild weather with low to medium cloud covers, but precipitation was far below

average and breeding conditions continued deteriorating (NOAA, DDLC/Libya, DPPQS/India, CNLA/Niger, FAO-DLIS, IRLCO-CSA, PPD/Ethiopia and PPD/Sudan).

(Note: Changes in the weather pattern and the shift in the landscape are believed to increase the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

A few scattered adult locusts were detected in northern **Mauritania**. A similar situation may exist in the Air Mountains in northern **Niger**, the Adrar in northern **Mali** where surveys were undermined by the security situation. Isolated solitary adults were seen in five places in wades in Ghat area and scattered solitary adults were seen copulating and laying in "tita Ghsin" in southwestern **Libya** during surveys that were carried out from February 26-28. No locusts were reported in other countries in the region.

Forecast: The DL situation will likely remain fairly calm in the western outbreak areas during the forecast period. Only some scattered adults will likely persist in wades in Ghat area where small-scale breeding may occur and hatching may be seen in mid-to late March in areas where ecological conditions remain favorable. Small-scale breeding may also occur in spring breeding areas in northwest Africa provided that rains fall during the forecast period. Significant developments are expected during the forecast period (CNLA/Mauritania, CNLAA/Morocco, DDLC/Libya and FAO/DLIS).



(Locust numbers remained low in February, source: FAO-DLIS, 3/10)

DL - Central Outbreak Region

The DL situation remained relatively calm in the Central region in February. Only low density solitary adults and 3rd to 5th instar hoppers were detected in some 120 ha in **Sudan** during ground surveys that covered more than 18,400 ha in winter breeding areas. Surveys were conducted in Tokar Delta, the southern coastal areas near Eritrean border, between Tokar and Suakin, the northern coastal areas (in *Adreem* and *Osaiif*) and west of the Red Sea hills (PPD/Sudan). No locusts were reported in eastern **Ethiopia** where moderate rains were recorded in February and in **Yemen, Oman, Somalia** or **Eritrea**.

Forecast: Unless rains fall in the coming weeks and ecological conditions begin improving, locust numbers will continue declining and the situation will remain calm along the Red Sea coasts, the Gulf of Aden and other countries in the region during the forecast period (AELGA, FAO-DLIS, PPD/Ethiopia, and PPD/Sudan).

DL- Eastern Outbreak Region

Locusts were not reported in February in spring breeding areas along the **Iran-Pakistan** borders and no locusts were detected during surveys carried out in Jodhpur, Jaisalmer, Barmer, Bikaner, Phalodi, Jalore, Nagaur, Suratgarh, Churu,

Bhuj and Palanpur of the Scheduled Desert Area of Rajasthan and Gujarat States (DPPQS/India, FAO-DLIS).

Forecast: Ecological conditions are expected to improve during the forecast period and locusts will begin appearing and perhaps breeding on a small-scale in spring breeding areas along the **Iran-Pakistan** border where rains fell in January and again in February. However, significant developments are not likely during the forecast period (DPPQS/India, FAO-DLIS).

Central Asia and the Caucasus

No updates were received on locusts in the CAC at the time this report was compiled. However, some activities are likely during the forecast period in the outbreak areas.

Far East: Rodents pose a threat to oil palm crops in **Thailand** where barn owls are being bred and used as biological control agents (OFDA/RDMA).



Barn owl (*Tyto alba*)

Red Locust: Groups of medium density hopper bands (30-40 insects/sq m) persisted in February in grassland in Rukwa Valley in **Tanzania** (see picture) where close to 3,000 ha were infested during surveys carried out by IRLCO-CSA and MoA/Tanzania. The hoppers were first detected in January. Various density hoppers were expected in the Ikuu-Katavi plains, South Rukwa plains and Malagarasi basin in **Tanzania**, in Buzi and Dimba plains in **Mozambique** and Kafue Flats in **Zambia** where significant parental populations were detected at the onset of

the rains in late last year. Partial flooding was reported in the North Rukwa plain, Wembere plain in **Tanzania**, Buzi and Dimba plains in **Mozambique**. However, it is not expected to affect breeding in these areas since hatching had already occurred and hoppers can climb up tall grasses and rise above flood levels.



(Red locust hoppers on grass stems in North Rukwa plain, Tanzania, source: IRLCO-CSA, 3/10)

Forecast: Hoppers are expected to fledge and form immature adults in most of the outbreak areas during the forecast period. IRLCO-CSA plans to carry out aerial and ground surveys in the outbreak areas and launch control in high density locust population areas (AELGA, IRLCO-CSA)

Armyworm: Armyworm larvae were reported in maize, sorghum, sugarcane and grazing land in Rongai, Nakuru, Mogotio, Kericho and Narok districts of Rift Valley Province in **Kenya** in February. Control was carried out by affected farmers with technical and material assistance, including pesticides and sprayers provided by MoA. In **Kenya**, armyworm was first reported in December in coastal areas in Tana River, Machakos, and Taita–Taveta where it was seen attacking crops and pasture (DLCO-EA, IRLCO-CSA). In **Tanzania**, armyworm caterpillars were detected attacking some 900 ha of paddy rice in Zanzibar in February. Other parts of the country remained fairly

calm, but positive trap catches were seen in several districts in northern and central north parts of the country (DLCO-EA).

Forecast: Armyworm will likely continue being a threat to crops and pasture in the northern outbreak areas in the **Kenyan** highlands, the coastal and northern parts of **Tanzania** and perhaps in the southern and the Rift Valley regions of **Ethiopia**. Countries in the armyworm migration route are advised to maintain vigilance and regular monitoring. Armyworm outbreaks are not expected in the southern outbreak areas in **Malawi**, **Mozambique**, **Zambia** and **Zimbabwe** in the coming months. Trap operators are advised to report moth catches on a timely basis. Outbreak countries are encouraged to share armyworm information with neighboring countries as often as possible. Community forecasters are advised to engage in monitoring and reporting armyworm sightings. Preventive interventions are recommended to the extent possible. (AELGA, IRLCO-CSA).

Quelea bird: Outbreaks were reported in Chokwe district, Ghaza Province in **Mozambique** in February. Breeding is expected to have commenced in **Tanzania**, **Zimbabwe** and other countries where the birds will likely pose a threat to rain-fed and irrigated crops (IRLCO-CSA).

Forecast: Quelea birds will likely pose a threat to rice in Mwea irrigation Scheme in Kirinyaga, Siaya, Bondo and Kisumu districts in the Rift Valley Province of **Kenya** and in other countries in the region. In **Mozambique**, plans are underway to carry out ground surveys to locate *Quelea* roosts (IRLCO-CSA).



Facts: Quelea birds can travel ~100 km/day looking for food. Each bird can consume 3-5 g of grain and perhaps destroy about the same amount each day. A colony of up to 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/day).

The Timor and South Pacific

No update was received in February, but it is likely that grasshoppers and locusts are becoming active.

Australian Plague Locust

A number of swarms were detected in the Far Northwest of New South Wales and some of which migrated from Southwest Queensland to the Far North of South Australia in February. Swarms were also detected in the Far Southwest, and New South Wales. Widespread heavy rains that fell during the first two weeks of February triggered massive egg laying in these regions (APLC).

Forecast: High density hopper populations will likely develop and form bands in several regions of New South Wales from late February on and in parts of the Far North of South Australia and Southwest Queensland in March. Should large numbers of the hoppers survive and fledge, widespread swarm infestations will occur in several

states in April and lead to autumn egg laying in cropping regions of New South Wales and South Australia thereafter (APLC).



(Australian plague locust, source: APLC)

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as often as possible.

Pesticide Stocks

Control operations were not carried out in February and pesticide inventories remained unchanged in all countries during this period. It is worth noting that some of the pesticides listed below may have expired or will soon expire. Conducting quality tests can help determine the efficacy of these stocks and whether they should stay or go.

In light of the fact that considerably large stockpiles exist in ETOP-prone regions, countries need to begin exploring options to put these products to a good use before they become obsolete and turn into a huge liability. Several options, including pesticide triangulation can be considered as part of an integrated approach to address this problem as part and parcel of pesticide stewardship networking whereby pesticide delivery systems can be strengthened and improved at the national and regional levels.

Country	Quantities in l/kg
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	22,800
Mali	209,000%~
Mauritania	480,000~@
Morocco	4,105,300~
Niger	26,920+
Senegal	519,000~
Saudi Arabia	Not available
Sudan	702,378 ^m
Tunisia	167,600~
Yemen	??info not available

~ 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 2003-5 DL campaign was tested for quality and found to be usable through 2012
^m This quantity includes EC, ULV and Dust formulations available for all crop protection uses, including ETOPs

DL	Desert Locust
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DPPQS	Department of Plant Protection and Quarantine Services
DPV	Département Protection des Végétaux
ELO	EMPRES Liaison Officers
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
ETOP	Emergency Transboundary Outbreak Pests
IRIN	Integrated Regional Information Networks
IRLCO-CSA	International Red Locust Control Organization for Central and Southern Africa
ITCZ	Inter-Tropical Convergence Zone
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)

List of Acronyms

AELGA	Assistance for Emergency Locust Grasshopper Abatement	MoAFSC	Ministry of Agriculture, Food Security and Cooperatives
APLC	Australian Plague Locust Commission	MoARD	Ministry of Agriculture and Rural Development
CAC	Central Asia and the Caucasus	NOAA	National Oceanic and Aeronautic Administration
CERF	Central Emergency Response Fund	OFDA	Office of U.S. Foreign Disaster Assistance
CLCPRO	Commission de Lutte Contre le Criquet Pélerin dans la Région Occidentale	PPD	Plant Protection Department
CNLA/CNLAA	Centre National de Lutte Antiacridienne	PPSD	Plant Protection Services Division/Department
CRC	Commission for Controlling Desert Locust in the Central Region	PRRSN	Pesticide Risk Reduction through Stewardship Network
DDLC	Department of Desert Locust Control	TAG	Technical Assistance Group
		USAID	United States Agency for International Development

Point of Contact:

To teach more about our activities, including the programs we support and many more, please, visit our website:

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

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**Emergency Transboundary
Outbreak Pest (ETOP) situation
update for March with a forecast till
mid-May, 2010**

Summary

The Desert Locust (DL¹) situation remained fairly calm in winter and spring breeding areas in March largely due to dry and unfavorable conditions and locust units' vigilance. Only some hopper groups and bands required control in **Saudi Arabia**. Scattered solitary adults were reported in northern **Mauritania**, northeastern **Morocco** and adjacent areas in **Algeria** as well as the Red Sea coast in **Sudan**. A similar situation may exist in northern **Niger** and **Mali** but could not be confirmed due to ongoing security situation. Elsewhere the situation remained calm and no locusts were reported during this period (DDLC/Libya, DPPQS/India, FAO-DLIS and INPV/Algeria).

Forecast: Small-scale breeding will likely commence in spring breeding areas in **Morocco, Algeria, and Saudi Arabia** and along the **Iran-Pakistan** borders. Scattered adults will persist in northwest **Mauritania**, northern **Mali** and northern **Niger**. Adult locust could begin appearing in the interior of **Yemen** and along **Iran-Pakistan** borders. Other countries will likely remain calm during the forecast period (CNLA/Niger, DDLC/Libya, DPPQS/India, FAO-DLIS, and INPV/Algeria).

OFDA Pest & Pesticide Activities

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

- OFDA/TAG Advisor participated in a planning and development workshop for the second phase of the EMPRES Western Region Program during the second week of March in Dakar, 2010 in Dakar.

The advisor noticed that each frontline country in the Sahel West Africa namely, Chad, Mali, Mauritania and Niger now has an autonomous national unit responsible for all DL activities. Each unit is well-equipped with survey, monitoring and communication equipment and materials as well as vehicles. Pesticide warehouses and offices have been constructed or are under construction; field stations are established. Large numbers of people have received training in various fields of locust operations. Funds provided by the African Development Bank and the World Bank and contributions made by the host-governments, USAID, France, and neighboring countries played a crucial role in enabling host-countries to overhaul their locust units.

This is a significant improvement compared to the situation these countries were in prior to and during the 2003-05 locust upsurges. *It is to be recalled that those upsurges were able to overrun the entire western outbreak region and extend to the Middle East largely due to lack of adequate resources and weak host-country capacities to respond quickly and effectively.*

- 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 and communities as well as to protect their assets and the environment. OFDA/TAG launched the second sub-regional pesticide risk reduction workshop (the first for the Horn of Africa) from 23-27 August, 2009 in Ethiopia. Similar initiatives are being discussed with partners in **Kenya**, **Ghana** and **CRC/FAO** in **Cairo**.

- OFDA sponsored DLCO-EA's capacity strengthening and mitigation efforts to support emergency ETOP operations in the Greater Horn of Africa.
- OFDA continues supporting capacity strengthening through FAO's EMPRES programs to prevent, mitigate and respond to DL emergencies.
- The assessment missions that OFDA co-sponsored with FAO in Eastern Europe Central Asia, the Caucasus and neighboring counties (EECAC) have developed a pre-proposal for a five-year program. The program focuses on strengthening national and regional capacities to help coordinate locust monitoring, information sharing, prevention and control interventions.
- The USD 200,000 OFDA provided in seed money enabled FAO's Pesticide Disposal and Prevention program to leverage an additional USD 2.2 million (in cash and/or in kind) from the Global Environment Facility, Green Cross Switzerland, participating countries and other sources. These resources are used to help improve awareness and develop and strengthen national capacities to implement obsolete pesticide disposal and prevention initiatives in EECAC.

- OFDA co-sponsored an international workshop through the University of Maryland Eastern Shore. The workshop was conducted in Accra, Ghana from 14-16 October, 2009 and gathered more than 100 participants from dozens of countries. OFDA was represented by one of its Senior Technical Advisors and presented a paper on pesticide risk reduction as a humanitarian intervention.

Other ETOPs

No update was received at the time this report was compiled, but it is likely that fledging commenced and immature adults have formed in the outbreak areas, including North Rukwa plain, **Tanzania** and elsewhere in the region.

Forecast: Swarms will likely form and migrate to adjacent areas.

Note: *IRLCO-CSA lost two of its pilots in a tragic plane crash in Kenya in March 2010. Aside from the losses to family and friends of the deceased, this tragic event will significantly impact locust operations in the region. End note.*

Armyworm: No update was received at the time this report was compiled, but it is likely that the pest may have been a problem in **Tanzania** and **Kenya** and perhaps in southern **Ethiopia** where the pest could threaten crops and pasture.

Quelea birds: No update was received at the time this report was compiled, but it is likely that the bird may have

been threatening irrigated crops in **Kenya** and elsewhere in the region.

Rodents: No update was received on rodents at the time this report was compiled, but the pest may have continued to be a threat to oil palm crops etc in **Thailand** where barn owls (*Tyto alba*) are being used to control them (OFDA).

Updates were not received on **ETOPs** in EECAC, but it is likely that some activities may have commenced and will continue during the forecast period.

OFDA's Assistance for Emergency Locust and Grasshopper Abatement (AELGA) will continue monitoring ETOP situations, issue updates and advise.

End summary

This and other SITREPS can be accessed on our website at:

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

Weather and ecological condition

In March, most DL outbreak and invasion countries experienced fairly dry weather and unfavorable ecological conditions. Moderate rains were reported in the interior of **Saudi Arabia, Yemen** and southeastern **Iran** and heavy rains fell in eastern **Ethiopia** and northwestern **Somalia**. Above average rainfall was reported in southwest **Ethiopia**, western **Kenya**, northern **Uganda**, and northwestern **Tanzania** during last week of the month. During the past 30 days, rainfall was above average over much of the non-

DL ETOP counties, including **Madagascar**, northern **Mozambique** and parts of **Zambia**. Rainfall was also above average over eastern **Uganda, Kenya**, but it was below average over parts of central **Tanzania**, parts of southern **Malawi**, central and southern **Mozambique**, and northeastern **South Africa**. The northward migration of the Intertropical Convergence Zone (ITCZ) contributed to the increased rainfall in the Greater Horn of Africa and adjacent areas during this month. **Libya** experienced mild weather with max and min temps ranging from 19-38 and 12-17, respectively (DDLC/Libya, DPPOS/India, FAO-DLIS, INPV/Algeria and NOAA.).

(Note: Changes in the weather pattern and the shift in the ecology of landscape are believed to exacerbate the risk of pest outbreaks. Regular monitoring and reporting are essential at all times. End note).

DETAILED ACCOUNTS OF ETOP SITUATION AND RELATED ACTIVITIES

DL - Western Outbreak Region

Scattered mature and immature adults were detected south of the Atlas Mountains in northeastern **Morocco**, in Draa Valley, and along the **Algerian** border where rains fell recently. Solitary adults persisted in northern **Mauritania** and a similar situation may be the case in the Air Mountains in northern **Niger** and Adrar des Iforas in northern **Mali** where surveys are undermined by the security situation. No locusts were detected in areas surveyed in March in **Libya** and no reports were received from **Chad** during this period (DDLC/Libya, FAO-DLIS, and INPV/Algeria).

Forecast: The DL situation will likely remain calm in the western outbreak region during the forecast period. Only hatching and small-scale breeding could occur in spring breeding areas in northeast **Morocco** and **Algeria**. Solitary adults will likely persist in northern **Mauritania**, **Mali** and **Niger**, but significant developments are not likely during this period (DDLCL/Libya, FAO-DLIS, and INPV/Algeria).



(Groups of hoppers and bands were controlled near Rabigh in Saudi Arabia, source: FAO-DLIS, 4/10)

DL - Central Outbreak Region

The DL situation remained calm in the Central outbreak region in March. Only a few groups of hoppers and bands were detected and controlled in 153 ha near Rabigh on the Red Sea coast of **Saudi Arabia**. Some scattered solitary adults were seen in Tokar Delta on the coast in **Sudan**. No locusts were reported in eastern **Ethiopia** and northwestern **Somalia** where heavy rains were recorded or in **Egypt**, **Yemen**, **Oman** or **Eritrea** during this period.

Forecast: There is a slight chance of adult locusts moving from the coastal areas of **Saudi Arabia** to the spring breeding areas in interior of the country where rains were recorded earlier and begin breeding on a small-scale. Adult locusts could also appear

in areas of recent rainfall in the interior of **Yemen** and along the Red Sea coast in **Sudan**. Other countries in the region will likely remain calm during the forecast period (FAO-DLIS).

DL- Eastern Outbreak Region

Isolated adult locusts were detected in spring breeding areas in Baluchistan, southwest **Pakistan** in late February and March. No locusts were reported during surveys carried out in spring breeding areas in southeastern **Iran**, but ecological conditions improved in areas of recent rainfall. No locusts were reported in the Scheduled Desert Area of Rajasthan and Gujarat States (DPPOS/India, FAO-DLIS).

Forecast: As ecological conditions continue improving, adult locusts will begin appearing and, perhaps, start breeding on a small-scale in spring breeding areas along the **Iran-Pakistan** border where locust numbers will gradually increase. However, significant developments are not likely during the forecast period (DPPOS/India, FAO-DLIS).

Other ETOPs

Moroccan and Italian Locusts in Eastern Europe, Central Asia and the Caucasus

No updates were received on the above locusts in the EECAC at the time this report was compiled. However, some activities may have begun or will likely begin during the forecast period. Active monitoring is essential in the outbreak areas.

Red Locust:

In remembrance of the two pilots of the International Red Locust Control Organization for Central Southern

Africa (IRLCO-CRA) who lost their lives in a tragic plane crash in March 2010 while on duty in Kenya. With our deepest sympathy to the families and friends of the deceased! Note: Aside from the tragic losses to family and friends of the deceased, this very unfortunate event will significantly impact locust operations in the region. End note.

Red Locust: No update was received at the time this report was compiled, but it is likely that fledging commenced and immature adults have formed in the outbreak areas, including North Rukwa plain, **Tanzania** and elsewhere in the region.



(Red locust hoppers on grass stems in North Rukwa plain, Tanzania, source: IRLCO-CSA, 3/10)

Forecast: It is likely that small swarms will form and migrate to adjacent areas. (AELGA, IRLCO-CSA)

Australian Plague Locust

According to information issued by the Australian Plague Locust Commission (APLC), a significant hopper infestation with many hopper bands has developed in New South Wales, northern South Australia and western Queensland. In the Tibooburra–Wilcannia area of Far West New South Wales a number of large hopper bands of mid and late instar hoppers had developed by mid-March. APLC commenced aerial control operations against

hopper of bands in the Tibooburra area on 14 March and currently a total of 60,000 ha have been sprayed. Many smaller bands have developed in the Far Southwest, Central West, Riverina regions of New South Wales, the Far North and Northeast regions of South Australia, and from Southwest and South Central Queensland. A number of residual adult swarms have persisted in the Riverina and Central West New South Wales and sporadic egg laying continued.

Forecast: Widespread fledglings and high density adults will appear in several regions from late March through April. There is a high probability of redistribution and migration of adults and of subsequent extensive egg laying in autumn in agricultural areas in several states. This will likely lead cause a localized damage to early cereal and fodder crops in autumn and give rise to in large hopper infestations during spring (APLC).



(Australian plague locust, source: APLC)

The Timor and South Pacific

No update was received in March, but it is likely that grasshoppers and locusts are active.

Armyworm: No update was received at the time this report was compiled, but it is likely that the pest may have been a problem in **Tanzania** and **Kenya** and perhaps in southern **Ethiopia** where the pest could threaten crops and pasture.

Quelea birds: No update was received at the time this report was compiled, but it is likely that the bird may have been threatening irrigated crops in **Kenya** and elsewhere in the region.



Facts: Quelea birds can travel ~100 km/day looking for food. Each bird can consume 3-5 g of grain and perhaps destroy about the same amount each day. A colony of up to 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/day).

Rodents: No update was received on rodents at the time this report was compiled, but the pest may have continued to be a threat to oil palm crops etc in **Thailand** where barn owls (*Tyto alba*) are being used to control them (OFDA).

Front-line countries are advised to remain vigilant at all times. Countries in the invasion zones should maintain the capacity to avoid any unexpected surprises. DLCO-EA, IRLCO-CSA, national PPDs, CNLAs, DPVs and ELOs are encouraged to continue sharing information with partners and other stakeholders as often as possible.

Pesticide Stocks

Apart from the 153 I used to treat hoppers in **Saudi Arabia** (for which baseline inventory data is not available); pesticide inventories remained unchanged in all countries in March. It is worth noting that some of the pesticides

listed below may have expired or will soon expire. Conducting quality tests can help determine the efficacy of these stocks and whether they should stay, used immediately or go. In light of this, ETOP-prone countries are encouraged to begin exploring options before they become obsolete and turn into a huge liability. Several options, including pesticide triangulation can be considered as part of an integrated approach to address this problem - one of the core messages of **pesticide stewardship networking** to help strengthen and improve pesticide delivery systems at the national and regional levels and avoid future disposal problems.

Country	Quantities in l/kg
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	22,800
Mali	209,000%~
Mauritania	480,000~@
Morocco	4,105,300~
Niger	26,920+
Senegal	519,000~
Saudi Arabia	Data not available
Sudan	702,378 ^m
Tunisia	167,600~
Yemen	Data not available

~ 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 2003-5 DL campaign was tested for quality and found to be usable through 2012
^m This quantity includes EC, ULV and Dust formulations available for all crop protection uses, including ETOPs

List of Acronyms

AELGA	Assistance for Emergency Locust Grasshopper Abatement
APLC	Australian Plague Locust Commission
CAC	Central Asia and the Caucasus
CERF	Central Emergency Response Fund
CLCPRO	Commission de Lutte Contre le Criquet Pèlerin dans la Région Occidentale
CNLA/CNLAA	Centre National de Lutte Antiacridienne
CRC	Commission for Controlling Desert Locust in the Central Region
DDLC	Department of Desert Locust Control
DL	Desert Locust
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DPPQS	Department of Plant Protection and Quarantine Services
DPV	Département Protection des Végétaux
ELO	EMPRES Liaison Officers
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
ETOP	Emergency Transboundary Outbreak Pest
IRIN	Integrated Regional Information Networks
IRLCO-CSA	International Red Locust Control Organization for Central and Southern Africa
ITCZ	Inter-Tropical Convergence Zone
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)

MoAFSC	Ministry of Agriculture, Food Security and Cooperatives
MoARD	Ministry of Agriculture and Rural Development
NOAA	National Oceanic and Aeronautic Administration
OFDA	Office of U.S. Foreign Disaster Assistance
PPD	Plant Protection Department
PPSD	Plant Protection Services Division/Department
PRRSN	Pesticide Risk Reduction through Stewardship Network
TAG	Technical Assistance Group
USAID	United States Agency for International Development

Point of Contact:

You can learn more about our activities, programs we support, etc. by visiting our website at:

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

If you have specific questions, please, feel free to send us an e-mail:

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

Summary

The Desert Locust (DL¹) situation remained calm in April. Only small-size hopper bands and some immature adults were treated in 673 ha on the Red Sea coast in **Saudi Arabia**. A few solitary adults were reported in **Morocco** along the **Algerian** border and a solitary mature adult was detected near Agadez in northern **Niger**. Scattered third instar hoppers were reported in Ghat, **Libya** and isolated adults and hoppers were seen in **southern Yemen**. No locusts were reported in other outbreak and invasion countries during this period (CNLA/Niger, DDLC/Libya, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia).

Forecast: Escapee hoppers in coastal areas in **Saudi Arabia** will fledge and move to the interior of the country where breeding will likely occur during the forecast period. Small-scale breeding will also likely commence in May along the **Morocco** and **Algerian** border where solitary adults were detected earlier. Some solitary adults will begin appearing in the summer breeding areas in northern **Sahel West Africa, Sudan**, the interior of **Yemen** and along the **Indo-Pakistan** border but significant developments are not expected during the forecast period

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

(CNLA/Niger, DDLC/Libya, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia).

OFDA Pest & Pesticide Activities

- OFDA/TAG Advisor participated in a planning workshop for the second phase of the EMPRES Western Region Program in Dakar during the second week of March, 2010.

Frontline countries in the Sahel West Africa, including **Chad, Mali, Mauritania** and **Niger** have established autonomous national locust control units (CNLA) in their respective countries. CNLAs are responsible for all DL activities and each unit is currently equipped with survey, monitoring, communication, transportation and application tools and materials. Pesticide warehouses, offices and field stations have been constructed or are under construction. DL staff has received training in various fields of locust operations in these countries. Funds from the African Development Bank and the World Bank as well as financial assistance made by the host-governments, USAID, France, and neighboring countries played an important role in enabling host-countries to overhaul their DL control units.

This is a significant improvement over the situation these countries were in during the 2003-05 locust upsurges and period to that. The most recent upsurges overrun the entire western outbreak region and extended to the Middle East mainly due to weak host-country capacities and lack of adequate resources to respond to the DL outbreak quickly and effectively.

- 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 and communities as well as to protect their assets and the environment. To date, OFDA/TAG has launched two sub-regional PRRSNs in eastern Africa and in the Horn. Similar initiatives are being discussed with partners in **Ghana** and **CRC/FAO** in **Cairo**.
- OFDA continues supporting capacity strengthening through FAO's EMPRES and pesticide disposal programs to prevent, mitigate and respond to DL emergencies and associated environmental risks.
- OFDA' contributed to FAO's initiative to strengthen national and regional capacities in Eastern Europe Central Asia, the Caucasus and neighboring countries (EECAC) to help coordinate locust monitoring and timely information sharing among neighboring countries. The ultimate goal of the initiative is to improve food security and livelihoods of vulnerable communities through preventing and mitigating locust threats.
- The USD 200,000 OFDA provided in seed money enabled FAO's Pesticide Disposal and Prevention program to leverage an additional USD 2.2 million (in cash and in kind) from the Global Environment Facility, Green Cross Switzerland, participating countries and other sources. These resources are used to help improve awareness and develop and strengthen national capacities to implement obsolete

pesticide disposal and prevention programs in EECAC.

Other ETOPs

Red Locust: More than 520 swarms were detected during surveys carried out in late March and early April in **Ikuu** plains, **North Rukwa**, the **Malagarsi** basin and the **Wembere** plains in **Tanzania**. Close to 70,000 areas were surveyed by the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) and the **Tanzania** Plant Health Services; 30,000 ha were reported infested. Swarms were seen escaping from **Ikuu** to adjacent areas and mixed populations of late instar hoppers were detected in several places during this period (IRLCO-CSA).

Forecast: Swarms will likely continue migrating from **Ikuu** plains and invade cereal crops in **Rukwa**, **Kigoma** and **Kagera** regions of **Tanzania** and some could reach **Uganda**, **Rwanda**, **Burundi**, etc during the forecast period (IRLCO-CSA).

Note: *The recent tragic lose of two pilots and a survey/spray aircraft has forced IRLCO-CSA to outsource aerial spray operations through the Desert Locust Control Organization for Eastern Africa (DLCO-EA). This will likely continue straining IRLCO's ability to effectively serve its member-countries and contribute to food insecurity in the sub-region.*
End note.

ETOPs in EECAC: The ETOP season has commenced in parts of the EECAC region, particularly in **Georgia** where the

Moroccan locust (*Doclostaurus maroccanus* - DMA) was reported infested more than 14,000 ha (FAO-ECLO). A late received report indicated that DMA started hatching in mid-March in **Tajikistan**, **Turkmenistan** and **Uzbekistan** and hoppers and bands were treated on some 52,880 ha. A similar situation may have occurred in **Afghanistan**. No locusts were reported elsewhere during this time. Joint cross-border surveys were planned between neighboring countries (FAO-AGPM).

Armyworm: No update was received at the time this report was compiled, but it is likely that the pest may have been a problem in **Tanzania** and **Kenya** and perhaps in southern **Ethiopia** where the pest could threaten crops and pasture.

Quelea birds: No update was received at the time this report was compiled, but it is likely that the bird may have been threatening irrigated crops in **Kenya** and elsewhere in the region.

Rodents: No update was received at this time, but the pest remains a threat to rice, oil palm and other crops in several places. Barn owl, *Tyto alba*, is one of nature's biological means of controlling rodents.

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

Detailed accounts of the ETOP situation and associated activities as well as the weather data across

the various regions are presented below

This and other SITREPS can be accessed on our website at:

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

Weather and ecological condition

During the last week of April, heavy rains soaked **southern Somalia** and caused local flooding. Scattered showers resulted in above average rainfall in local areas in the **Greater Horn of Africa**. Light but unseasonable rains fell over **Botswana** and **northeastern Namibia**.

Rainfall was near or above average over parts of **central Ethiopia**, parts of northern **Somalia** and western **Kenya** during the fourth week of April. Rainfall was near or above average over parts of **Botswana**, central **Mozambique** and northern **South Africa**. Dry conditions resulted in moisture deficits over **Madagascar** as well as other parts of Africa.

Above average rainfall was recorded during the third week of April in **southern Somalia**, **southeastern Ethiopia**, parts of eastern and **western Kenya** and parts of **Uganda**. Good rain was recorded in Ghat in **Libya** during the second week of April. Above normal rainfall was recorded in the coastal areas of southern **Mozambique** and good rains were recorded in **Saudi Arabia** and **Yemen** in April (DDLC/Libya, FAO-DLCS, NOAA).

Dry spell with max T of ~ 43.4 - 47 C and min T ranging from 21.4 – 25.1 C prevailed during this period in the Scheduled Desert Area, in Rajasthan, North Gujarat, Saurashtra and Kutch in **India**. Only light showers were recorded in isolated places in

Rajasthan in April (DPPQS/India). Ecological conditions began improving in EEAC as temperatures started becoming mild and vegetation began greening (FAO-AGPM).

Extended forecast: May - October:

The forecast for May-June for the Sahel calls for an increased chance for below average rainfall over **western Sahel**. There is an increased chance for above average rainfall locally in the southern areas of Burkina Faso and Niger. In the northern Horn of Africa, there will be an increased chance for below average rainfall over local areas in **central and eastern Sudan**, and locally over **southwestern Ethiopia** during this period. An extended forecast for the period covering August to October predicts an increased chance for below average rainfall over **western Sahel, southeastern Niger, and central Chad**. There is an increased chance for above average rainfall locally over **southern Burkina Faso and southern Niger**, below average rainfall over most areas in **central and southern Sudan**, as well as **western Ethiopia** during this period (NOAA, 4/2010).

Note: The northward migration of the Intertropical Convergence Zone (ITCZ) continuous contributing to increased rainfall in several places. **End note.**

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

DL - Western Outbreak Region

Isolated solitary adults were detected in Morocco south of the Atlas and along the Algerian border. A solitary mature adult

was seen in northern Niger near Agadez and scattered third instar hoppers were detected in Wade Titghsin (25 32 22.1N/09 55 37 6E) during surveys carried out in Ghat in **Libya**. No locusts were reported in other countries in the western region during this period (DDLC/Libya, FAO-DLIS, and INPV/Algeria).

Forecast: The DL situation will likely remain calm in the western outbreak region and only small-scale breeding will likely commence in May in **Morocco** along the **Algerian** border where adult locusts were detected earlier. Solitary adults will likely begin appearing in southern **Mauritania, Mali and Niger** during the second week of June and adult locust may persist in western and southwestern **Libya** near Gaht and Ghadames, but significant developments are not likely during this period (CNLA/Niger, DDLC/Libya, FAO-DLIS, and INPV/Algeria).



(Groups of hopper bands and immature adults were controlled near Rabigh on the Red Sea coast of Saudi Arabia, FAO-DLIS, 5/10)

DL - Central Outbreak Region

The DL situation remained fairly calm in the Central outbreak region in April. Only some hoppers and bands were developed from local breeding on the Red Sea coast of **Saudi Arabia** near Rebigah where ground team controlled hoppers and immature adults on some 673 ha. Small-scale breeding occurred on the southern coast of Yemen where isolated solitary mature adults and hoppers were seen. No locusts were reported in

other outbreak and invasion countries during this period (FAO-DLIS, PPD/Ethiopia).

Forecast: There is a slight chance of adult locusts moving from the coastal areas of **Saudi Arabia** and **Yemen** to the spring breeding areas in interior of the countries where small-scale breeding could occur during the forecast period. Solitary adult locusts may appear in the summer breeding areas in **Sudan** and perhaps **Eritrea**, but significant developments are not likely in these regions during the forecast period (FAO-DLIS, PPD/Ethiopia).

DL- Eastern Outbreak Region

No locusts were reported in spring breeding areas in southwest **Pakistan** and southeastern **Iran**. The Scheduled Desert Area of Rajasthan and Gujarat States in **India** remained calm during this period (DPPOS/India, FAO-DLIS).

Forecast: Solitary adults may be appearing in the summer breeding areas in Rajasthan and Gujarat, **India**, but the situation in **western Pakistan** and **southeastern Iran** will likely remain clam during the forecast period (DPPOS/India, FAO-DLIS).

Other ETOPs

Red Locust:

In remembrance of the two pilots of the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CRA) who lost their lives in a tragic plane crash in March 2010 while on duty in Kenya. With our deepest sympathy to the families and friends of the deceased!

Note: *IRLCO-CSA has already starting feeling the impact of the recent tragic*

incidence on its ability to provide services to its member-countries. The organization had to outsource aerial operations and recently contracted a DLCO-EA aircraft to carry out survey and control operations in Tanzania. Mindful of unsustainability of such action, the organization is putting together an appeal to member-countries to pay off their dues and the international organizations and donors to assist with capacity strengthening to narrow the gap the tragedy has created. End note.

On April 13, 2010, the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) issued an alert on the red locust situation in **Tanzania** with a warning to neighboring countries. The alert reported the detection of more than 520 swarms ranging in size from half ha to 75 ha with up to 40 insects per meter square in **Ikuu plains, North Rukwa, the Malagarsi basin** and the **Wembere plains** (Figure 1) during surveys carried out between late March and early April.

Some locusts were reported escaping from **Ikuu** to **Kalema** and **Kabungu** in **Mpanda** districts in **Tanzania**. Mixed populations of 5th-6th instar hoppers with densities ranging from 20-50 individuals/m² were also observed in several places (Figure 2). IRLCO-CSA carried out the surveys in collaboration with the **Tanzania** Ministry of Agriculture, Food Security and Cooperatives (MAFSC) and covered more than 70,000 ha of which some 30,000 ha were reported infested (IRLCO-CSA).

MAFSC and IRLCO-CSA are tracking the [escapee] swarms from **Ikuu** as well as coordinating control operations. Ground teams are on the look out to implement control interventions as rapidly as possible.



Red Locust swarm seen on grasses near northern tree line in **Ikuu plain**, April 29, 2010 (source: IRLCO-CSA)



5th&6th instar RL hoppers on grasses in **Ikuu plain**, March 30, 2010 (source: IRLCO-CSA)

Forecast: Swarms will likely continue migrating from **Ikuu** plains and invade cereal crops in **Rukwa**, **Kigoma** and **Kagera** regions of **Tanzania**. Hoppers will fledge and form groups and escapee swarms will likely reach neighboring countries, including **Uganda**, **Rwanda**, **Burundi**, etc during the forecast period (IRLCO-CSA).

All concerned Ministries and personnel in **Tanzania** and neighboring countries should be on **high alert** and report any sighting of locust swarms to IRLCO-CSA to facilitate appropriate actions. Locust information should also be shared with neighboring countries as often as possible.

Moroccan, Italian Locusts in the EECAC

The ETOP season has commenced in parts of the EECAC region. According to a late

report received, DMA started hatching as of mid-March in **Tajikistan**, **Turkmenistan** and **Uzbekistan** and hoppers and bands were treated on more than 52,800 ha through April 7th and a similar situation may be present in Afghanistan.

Early instar hoppers of DMA were also reported on more than 14,000 ha in south-eastern **Georgia** near the **Azerbaijan** border. This is an unexpected situation and the last time something like this happened was nearly 50 years ago! The current infestation has forced MoA/Georgia's to shift focus and resources from the **Italian locust** (a pest that is considered more serious and for which the Government of Georgia (GoG) allocates annual budget for a control operation often carried out in May and June.

MoA staff from **Georgia** and **Azerbaijan** recently conducted a joint meeting for joint survey and control operations. The group also advocated for a regional platform for future locust operations in the region. Other countries in the region remained calm during this period (FAO-AGPM).

While the amount of spring rainfall is critical for the developmental cycle of DMA and anthropogenic factors such as deforestation and overgrazing favor colonization, cultivated grasslands make it harder for the female insect that prefers undisturbed soil to lay eggs. Given the scale of the current infestation and the anticipated need for resources to respond to the potential invasion from the **Italian locust**, **Georgia** will likely request external assistance. As a matter of fact, GoG was in the process of issuing an appeal for emergency assistance at the time this update was compiled, which may initially target the UN and FAO (FAO-AGPM).



(a file photo of DMA - naturamediterraneo.com)

Australian Plague Locust (APL)

According to information received from the Australian Plague Locust Commission (APLC), spray aircraft treated adults and large bands of nymphs, some as wide as 800 meters marching across grassland. Hundreds of these bands were visible from the air at the time survey and spray operations were carried out. Many infested areas could not be controlled due to flooding and other constraints. Large numbers of swarms have moved into other parts of New South Wells, Victoria and South Australia and have begun laying.



(Australian plague locust, source: APLC)

Forecast: High density swarms will likely continue forming and laying eggs and ultimately resulting in extensive hopper developments in several regions. There is a likelihood of the pest threatening early cereal and fodder crops in autumn (additional information was not available on APL situation at the time this report was compiled).

The Timor and South Pacific

No update was received in April, but it is likely that grasshoppers and locusts continue to be active.

Armyworm: No update was received at the time this report was compiled, but it is likely that the pest may be a problem in **Tanzania** and **Kenya** and perhaps in southern **Ethiopia** where it threatens crops and pasture.

Quelled birds: No update was received at the time this report was compiled, but it is likely that the bird may have been threatening irrigated crops in **Kenya** and elsewhere in the region.



Facts: *Quelled birds can travel ~100 km/day looking for food. Each 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 update was received at the time this report was compiled, but the pest remains a threat to rice, oil palm and other crops in several places. Barn owl, *Tyto alba*, is one of nature's biological means of controlling the pest.

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as rapidly and as often as possible.

Pesticide Stocks

Apart from the 673 ha treated in **Saudi Arabia** (base line data on pesticides still unavailable) no other spray operations were carried out during this period and thus, the inventory remained unchanged.

It is worth noting that some of the pesticides listed in the below box may have expired or will soon expire. Mindful of this, ETOP-prone countries, particularly those with large stocks, are encouraged to regularly test their stocks and determine whether they should be retained or should be used or immediately discarded. All options should be explored to avoid the huge environmental and financial cost associated with obsolete pesticides. When executed carefully, triangulation is a double-edged and safer alternative that can be considered.

Note: The core message of **pesticide stewardship networking** is to strengthen the national and regional pesticide delivery systems and contribute to the health and safety of vulnerable communities by protecting their environment, improving food security and ultimately contributing to the national economy. **End note.**

Country	Quantities in l/kg
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	12,200
Mali	209,000%~
Mauritania	480,000~@
Morocco	4,105,300~
Niger	28,240+
Senegal	519,000~
Saudi Arabia	Data not available

Sudan	702,378 ^m
Tunisia	167,600~
Yemen	Data not available
~ 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 2003-5 DL campaign was tested for quality	
and found to be usable through 2012	
^m This quantity includes EC, ULV and Dust formulations available for all crop protection uses, including ETOPs	

List of Acronyms

<i>AELGA</i>	<i>Assistance for Emergency Locust Grasshopper Abatement</i>
<i>APL</i>	<i>Australian Plague Locust</i>
<i>APLC</i>	<i>Australian Plague Locust Commission</i>
<i>CAC</i>	<i>Central Asia and the Caucasus</i>
<i>CERF</i>	<i>Central Emergency Response Fund</i>
<i>CLCPRO</i>	<i>Commission de Lutte Contre le Criquet Pèlerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)</i>
<i>CNLA/CNLAA</i>	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>
<i>CRC</i>	<i>Commission for Controlling Desert Locust in the Central Region</i>
<i>DDLC</i>	<i>Department of Desert Locust Control</i>
<i>DL</i>	<i>Desert Locust</i>
<i>DLCO-EA</i>	<i>Desert Locust Control Organization for Eastern Africa</i>
<i>DPPOS</i>	<i>Department of Plant Protection and Quarantine Services</i>

DPV	<i>Département Protection des Végétaux (Department of Plant Protection)</i>
ELO	<i>EMPRES Liaison Officers</i>
EMPRES	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>
ETOP	<i>Emergency Transboundary Outbreak Pest</i>
ha	<i>hectare (= 10,000 sq. meters)</i>
IRIN	<i>Integrated Regional Information Networks</i>
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>
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>
OFDA	<i>Office of U.S. Foreign Disaster Assistance</i>
PPD	<i>Plant Protection Department</i>
PPSD	<i>Plant Protection Services Division/Department</i>
PRRSN	<i>Pesticide Risk Reduction through Stewardship Network</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>

For more information about our activities, the programs we support and many more, please, visit our website at:

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

Point of Contact:

If you have any questions, comments or suggestions, please, feel free to send us an e-mail:

ybelayneh@ofda.gov

Yeneneh T. Belayneh, Ph. D.

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

Summary

The **Desert Locust** (DL¹): Breeding was reported in May in northwest Africa and ground operations controlled hoppers and fledglings in more than 1,880 hectares (ha) in **Morocco**, **Algeria** and **Libya** during this time. Hoppers were also controlled in some 2,700 ha in **Saudi Arabia** during this period. Small-scale breeding was reported in **Oman**. Other outbreak and invasion countries remained calm during this period (CNLA/Niger, DDLC/Libya, DLCO-EA, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan).

Forecast: Ecological conditions will continue deteriorating on the coastal areas in **Saudi Arabia** and northern Africa and force adult locusts to move to the interior of **Sudan** and northern Sahel breed on a small-scale at the onset of the summer rains. Low numbers of adults will likely appear in southern **Mauritania**, northern **Mali** and **Niger** and small-scale breeding may occur at the onset of the summer rains. In **Libya**, low numbers of solitary adults may persist in some areas in the southwest of the country. Small-scale breeding will also likely begin along the **Indo-Pakistan** borders but other areas will likely remain calm during the forecast period (DDLC/Libya, DLCO-EA,

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

DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan).

- **Other ETOPs**

Red Locust RL): RL swarms and concentrations from the previous month persisted through May in the outbreak areas in **Tanzania**. Isolated low density populations were detected during aerial surveys carried out in the outbreak areas in **Mozambique**. At the time this report was compiled surveys were in progress to ascertain the locust situation in the outbreak areas in **Zambia**. The situation remained relatively calm along the borders of **Malawi** and **Mozambique** during this period (IRLCO-CSA).

Forecast: As the seasonal grass burning begins in June, adults will concentrate and form swarms in patches of green vegetation during the forecast period. Swarms will then migrate to other areas. Plans are underway to launch control operations in the outbreak areas in June (IRLCO-CSA).

IRLCO-CSA has issued an appeal to development partners for assistance for emergency control operations in the outbreak areas.

Moroccan (DMA) and Italian (CIT) locusts: DMA started hatching in **Tajikistan**, **Turkmenistan** and **Uzbekistan** in Eastern Europe, Central Asia and the Caucasus (EECAC) as of mid-March. By May 7th, hoppers and bands were treated on more than 373,000 ha in **Kazakhstan**, **Tajikistan** and **Uzbekistan** alone. More than 14,000 ha were reported infested with DMA in April in **Georgia** and a similar

situation may exist in **Afghanistan**. DMA will likely continue developing further during the forecast period.

Armyworm (AW): AW infestations were detected in 363,000 ha in crop fields and grazing land in southern and eastern **Ethiopia** beginning mid-April. More than 85,700 ha have been controlled since. No information was received from **Eritrea** (where the pest may be present), **Kenya**, **Tanzania** or **Uganda** at the time this report was compiled (AELGA, DLCO-EA).

Forecast: AW infestations will likely continue threatening crops and pasture in **Ethiopia** and perhaps in **Eritrea** during the forecast period. There is a slight chance for the pest to appear in northern **Kenya** and **Tanzania**. Trap operators and forecasters, including community-based forecasters are encouraged to remain vigilant and share information with partners as rapidly and regularly as possible.

Quelea: *Quelea* colonies and roosts were controlled on 870 ha in **Tanzania** in May. The pest was reported on Bulrush, millets, rice and other crops. Four colonies and non-breeding populations were detected in several places in **Kenya** during surveys carried out by DLCO-EA and MoA/**Kenya**. A DLCO aircraft treated *Quelea* colonies and roosts on 990 ha in **Mozambique** from 4 to 11 May. No reports were received from other countries during this period (DLCO-EA).

Forecast: *Quelea* will likely remain a threat to small grain cereals in several provinces in **Kenya** and rice growing

regions of **Tanzania**. The bird will also threaten winter wheat in **Zimbabwe** during the forecast period (IRLCO-CSA).

No update was received on locusts in **Timor Leste** or **Australia** at the time this report was compiled

Rodents: No update was received at the time this report was compiled.

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

Progress in Frontline Countries:

Frontline countries (FCs) in Sahel West Africa - **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, host-governments, neighboring countries and others enabled the FCs to equip CNLAs with tools, materials and infrastructure as well as train staff and technicians to prevent DL outbreaks and invasions and respond to the threats they pose. The overhaul of the CNLAs is considered a significant improvement over the condition they were in during and prior to the 2003-05 upsurges. It is worth noting that the *CNLAs have since been able to avert a potentially devastating DL outbreak that began developing in Mauritania in 2009.*

OFDA Pest & Pesticide Activities

- OFDA/TAG Advisor participated in a planning workshop for the second phase of the EMPRES Western Region Program in Dakar during the second week of March, 2010.
- 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. To date, OFDA/TAG has 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 **Caucuses** and other regions to introduce similar initiatives in due course.
- OFDA continues supporting capacity strengthening through FAO's EMPRES and pesticide disposal programs to mitigate, prevent and respond to DL emergencies and associated environmental risks.
- OFDA contributed to FAO's initiative to strengthen national and regional capacities in EECAC to help coordinate locust monitoring and reporting among neighboring countries. The ultimate goal of the initiative is to prevent and mitigating locust threats and improve food security and livelihoods of vulnerable communities.

Detailed accounts of ETOP situation and activities as well as ecological and weather data across ETOP regions are presented below.

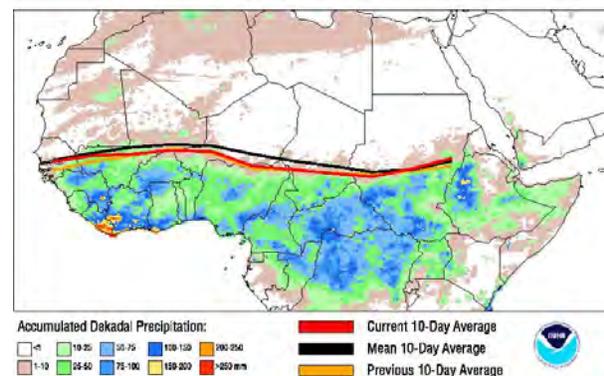
This SITREP and all others can be accessed on our website:

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

Weather and ecological conditions

During 21-31 May, the Inter-Tropical Front (ITF) was located around 14.3N in the western portion, slightly higher than the position in the previous dakad. Its northern migration over parts of northern **Nigeria** and **Chad** resulted in showers and moisture increase, improving ecological conditions for locusts to develop. The eastern portion of the ITF was north of its previous position, but closer to its long-term mean position. In the extreme eastern portion, the Front moved further north resulting in increased rainfall over parts of eastern **Sudan** and southern **Ethiopia** where breeding conditions will likely improve (NOAA, AELGA).

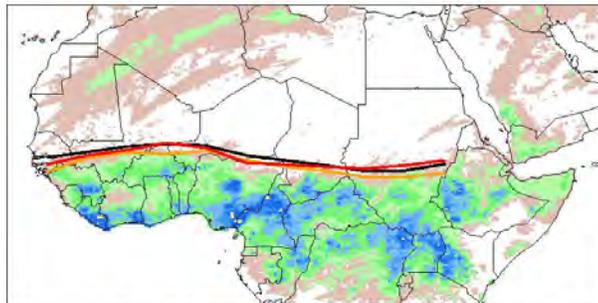
Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
May 2010 Dekad 3



In the second dekad of May, the Front showed progressive migration to the north and by mid-month it was near 14.1N over

parts of **Mali** and **Burkina Faso** and **Nigeria**. Its eastern portion was slightly ahead of climatology with increased winds and moisture from the south during this period (NOAA).

Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
May 2010 Dekad 2



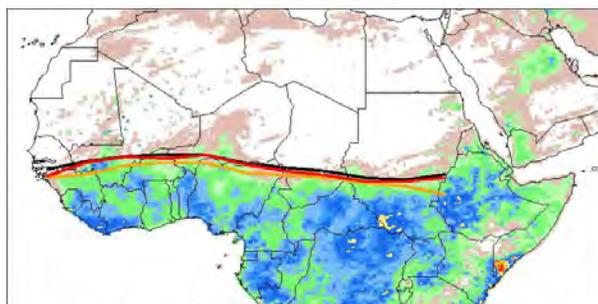
Accumulated Dekadal Precipitation:

<1	10-25	50-75	100-150	200-250
1-10	25-50	75-100	150-200	>250 mm

Current 10-Day Average	Mean 10-Day Average	Previous 10-Day Average
------------------------	---------------------	-------------------------

The Front continued its northern migration during the first dekad of May. Its western position was closer to but a bit lower than the climatological mean position of 13.8N whereas the eastern portion moved further north particularly over **Sudan** and **Ethiopia** from its position during the third dekad of April resulting in more moisture.

Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
May 2010 Dekad 1



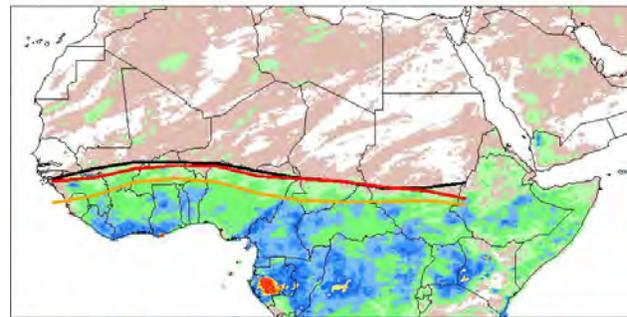
Accumulated Dekadal Precipitation:

<1	10-25	50-75	100-150	200-250
1-10	25-50	75-100	150-200	>250 mm

Current 10-Day Average	Mean 10-Day Average	Previous 10-Day Average
------------------------	---------------------	-------------------------

Its mean western portion during the last dekad of April was at around 12.6N which remained southerly than the climatological mean position of 13.3N although it became closest to the mean position since the start of April. The eastern portion of the Front experienced a northward advancement during the last dekad of April and remained near normal position over **Chad** and

Sudan (NOAA).
Current vs Mean Position of the Africa ITF
As analyzed by the NOAA Climate Prediction Center
April 2010 Dekad 3



Accumulated Dekadal Precipitation:

<1	10-25	50-75	100-150	200-250
1-10	25-50	75-100	150-200	>250 mm

Current 10-Day Average	Mean 10-Day Average	Previous 10-Day Average
------------------------	---------------------	-------------------------

Dry spell and hot temperatures prevailed in the Scheduled Desert Area, in Rajasthan, North Gujarat, Saurashtra and Kutch in **India** in May (DPPQS/India). Ecological conditions continued improving in EECAC as temperatures started becoming mild and vegetation began greening (FAO-AGPM). Apart from isolated showers recorded in the Buzi-Gorongosa plains in **Mozambique** and Wembere plains in **Tanzania**, the RL outbreak areas remained generally dry and the temperatures were relatively low during this period.

***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 at all times. End note.*

Detailed accounts of ETOP situations and activities

DL - Western Outbreak Region

Ground operations controlled solitary and transient hoppers and adults on 1,495 ha in **Morocco** south of the Atlas Mountains where small-scale breeding occurred in March and April. Hoppers were also controlled during this period on 348 ha and 40 ha in central

Algeria and southwest **Libya**, respectively (DDLC/Libya, FAO-DLIS, INPV/Algeria).

Forecast: Some adult locusts will likely begin appearing in southern **Mauritania**, northern **Mali** and **Niger** and small-scale breeding may commence with the onset of the summer rains. In **Libya**, low numbers of solitary adults may persist in some areas in the southwest of the country near Ghat, Ghadames and Sabha. However, significant developments are not likely during the forecast period (DDLC/Libya, FAO-DLIS, and INPV/Algeria).



(Groups of hopper bands and immature adults were controlled on the Red Sea coast of Saudi Arabia, FAO-DLIS, 5/10)

DL - Central Outbreak Region

Ground operations controlled hopper bands in 2,695 ha on the coastal areas in **Saudi Arabia**. Undetected breeding occurred in April in northeastern **Oman** where hopper groups and concentrations formed in May in areas of green vegetation. Scattered mature solitary adults were reported in Tokar Delta in **Sudan**, but no locusts were detected during surveys carried out in the northern coastal areas of the country. An unconfirmed report indicated the presence of adult locusts near Aysha (1045N4234E) in eastern **Ethiopia** and on the borders with **Djibouti** and **northern Somalia**. No locusts were reported in other countries in the region during this period (DLCO-EA, FAO-DLIS, PPD/Ethiopia, PPD/Sudan).

Forecast: Ecological conditions will continue deteriorating on the coastal areas in **Saudi Arabia** and will likely force adult

locusts to move to the summer breeding areas in the interior of **Sudan**. Small-scale breeding may commence in north Darfur and Kordofan as well as the White Nile States in **Sudan** at the onset of the summer rains. The western lowlands in **Eritrea** may experience a similar situation during this period. Low numbers of solitary adults will likely appear in the northern plateau in **Somalia** and eastern **Ethiopia** where small-scale breeding may occur in areas of recent rainfall during the forecast period (DLCO-EA, FAO-DLIS, PPD/Ethiopia, PPD/Sudan).

DL- Eastern Outbreak Region

No locusts were reported in May in the spring breeding areas along the western **Pakistan** and southeastern **Iran** borders. The Scheduled Desert Area of Rajasthan and Gujarat States in **India** remained calm during this period (DPPQS/India, FAO-DLIS).

Forecast: Solitary adults may begin appearing in the summer breeding areas along the **Indo-Pakistan** borders, but significant developments are not likely during the forecast period (DPPQS/India, FAO-DLIS).

Red Locust (RL): RL swarms and concentrations that were reported in Ikuu-Katavi, North Rukwa and Wembere plains as well as in Malagarasi Basin in **Tanzania** in April persisted in May. Isolated low density populations were detected during aerial surveys (using a helicopter) carried out on close to 97,000 ha in Buzi-Gorongozo and Dimba plains in **Mozambique** where more than 4,800 ha were reported infested. At the time this report was compiled surveys were in progress in the Kafue Flats and the Lukanga swamps in **Zambia** to ascertain the locust situation. The situation remained relatively calm in the Lake Chilwa/Lake Chiuta plains along the borders of **Malawi** and **Mozambique** during this period.



Red Locust swarm seen on grasses near northern tree line in **Ikuu plain**, April 29, 2010 (source: IRLCO-CSA)

Forecast: As the seasonal grass burning commences in June, RL will concentrate in patches of green vegetation where swarms will likely develop during the forecast period. Swarms will then migrate to other areas where control operations may not be practical. IRLCO-CSA and MoAs in affected countries are planning to launch survey (~330,000 ha) and control operations in the outbreak areas to avert swarm developments and curtail further migrations. Some 3,000 ha in Ikuu-Katavi and Malagarasi Basin will be sprayed with bio-pesticides due to ecological sensitivity of the target areas (IRLCO-CSA).

Madagascar Migratory Locust:

No update was received on the locust situation in **Madagascar** during this time, but it is likely that the pest has continued threatening crops and pasture in several places.

Moroccan (*Dociostaurus maroccanus* - DMA), **Italian Locusts** (*Calliptamus italicus* - CIT) in the **EECAC**

A late received report indicated that the DMA started hatching in mid-March in **Kazakhstan, Tajikistan, Turkmenistan** and **Uzbekistan** and by the first week of May, hoppers and bands were treated on 52,800 ha in **Kazakhstan**, in 38,000 in

Tajikistan and 277,000 in **Uzbekistan**. Survey and control operations are in progress here and elsewhere in the region.

More than 14,000 ha were reported infested with DMA in April in the south-eastern part of **Georgia** near the border with **Azerbaijan** (although an update was not received at the time this report was compiled a similar situation may have occurred in northern **Afghanistan**). The **Italian locust** (a pest that is considered more serious) usually appears in May and June in **Georgia** and MoA staff are advised to remain vigilant. Given the scale of the current infestation and the anticipated need for resources to abate the **Italian locust**, **Georgia** has issued an appeal for assistance targeting the UN-FAO and others.



(DMA, source: naturamediterraneo.com)

Australian Plague Locust (APL)

No update was received at the time this report was compiled. However, it is likely that APL continue being a problem in several areas in the country.



(Australian plague locust, source: APLC)

The Timor and South Pacific

No update was received in May, but it is likely that grasshoppers and locusts continue to be active.

Armyworm: Widespread armyworm infestations were reported in the southern, southeastern and eastern parts of **Ethiopia**. The pest was first detected in mid-April and has since infested close to 118,000 ha of cropland and 245,300 ha of grazing land. Control operations treated close to 39,800 ha of cropland and 35,200 ha of grazing land with 35,144 liters of insecticide and an additional 10,707 ha of grazing land was controlled using cultural methods. No updates were received on **Tanzania, Kenya, Eritrea** (although the pest may have begun appearing), or **Uganda** at the time this report was compiled.

Forecast: Armyworm infestations will likely continue in **Ethiopia** and **Eritrea** during the forecast period. Trap operators and forecasters, including community forecasters where applicable, must remain vigilant and share information with communities and partners as rapidly as possible.

Quelea: *Quelea* birds were controlled on more than 870 ha in Shinyanga, Singida, Iringa, Dodoma Mbeya, Mwanza, and Musoma regions in **Tanzania** in May. The pest was reported attacking Bulrush, millets, rice and other crops. Joint control operations by DLCO-EA and the MoA were in progress at the time this report was compiled. *Quelea* colonies and non-breeding populations were also detected in several locations in Magadi, Tsavo, Ambosseli, National Parks, Galana and Tana Delta during joint aerial surveys carried out by DLCO-EA and MoA/**Kenya**.



(Quelled roost, a file photo from the free encyclopedia)

Control was carried out against eight roosts consisting 10s of millions of birds on more than 990 ha in Chokwe Irrigation Scheme (more than 7,300 ha are under paddy rice) in **Mozambique**. Control operations were launched by IRLCO-CSA and MoA/**Mozambique** using a DLCO-EA spray aircraft. No outbreaks were reported in other countries (DLCO-CA, IRLCO-CSA).

Facts: *Quelled* birds can travel ~100 km/day looking for food. Each 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 update was received at the time this report was compiled, but the pest remains a threat to both pre-harvest as well as post-harvest crops and produces. Barn owl, *Tyto alba*, is one of nature's biological means of controlling this pest.

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as rapidly and as often as possible.

Pesticide Stocks

Algeria, Libya, Morocco and Saudi

Arabia conducted control operations against hoppers, fledglings and adults in May using a total of 4,588 litres of pesticides (no current baseline data is available for all of these countries). **Ethiopia** reported some 2,600 litres less than the previous month. This is possibly due to the on-going armyworm operations in the country. These countries aside, pesticide inventories remained unchanged for all other countries during this month.

It is highly likely that some of the pesticides listed in the below box may have expired or will soon expire. Mindful of this, ETOP-prone countries, particularly those with large stocks, are encouraged to regularly test their stocks and determine whether they should be retained or should be used or immediately discarded. All options should be explored to avoid the huge environmental and financial costs associated with obsolete pesticides. A judiciously executed pesticide triangulation is a double-edged and safer alternative that can be considered.

Note: The core message of **pesticide stewardship networking** is to strengthen the national and regional pesticide delivery systems, reducing pesticide related health risks and contributing to the safety of vulnerable communities, protecting their assets and environment, improving food security and ultimately contributing to the national economy. **End note.**

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Algeria	1,800,000~
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Niger	28,240+
Senegal	519,000~
Saudi Arabia	No baseline data
Sudan	701872 ^m
Tunisia	167,600~
Yemen	Data not available
~ 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 2003-5 DL campaign was tested for quality and found to be usable through 2012	
^m This quantity includes EC, ULV and Dust formulations available for all crop protection uses, including ETOPs	

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<i>CERF</i>	<i>Central Emergency Response Fund</i>
<i>CIT</i>	<i>Calliptamus italicus</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>CNLA/CNLAA</i>	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>
<i>CRC</i>	<i>Commission for Controlling Desert Locust in the Central Region</i>
<i>DDLC</i>	<i>Department of Desert Locust Control</i>
<i>DL</i>	<i>Desert Locust</i>
<i>DLCO-EA</i>	<i>Desert Locust Control Organization for Eastern Africa</i>
<i>DMA</i>	<i>Dociostaurus maroccanus</i>

<i>DPPQS</i>	<i>Department of Plant Protection and Quarantine Services</i>	<i>SWAC</i>	<i>South West Asia DL Commission</i>
<i>DPV</i>	<i>Département Protection des Végétaux (Department of Plant Protection)</i>	<i>TAG</i>	<i>Technical Assistance Group</i>
<i>ELO</i>	<i>EMPRES Liaison Officers</i>	<i>USAID</i>	<i>Unites States Agency for International Development</i>
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<i>ha</i>	<i>hectare (= 10,000 sq. meters)</i>	http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/	
<i>IRIN</i>	<i>Integrated Regional Information Networks</i>	<u>Point of Contact:</u>	
<i>IRLCO-CSA</i>	<i>International Red Locust Control Organization for Central and Southern Africa</i>	If you have any questions, comments or suggestions, please, feel free to send us an e-mail:	
<i>ITCZ</i>	<i>Inter-Tropical Convergence Zone</i>	ybelayneh@ofda.gov	
<i>ITF</i>	<i>Inter-Tropical Convergence Front = ITCZ)</i>	Yeneneh T. Belayneh, Ph. D.	
<i>FAO-DLIS</i>	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>		
<i>Kg</i>	<i>Kilogram (~2.2 pound)</i>		
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<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>		
<i>PHD?S</i>	<i>Plant Health Directorate/ Services</i>		
<i>PPD</i>	<i>Plant Protection Department</i>		
<i>PPSD</i>	<i>Plant Protection Services Division/Department</i>		
<i>PRRSN</i>	<i>Pesticide Risk Reduction through Stewardship Network</i>		

Three locust alerts in three regions

Three locust species, the **red locust**, the **Madagascar migratory locust** and the **Moroccan locust** have begun developing rapidly in three separate regions, namely Eastern Africa (**Tanzania**), the Caucasus (**Georgia**) and southern Africa (**Madagascar**), respectively. These pests are developing at an alarming rate and will require rapid interventions to avoid severe crop damages and prevent the need for massive emergency responses in these regions.

Tanzania

The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) and the UN Food and Agriculture Organization (FAO) reported that the current Red Locust outbreak in **Tanzania** could be more serious than what was seen last year. In previous year the pest was controlled over large areas by aerial means with an environmentally friendly pesticide (Green Muscle) in sensitive habitat, i.e., wetlands and with conventional pesticides in others. Escapee swarms from previous outbreaks further developed through late last year and continued well into this year.

The areas currently affected by the locust are mostly swampy and flood plains and can only be accessed by air. In addition, they are surrounded by extensive crop fields that are under a serious threat from the pest – a situation that could severely undermine food security and livelihood of the farming communities in these regions. Uncontrolled swarms will likely escape to adjacent areas and neighbouring countries, including DRC, Burundi and Rwanda where they could further exacerbate the humanitarian situation.



IRLCO-CSA is doing its best to prevent major threats to crops, but due to the recent tragic accident that

Locust Alert – AELGA 5-2010

took the lives of its two pilots and the only fixed-wing aircraft in its possession, its aerial capacity has been seriously undermined. IRLCO-CSA's airpower now hinges on a 30-year old helicopter with a very high maintenance-cost that is eating away the Agency's meagre resources - a situation one would hope not happen at a time when the locusts are breeding rapidly and the very organization mandated to control them is at an absolute disadvantage. IRLCO-CSA has appealed to member-countries and FAO to provide rapid assistance so that it can stand up to the ensuing challenges from the pest.

Georgia:

A recent field survey in **Georgia** revealed the presence of Moroccan locust hoppers and adults on more than 14,000 hectares south-east of the country near the Azerbaijan border. The last time a situation like this happened was nearly five decades ago (the unusual appearance of the Moroccan locust is likely associated with changes in the weather patten and the cropping system). Here, it is the Italian locust that is considered the main pest and the Ministry of Agriculture (MoA) normally allocates funds each year for the control of this pest normally around May-June. The MoA is not prepared for this unexpected event. However, the situation has forced it to redirect funds allocated for the Italian locust to address the Moroccan locust invasion. Given the magnitude of the current invasion by the Moroccan locust and the potential for a subsequent invasion by the Italian locust, MoA has already requested FAO for assistance.

Madagascar

According to a field report and information received from FAO, the locust situation in **Madagascar** is deteriorating. The presence of large numbers of locust swarms, some as large as 8 km long, were seen near Hioshy and considerable numbers of hopper bands were reported along the roads to Tulear, Sakara, and Beahitse. So far just a little more than 70,000 ha has been reported treated by ground means using backpack sprayers (the least effective equipment for massive locust invasion) due to lack of aerial capacity within MoA locust control unit (CNA). Up to 50% crop damage was also reported by CNA in Sakara and Mahabouke.

Given the rate at which the locust is developing, and considering the fact that backpack sprayers are the only means currently available to MoA/CNA to control the pest it is highly likely that locust numbers will rapidly increase over the coming months and pose a serious threat to crops and pasture. Therefore, it is essential that curative and preventive operations are carefully planned and rapidly executed to avoid major emergencies down the road.

Locust Alert – AELGA 5-2010

Actions being taken:

While affected countries and IRLCO-CSA are doing what they can, FAO is in constant contact with its reps, IRLCO-CSA, affected-countries and partners in all three countries and elsewhere to develop and implement preventive and emergency response interventions as rapidly as possible. Well-planned, rapid and early interventions are essential and would require sufficient resources to avoid severe crop and pasture damage and minimize the need for massive emergency responses down the road.

OFDA/TAG will continue monitoring the situation closely and issue advices and updates.

:/Sitreps 2010/3 locust alerts in 3 regions.ytb

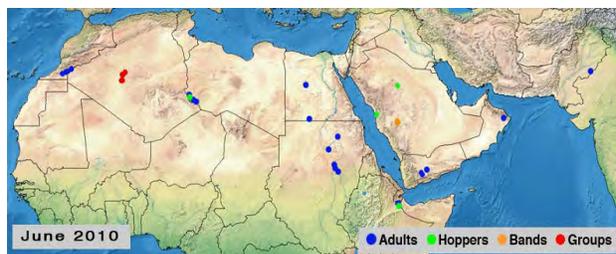
**Emergency Transboundary
Outbreak Pest (ETOP) Situation
Report for June with a Forecast
till mid-August, 2010**

Summary

The **Desert Locust (SGR¹)**: The SGR remained calm in June with locust numbers showing a marked decline in spring breeding areas in Northwest Africa and the Arabian Peninsula due to timely preventive interventions and unfavorable ecological conditions. A mere combined total of 658 ha of hoppers and adults were treated in **Algeria, Morocco and Saudi Arabia** during this period. Small-scale breeding was reported in southwest **Libya**, Eastern **Ethiopia** and **Saudi Arabia** and scattered adults were detected in **Sudan, Yemen and Oman**. Other outbreak and invasion countries remained calm during this period (DDLC/Libya, DLCO-EA, DPPQS/India, DLMCC/Yemen, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan)

Forecast: Ecological conditions will begin improving in the summer breeding areas in Sahel West Africa, the Central Region and along the Indo-Pakistan borders. This will likely cause small-scale breeding in areas of recent rainfall, but other areas will likely remain calm during the forecast period (DDLC/Libya, DLCO-EA, DLMCC/Yemen, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan).

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



(adult locusts detected in several places, FAO-DLIS, 6/10)

Other ETOPs

Red Locust - NSE. In Ikuu-Katavi plains of **Tanzania** some 12,500 ha were infested with low to medium density swarms. The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) and the **Tanzania** Ministry of Agriculture, Food Security and Cooperatives treated 5,400 ha. Isolated and scattered populations were reported in Buzi-Gorongosa and Dimba plains in **Mozambique** and large concentrations of adults were detected in Kafue Flats and Lukanga Swamps in **Zambia** (IRLCO-CSA).

Forecast: NSE will further concentrate on patches of green vegetation and form swarms following the seasonal grass burning and migrate to areas where control operations may not be practical. Escapee populations will likely persist and form potentially threatening populations in the coming seasons (IRLCO-CSA, OFDA/AELGA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts: DMA hoppers and bands were treated on more than 373,000 ha in **Kazakhstan, Tajikistan** and **Uzbekistan** by May (no update was received at the time this report was compiled). Large DMA infestations that were reported in April in

Georgia began maturing and may have or will start laying eggs in the coming months. Laying may have or will also occur in **Kyrgyzstan** and **Tajikistan** where the current season will soon come to an end. Italian locust (CIT) was reported in **Kazakhstan** and **Georgia** and migratory locust (LMI) developed in **Kazakhstan** in May. Control operations commenced against CIT in **Georgia** but declined against DMA (FAO).

Armyworm (*Spodopera exempta* - SEX): SEX infestations continued in **Ethiopia** in June where more than 324,000 ha of pastureland and 345,900 ha of cropland were reported infested and some 194,000 ha were controlled since mid-April. Widespread infestations were also detected in southern **Eritrea** towards the end of June. SEX activities have ended in the IRLCO-CSA member-countries (AELGA, DLCO-EA, IRLCO-CSA).

Forecast: SEX will likely continue threatening crops and pasture in **Eritrea** but begin declining in **Ethiopia** during the forecast period. Vigilance and proactive interventions are essential. SEX activities will remain calm in IRLCO-CSA regions till November/December, 2010 (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): QQU birds were detected in several regions in **Kenya** and **Tanzania** and aerial control operations were carried out by DLCO-EA and MoAs.

Forecast: QQU will likely remain a threat to small grain cereals and rice

growing regions in **Tanzania** and **Kenya**. The bird will also threaten irrigated winter wheat in **Zimbabwe** during the forecast period (IRLCO-CSA).

No update was received on locusts in **Timor Leste** or **Australia** at the time this report was compiled

Rodents: No update was received at the time this report was compiled.

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

Progress in SGR Frontline Countries:

SRG 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 the threats they pose to vulnerable communities. The overhaul of the CNLAs is considered a significant improvement over the condition they were all in during and prior to the 2003-05 upsurges. It is worth noting that the CNLAs have since been able to avert a potentially devastating DL outbreak that began developing in **Mauritania** in 2009.

OFDA Pest & Pesticide Activities

- OFDA/TAG Advisor participated in a planning workshop for the second phase of the EMPRES Western Region Program in Dakar during the second week of March, 2010.
- 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. It is to be recalled that 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 also 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 supporting capacity strengthening through FAO's EMPRES and pesticide disposal programs to mitigate, prevent and respond to DL emergencies and associated environmental risks.
- OFDA contributed to FAO's initiative to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) to help coordinate locust monitoring and reporting among neighboring countries. The ultimate goal of the initiative is to prevent and mitigating locust threats and improve food security and livelihoods of vulnerable communities and OFDA will

continue its support for these initiatives.

Detailed accounts of ETOP situation and activities as well as ecological and weather data across the various regions are presented below.

This SITREP and all others can be accessed on our website:

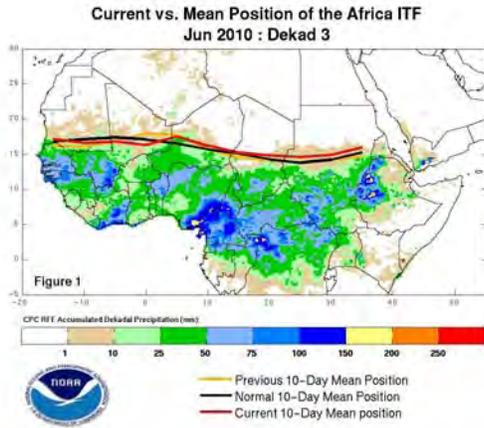
http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/

Weather and ecological conditions

The inter-tropical front (ITF) progressed during the third dekad of June in West and East Africa with the western mean position of 16.7N and the eastern position of 15.0N. Increased moisture was observed in Mali/Niger border in late June due to the northern migration of the ITF dictated by the strong southerly winds. The mean eastern portion of the ITF remains ahead of the climatological mean over many areas in Chad and Sudan (see figures) (NOAA).

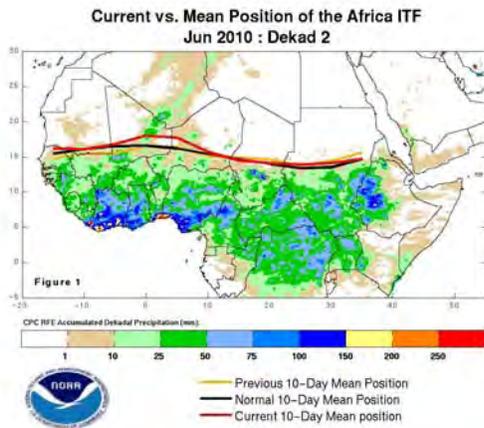
The mean position for the western portion of the Front was around 16.9N during the second dekad of June exceeding the climatological mean position of 16.2N for mid-June. This was attributed to increased southerly winds along the Prime Meridian that produced unusually heavy rains across **Mali and Niger**, extending as far north as southern **Algeria** during this period.

In **Sudan**, light rains were recorded in North & West Darfur and North Kordofan States during the last decade of June, but dry conditions prevailed in most of the summer breeding areas. Light to good rains were reported in eastern **Ethiopia** where locusts were detected during surveys carried out in June. The western lowlands of **Eritrea** remained hot and dry.



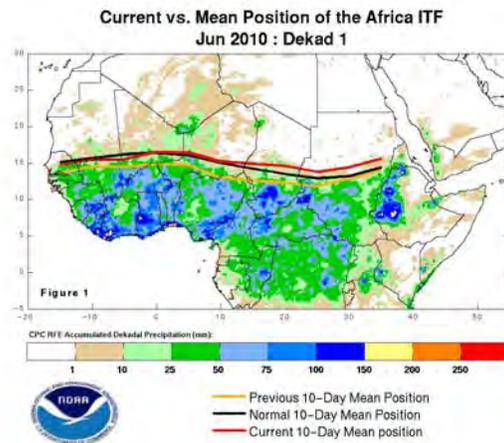
Light rain was recorded in a few places in Shabwah in **Yemen** from mid to late June, but ecological conditions remained unfavorable in most of the summer breeding areas in the country.

Vegetation started to dry in most of the NSE outbreak areas except in a few places, including the Kafue Flats and Lukanga Swamps of **Zambia** as well as Buzi-Gorongosa and Dimba plains **Mozambique** where flooding occurred. Moderate to heavy rains occurred in Jaisalmer, Churu in Bikaner Division, Bhuj in Gujarat Division during the second and third dekad of the month and ecological conditions will likely improve in these areas. Cool and dry weather conditions prevailed in most of the IRLCO-CSA member-countries (DLCO-CA, IRLCO-CSA, NOAA).



During the first dekad of June, the Front advanced further north over portions of the central and eastern Sahel regions with an

approximate mean position of 15.9N, a closest shift to the climatological mean position for this time of the year. This was due to an anomalous increase in southerly winds and followed by increased moisture over parts of **Mali** and **Niger** in early-June. The eastern portion of the ITF experienced a significant positional shift, and remained ahead of the climatological mean position, particularly in areas over central and eastern **Sudan** (see Figure)(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 at all times. **End note.

Detailed accounts of ETOP situations and activities

DL - Western Outbreak Region

Locust numbers declined in the western outbreak region. Only 303 ha of scattered adults and 350 ha of adults and hoppers were treated in **Morocco** and **Algeria**, respectively. Isolated solitary mature and immature adults and scattered 2nd-6th instar hoppers and fledgling and copulating adults were seen during surveys carried out from mid-June in Nalut areas and east of Ghat in **Libya**, but no locusts were detected in Nalut. No locusts were reported in other

countries in the region during this period (DDLCO/Libya, FAO-DLIS, INPV/Algeria).

Forecast: Locust numbers will continue declining in spring breeding areas and residual adults will migrate to the summer breeding areas in northern Sahel. Small-scale breeding will likely commence in southern **Mauritania**, northern **Mali** and **Niger** and eastern **Chad** and numbers will likely increase in these areas, but significant developments are not expected during the forecast (DDLCO/Libya, FAO-DLIS, and INPV/Algeria).

DL - Central Outbreak Region

Intensive ground surveys covered more than 34,550 ha in **Sudan** during the 2nd and 3rd dekads of June. Very sparse adult locusts were detected in 125 ha in River Nile and Northern States in **Sudan** during this time and isolated adults were seen in Western Desert in **Egypt**. Low density scattered copulating adults were detected on some 142 ha during surveys carried out near Dire Dawa in eastern **Ethiopia**. No locusts were seen during surveys carried out in northern **Somalia** near Hargeisa in June. Hopper bands were controlled on 5 ha in the interior of **Saudi Arabia** in June. Surveys covered 8,340 ha in Marib, Al Jawf, Shabwah and Hadhramout governorates in **Yemen** and 55 ha were reported infested with low density scattered immature and mature adults in western Shabwah. Scattered adults were reported in **Oman** where unusually heavy rain followed Cyclone Phet that made a landfall in northern part of the country (Phet also made a land fall in **Iran** and **Pakistan** bringing with it abundant moisture)(DLCO-EA, DLMCC/Yemen, FAO-DLIS, PPD/Ethiopia, PPD/Sudan).

Forecast: Small-scale breeding is expected in areas of recent rainfall between Bayhan and Ataq in Shabwah in

Yemen. A similar situation may occur in eastern **Ethiopia** where copulating adults were detected during surveys carried out in June. In **Sudan**, locust numbers will likely increase in areas where rains were reported and patches of green vegetation persisted, however, significant developments are not likely during the forecast period. Regular surveys and monitoring must be maintained in these areas to avoid any surprises (DLCO-EA, DLMCC/Yemen, FAO-DLIS, OFDA/AELGA, PPD/Ethiopia, PPD/Sudan).

DL- Eastern Outbreak Region

A few scattered adults were seen in **Pakistan** near the **India** border. No locusts were detected during surveys carried out in **Iran** as well as Jodhpur, Jaisalmer, Barmer, Bikaner, Phalodi, Jalore, Nagaur, Suratgarh, Churu, Bhuj and Palanpur of the Scheduled Desert Area (SDA) of Rajasthan and Gujarat States **India** (DPPQS/India, FAO-DLIS).

Forecast: Ecological conditions will gradually improve in the summer breeding areas along the **Indo-Pakistan** border causing small-scale breeding and numbers slowly increasing. However, significant activities are not expected during the forecast period (DPPQS/India, FAO-DLIS).

Red Locust (NSE): NSE survey and control operations were undertaken in June in Ikuu-Katavi plains of **Tanzania** against scattered low to medium density swarms over 12,500 ha. 5,400 ha were reported sprayed with Fenitrothion 96% and Sumicombi Alpha (Fenitrothion + esfenvalerate). Further operations were hampered by scarce resources and 1,100 ha of flooded areas and near river banks were left unsprayed due to fear of contamination by pesticides and for lack of *Metarhizium* (Green Muscle), a biopesticide suitable for sensitive habitat. An estimated 7,100 ha in Ikuu-Katavi plains still requires control to prevent swarms from escaping to adjacent areas. Surveys will

continue in other outbreak areas in Rukwa, Malagarasi and Wembere plains where nearly 13,400 ha will need to be treated by July 2010.



Red Locust swarm seen on grasses near northern tree line in **Ikuu plain**, April 29, 2010 (source: IRLCO-CSA)

Forecast: As grass burning intensifies over the coming several weeks, more locusts will concentrate on patches of green vegetation and form swarmlets and migrate to other areas where control operations may not be practical. Escapee locusts in primary outbreak areas in **Tanzania** where control operations were hampered by lack of resources and due to sensitive habitat, will persist and likely form large swarms that will migrate and become potentially threatening in the coming season (IRLCO-CSA, OFDA/AELGA).

Madagascar Migratory Locust:

No update was received on the locust situation in **Madagascar** during this time, but it is likely that the pest has continued laying eggs which will hatch during the spring breeding season.

Moroccan (*Dociostaurus maroccanus* - DMA), **Italian Locusts** (*Calliptamus italicus* – CIT), Migratory locust, **Locusta migratoria** (LMI) in **CAC**: A late received report indicated that DMA started hatching in Central Asia as of mid-March and by the first week of May, hoppers and bands were

treated on more than 373,000 ha in **Kazakhstan, Tajikistan and Uzbekistan and Turkmenistan**. More than 14,000 ha were reported infested with DMA in April in **Georgia** near the border with **Azerbaijan** and a similar situation may have existed in **Afghanistan**. Italian locust (CIT) was reported in **Georgia** and **Kazakhstan** and migratory locust (LMI) developed in **Kazakhstan** in May. DMA will likely continue maturing and laying eggs in **Georgia, Kyrgyzstan and Tajikistan** where breeding season will likely come to an end during the forecast period. CIT and LMI will continue hatching and hoppers will continue developing and require control operations in **Georgia** and **Kazakhstan** where thousands of ha have been treated against CIT. Survey and control operations were in progress in the region at that time.



(map of locust prone CA countries, FAO)



PL)

Australian Plague Locust (A

No update was received at the time this report was compiled. However, it is likely that APL continue being a problem in several areas in the country.



(Australian plague locust, source: APLC)

The Timor and South Pacific

No update was received in June, but it is likely that grasshoppers and locusts continue to be active.

Armyworm: SEX infestations were reported in Oromyia, SNNPR, DireDawa, Somali, Gambela, Harari, Amhara, Benshangul and Tigray regions of **Ethiopia** during the reporting period. More than 324,000 ha of pastureland and 345,900 ha of cropland were reported infested as of now. Ground control operations controlled more than 137,300 ha of grazing land with pesticides and 56,674 ha using cultural methods. The pest was first detected in mid-April, 2010 in **Ethiopia** and continued through July. A late received report indicated that widespread SEX infestations were detected in several districts in southern **Eritrea** towards the end of June. MoA and affected farmers started ground control operation in all infested areas in Areza, Mendefera, Dekemhare, Mai Mine, Emni Haili and Debarwa (DLCO-EA).

Forecast: SEX infestations will likely continue threatening crops and pasture in **Ethiopia** and **Eritrea** during the forecast period. SEX operators and forecasters are encouraged to remain vigilant, implement proactive interventions and share

information with partners as regularly as possible (DLCO-EA, OFDA/AELGA).

Quelea (QQU): DLCO-EA and MoAs controlled tens of millions of QQU birds in June in Mbeya, Morogoro and Singida regions in **Tanzania** and in Narok East District in **Kenya**. DLCO-EA provided aerial support and MoAs provided avicides. QQU roosts were also reported in Mbeere District in the Eastern Province and Nyanza Province in **Kenya**. Surveys will be carried out to confirm the reports. The situation was relatively calm in **Malawi, Mozambique, Zambia, and Zimbabwe** (IRLCO-CSA)



(A QQU roost, a file photo from the free encyclopedia)

Forecast: QQU birds will likely continue to threaten small grain cereals in Nyanza and Rift Valley Provinces of **Kenya**, maturing rice crops in Morogoro, Singida and Mbeya regions of **Tanzania**, irrigated winter wheat crops in the south-eastern and central parts of **Zimbabwe** and in other countries during the forecast period.

Facts: QQU birds can travel ~100 km/day looking for food. Each 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 update was received at the time this report was compiled, but the pest remains a threat to both pre-harvest as well as post-harvest crops and produces. Barn owl, *Tyto alba*, is one of nature's biological means of controlling this pest.

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as rapidly and as often as possible.

Acridid Pesticide Stocks

Very limited control operations were conducted in **Algeria**, **Morocco** and **Saudi Arabia** during this period and the inventory did not change much except for **Ethiopia** and **Sudan** that have reported higher numbers during this month. It is possible that these countries procured additional quantities of pesticides to control SGR and other pests, e.g., SEX, GH, etc.

The likelihood of some of the pesticides listed in the below box becoming obsolete increases by the day. 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 the huge environmental and financial costs associated with obsolete pesticides. A judiciously executed pesticide triangulation is a double-edged and safer alternative that can be considered.

Note: The core message of **pesticide stewardship networking** is to strengthen the national and regional pesticide delivery systems, reducing pesticide related health risks and contributing to the safety of

vulnerable communities, protecting their assets and environment, improving food security and ultimately contributing to the national economy. **End note.**

Country	Quantities in l/kg ^{\$}
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	33,500
Libya	Data not available
Mali	209,000%~
Mauritania	480,000~@
Morocco	4,104,997~
Niger	28,240+
Senegal	519,000~
Saudi Arabia	Date not available
Sudan	827,534 ^m
Tunisia	167,600~
Yemen	44,700 + 527 kg BC

\$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

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

	<i>Occidentale (Commission for the Desert Locust Control in the Western Region)</i>	<i>LMI</i>	<i>Locusta migratoria</i>
		<i>LPA</i>	<i>Locustana pardalina</i>
<i>CNLA/CNLAA</i>	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>	<i>MoAFSC</i>	<i>Ministry of Agriculture, Food Security and Cooperatives</i>
		<i>MoARD</i>	<i>Ministry of Agriculture and Rural Development</i>
<i>CRC</i>	<i>Commission for Controlling Desert Locust in the Central Region</i>	<i>NOAA</i>	<i>National Oceanic and Aeronautic Administration</i>
<i>CTE</i>	<i>Chortoicetes terminifera</i>	<i>NSE</i>	<i>Nomadacris septemfasciata</i>
<i>DDLC</i>	<i>Department of Desert Locust Control</i>	<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>
<i>DL</i>	<i>Desert Locust</i>	<i>PHD?S</i>	<i>Plant Health Directorate/ Services</i>
<i>DLCO-EA</i>	<i>Desert Locust Control Organization for Eastern Africa</i>	<i>PPD</i>	<i>Plant Protection Department</i>
		<i>PPSD</i>	<i>Plant Protection Services Division/Department</i>
<i>DMA</i>	<i>Dociostaurus maroccanus</i>	<i>PRRSN</i>	<i>Pesticide Risk Reduction through Stewardship Network</i>
<i>DPPQS</i>	<i>Department of Plant Protection and Quarantine Services</i>	<i>QQU</i>	<i>Quelea quelea</i>
		<i>SEX</i>	<i>Spodoptera exempta</i>
<i>DPV</i>	<i>Département Protection des Végétaux (Department of Plant Protection)</i>	<i>SGR</i>	<i>Schistoseca gregaria</i>
		<i>SWAC</i>	<i>South West Asia DL Commission</i>
<i>ELO</i>	<i>EMPRES Liaison Officers</i>	<i>TAG</i>	<i>Technical Assistance Group</i>
<i>EMPRES</i>	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>	<i>USAID</i>	<i>Unites States Agency for International Development</i>
		<i>UN</i>	<i>the United Nations</i>
<i>ETOP</i>	<i>Emergency Transboundary Outbreak Pest</i>		
<i>ha</i>	<i>hectare (= 10,000 sq. meters)</i>		
<i>IRIN</i>	<i>Integrated Regional Information Networks</i>		
<i>IRLCO-CSA</i>	<i>International Red Locust Control Organization for Central and Southern Africa</i>		
<i>ITCZ</i>	<i>Inter-Tropical Convergence Zone</i>		
<i>ITF</i>	<i>Inter-Tropical Convergence Front = ITCZ)</i>		
<i>FAO-DLIS</i>	<i>Food and Agriculture Organizations' Desert Locust Information Service</i>		
<i>Kg</i>	<i>Kilogram (~2.2 pound)</i>		
<i>L</i>	<i>Liter (1.057 quarts or 0.264 gallon or 33.814 US fluid ounces)</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/

Point of Contact:

If you have any questions, comments or suggestions, please, feel free to send us an e-mail: ybelayneh@ofda.gov

Yeneneh T. Belayneh, Ph. D.

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

Summary

The **Desert Locust (SGR¹)**: SGR situation remained fairly calm in July and only 100 ha were treated in central **Algeria**. Scattered adults were reported in northern **Sudan** and Eastern **Ethiopia** and a similar situation may be present in southern **Mauritania, Mali, Niger**, eastern **Chad, Eritrea**, the interior of **Yemen** as well as along the **Indo-Pakistan** borders. No locusts were reported in other countries during this period (CNLAA/Morocco, DDLC/Libya, DPPQS/India, DLMCC/Yemen, FAO-DLIS, INPV/Algeria, PPD/Ethiopia)

Forecast: Ecological conditions will improve in the summer breeding areas in **northern Sahel, Yemen**, and along the **Indo-Pakistan** borders where rains fell during this period. Small-scale breeding and a slight increase in locust numbers are likely in these areas, but significant developments are not expected during the forecast period (DDLC/Libya, DLMCC/Yemen, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia).

Other ETOPs

Red Locust (NSE) swarms and concentrations were reported over a total of 17,100 in **Tanzania** and

controlled on 11,125 ha. 3,665 ha were left untreated due to environmental sensitivity of infested areas. Low density populations persisted in **Mozambique** and **Zambia** (IRLCO-CSA).

Forecast: As flooded areas continue drying up and grass burning intensifies, NSE will further concentrate in patches of green vegetation in the coming months and form swarms (IRLCO-CSA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts: A late received report indicated that DMA hoppers and bands were treated on 100,000 ha in **Kyrgyzstan, Armenia** and **Azerbaijan** in June. **Kazakhstan** and **Uzbekistan** treated close to 1 million and 90,000 ha, respectively and **Georgia** treated more than 10,000 ha against CIT in June. CIT operations should come to an end by mid-August in all CAC countries. LMI was treated on more than 500,000 ha in **Kazakhstan** in June and operations will likely continue (FAO).

Madagascar Locusts: Large numbers of swarms were reported split and dispersed north and northwest looking for favorable habitat and some laid eggs. There is a likelihood of extensive breeding occurring during the upcoming breeding season following the spring rains in October/November and this could require large-scale control interventions.

Armyworm (SEX): No update was received at the time this report was compiled, but it is likely that infestations that were first detected in mid-April and continued through June in southern and

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

central **Ethiopia** have significantly declined during this period. The pest may have continued causing damage to crops and pasture in **Eritrea** well into July. SEX was not reported in **southern** and **south-central Africa** and the situation will remain calm during the forecast period (AELGA, IRLCO-CSA).

Quelea (QQU): QQU outbreaks were reported in Morogoro, **Tanzania** where a roost was located, but later disappeared before control was carried out. A QQU outbreak was reported in the Rift Valley Province in **Kenya**. The birds will likely continue being a problem to wheat growing areas in the Rift Valley and irrigated rice growing areas in **Kenya** as well as to small grain cereal crops in **Tanzania** and winter wheat crops in **Zimbabwe**. Active surveillance and preventive interventions are necessary (IRLCO, AELGA).

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:

SRG 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 the threats they pose to vulnerable communities. The overhaul of the CNLAs is considered a significant improvement over the condition they were all in during and prior to the 2003-05 upsurges. It is worth noting that the *CNLAs have since been able to 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. It is to be recalled that 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 also be approached in **Eastern Europe, Central Asia**, the **Caucuses** as well as the **LAC** regions where OFDA/TAG intends to introduce similar initiatives.
- OFDA continues supporting capacity strengthening through FAO's EMPRES and pesticide disposal programs to mitigate, prevent and respond to DL emergencies and associated environmental risks.
- OFDA contributed to FAO's initiative to strengthen national and regional capacities in Central Asia and the Caucasus (CAC) to help coordinate locust

monitoring and reporting among neighboring countries. The ultimate goal of the initiative is to prevent and mitigating locust threats and improve food security and livelihoods of vulnerable communities. OFDA will continue its support for these initiatives.

- OFDA/TAG, USAID/Morocco, and USDA/FAS are coordinating a study tour for a team of Moroccan locust experts and other crop protection and food safety specialists. The Moroccan team will be visiting US institutions, agencies and universities that are engaged in activities relevant to the team's areas of interests. The tour is being sponsored by USAID/Morocco as part of a grant to the Kingdom of Morocco.

Detailed accounts of ETOP situation and activities as well as ecological and weather data across the various regions are presented below.

This SITREP and all others can be accessed on our website:

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

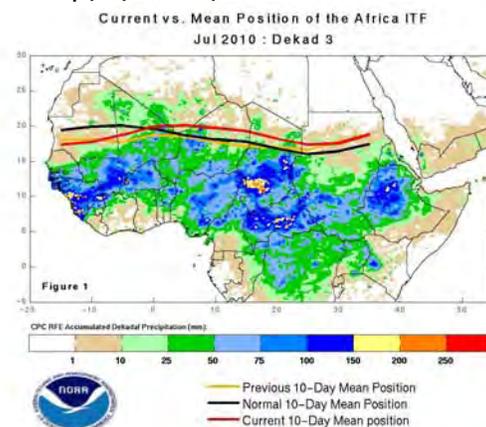
Weather and ecological conditions

During the past 30 days, rainfall was above average over **Senegal**, **Mali** over southern half of **Niger**, southern **Chad**, over some small areas of **Sudan** and **Uganda** and Northern **Ethiopia**, excluding the northern tip. Moisture deficit continued in southern Africa including **Madagascar** (NOAA).

Libya experienced a remarkable increase in temperatures in July with the min and max ranging from 1-15 and 42-46 degrees centigrade, respectively and wind speed of 5–50 km/h. Ecological conditions remained unfavorable in DL breeding areas during this period. Moderate to heavy rain fell from 9-26 July in the summer breeding areas and other parts of **Yemen**.

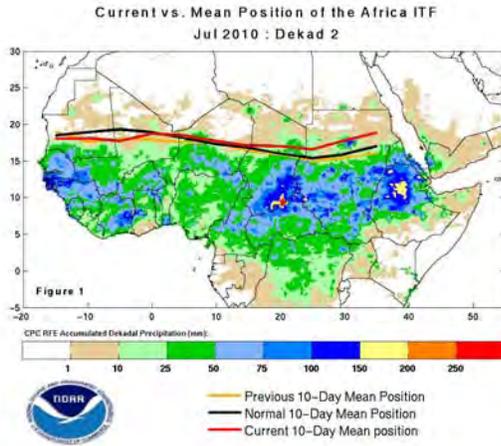
Ecological conditions were favorable in northern Tamanrasset and annual plants began re-emerging in the Hoggar region in areas where summer rains started falling and vegetation was also green in irrigated areas in Adrar in **Algeria** (INPV/Algeria)

During the third dekad of July, the Inter-Tropical Front (ITF) remained around 19.2N across many areas in the Sahel. The Front advanced further north over parts of **Mali** and **Niger** resulting in considerable rainfall that extended into parts of southern Algeria by late July. The Front approximated at 18.0N in the eastern portion, north of its average position for the past several dekads with a slight withdraw over parts of central and eastern **Sudan** relative to the last dekad (see map) (NOAA).

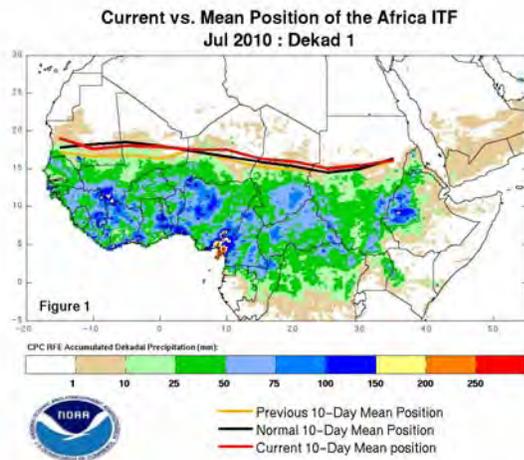


During the second dekad of July, the Front significantly advanced to the north over many areas in East Africa with an approximate mean portion of 17.6N, far north of its previous decadal. This brought

heavy rains and flooding over parts of **Sudan** and **Ethiopia**. In the West, the Front approximated at 18.1N, with a slight lag across some parts of the Sahel (see map - NOAA).

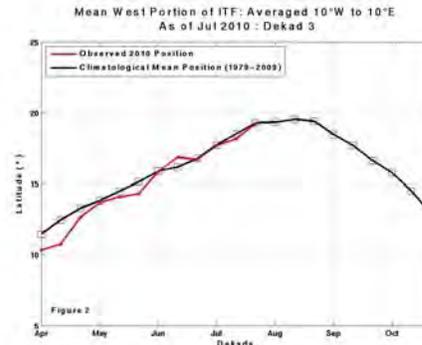


During the first dekad of July, the Front continued to advance further north from its previous dekadal position over many areas in the Sahel. Its mean position for the western portion was around 17.7N with a

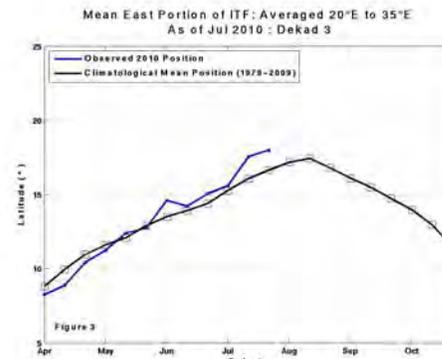


noticeable shift from the previous dekad over northern **Senegal**, southern **Mauritania** and parts of central **Niger**. The mean position for the eastern portion extending from eastern **Niger** to central **Chad** was around 15.6N, ahead of the climatological mean (the above maps show the ITF positions in the western and eastern Sahel for the period covering the start of April through July 2010 - NOAA).

West Region



East Region



Rainfall was above average over the **northern** parts of **Senegal**, **southern Mali**, most coastal areas of the Gulf of Guinea, **south eastern Niger** and most parts of **north western Nigeria** during the first dekad of July. In East Africa, it was generally below average with only small portion of **western Ethiopia** having above average rainfall. Seasonably **dry weather** continued over **southern Africa** including **Madagascar** (NOAA).

Moderate to heavy rains occurred in Bikaner and Gujarat Divisions during July and soil moisture and humidity are favorable in the Scheduled Desert Area in Rajasthan and Gujarat. Favorable conditions will likely continue and locusts begin to appear and perhaps start breeding in areas of recent rainfall during the forecast period. Active surveillance and monitoring are advisable (DPPQS/India).

***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 at all times. **End note.***

Detailed accounts of ETOP situations and activities

DL-SGR - Western Outbreak Region

Small-scale infestations of scattered immature and mature adults were reported in two locations in Tahihaouet northeast of Tamanrasset, **Algeria** where a total of 100 ha were sprayed during this period. A smaller and less significant group was also detected in Hoggar, but control was not required. Surveys were not conducted in other countries in the western region, but it is likely that scattered solitary adults are present in southern **Mauritania**, northern and **Niger** as well as eastern **Chad**. No locusts were detected during surveys carried out in **Morocco** or **Libya** (CNLAA/Morocco, DDLC/Libya, FAO-DLIS, INPV/Algeria).

Forecast: Small-scale breeding will likely occur and locust numbers will slightly increase in areas of recent rainfall in Mauritania, Mali, Niger, Chad and southern Algeria, but significant developments are not expected during this period. Low numbers of solitary adults may persist in some places near Ghat in southwest Libya, but Morocco will remain calm (CNLAA/Morocco, DDLC/Libya, FAO-DLIS, and INPV/Algeria).

DL - Central Outbreak Region

Scattered solitary adults were reported in northern **Sudan** and a similar situation may be present in **Eritrea**. In **Ethiopia**, isolated scattered mature adults were sighted on some 205 ha near Dire Dawa and a mixed population of 3rd and 4th and instar hoppers and copulating mature adults were

detected in 120 ha during surveys carried out in July in the eastern and northwestern parts of the country. Vegetation was green and conditions were favorable in these areas. In **Yemen**, survey operations were undermined by the security situation and logistical constraints, however, unconfirmed reports indicated that solitary adult locusts were seen in the summer breeding areas along the main road from Sharorah and at wadi Al-Jawf. It is to be recalled that in June, low density isolated scattered solitary immature and mature adults were reported at three locations between Ataq and Bayhan as well as at one location near Old Shabwah in Shabwah Governorate. It is likely that locust activities continued in those areas in July. No locusts were reported in other countries in the region during this period (DLCC/Yemen, FAO-DLIS, DLMCC/Yemen, FAO-DLIS, PPD/Ethiopia).

Forecast: Ecological conditions will continue improving and small-scale breeding will likely occur and locust number will increase in **Sudan**, **Yemen** and perhaps **Eritrea**, but other countries will likely remain calm during the forecast period. Active survey and monitoring should be maintained to avoid any surprises (DLCO-EA, DLMCC/Yemen, FAO-DLIS, OFDA/AELGA, PPD/Ethiopia, PPD/Sudan).



(Potential breeding areas during the forecast period, FAO-DLIS, 8/10)

DL- Eastern Outbreak Region

Wide-spread rain fell in July in Rajasthan, Gujarat and other Scheduled Desert Areas in **India**, but no locusts were reported during this period. However, it is likely that some

scattered solitary adults are present in these areas and in Tharparkar and Cholistan, in **Pakistan**.

Forecast: Ecological conditions will gradually improve in the summer breeding areas along the **Indo-Pakistan** borders in Rajasthan, Tharparkar and Cholistan and cause small-scale breeding, but significant developments are not expected during the forecast period (DPPQS/India, FAO-DLIS).

Red Locust (NSE): NSE swarms and populations were reported on a total of 17,100 in Ikuu-Katavi, North Rukwa and Wembere plains and Malagarasi Basin in **Tanzania** in July. The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) controlled 11,125 ha in collaboration with the Ministry of Agriculture Food Security (MAFSC). IRLCO-CSA hired spray aircraft to control the locusts as it has not been able to replace the plane it lost in a tragic accident in the recent past. 3,665 ha in the Ikuu-Katavi and North Rukwa plains and Malagarasi Basin were left untreated due to environmental sensitivity. Isolated low density populations persisted in Buzi-Gorongosa and Dimba plains in Mozambique and Kafue Flats and Lukanga swamps in Zambia. The situation in the Chilwa/Lake Chiuta plains remained relatively calm (IRLCO-CSA).



(A dense swarm in Ikuu Plains, IRLCO, 8/10)

Forecast: As flooded areas continue drying out locusts will further concentrate in patches of green vegetation and likely form swarms in the coming months. IRLCO-CSA and MoA **Tanzania** will continue monitoring the situation and carry out preventive control as necessary (IRLCO-CSA).

Madagascar Locusts: Surveys were not reported during this time, but it is likely that swarms that were seen split and dispersed to north and northwest looking for favorable habitats will over-season. Some were reported laying eggs.

Forecast: Swarms that were reported dispersed north and northwest to over-season will likely move more southward and start breeding following the rains in October/November. FAO is in contact with host-government and development partners and is in the process of putting together an action plan which will include field assessments and control operations. Should massive hatching occur during the next breeding season, hundreds of thousands of ha will require control interventions at a significant cost. CNA should be actively monitoring areas where egg laying is believed to have occurred and report any activities as early as possible.

OFDA/TAG will continue monitoring the situation in collaboration with FAO and other partners and issue updates and provide advice.

Moroccan (*Doclostaurus maroccanus* - DMA), **Italian Locusts** (*Calliptamus italicus* - CIT), Migratory locust, **Locusta migratoria** (LMI) in **CAC:** A late received report indicated that DMA hoppers and bands were treated on 100,000 ha in **Kyrgyzstan, Armenia and Azerbaijan** in June and operations should come to an end soon. **Kazakhstan** and **Uzbekistan** treated close to 1 million and 90,000 ha, respectively and **Georgia** treated more than

10,000 ha against CIT in June. CIT operations should come to an end by mid-August in all CAC countries. **Kazakhstan** sprayed more than 500,000 ha against LMI in June and operations will likely continue due to favorable breeding conditions that led to late outbreaks the pest (FAO). No update was received for July at the time this report was compiled. However, LMI activities likely continued in **Kazakhstan** and **Uzbekistan** during this period.

The unusually late outbreak of LMI in Central Asia was caused by the flooding that occurred due to the rise in the water level in the Ural Sea. Subsequent flooding delayed hatching of the eggs till the floods began receding.

Note: DMA started hatching in CAC by mid-March and hoppers and bands were treated on more than 373,000 ha in **Kazakhstan, Tajikistan** and **Uzbekistan** and **Turkmenistan** during the first week of May. DMA was followed by CIT and then LMI. So far, more than 2.8 million ha have been treated against these pests. **End note**



(map of locust prone CA countries, FAO)

Australian Plague Locust (APL): No update was received at the time this report was compiled, but it is likely that APL continue being active in parts of the country.



(Australian plague locust, source: APLC)

The Timor and South Pacific: No update was received in July, but it is likely that grasshoppers and locusts continue to be active.

Armyworm (SEX): No update was received in **Ethiopia** or **Eritrea** at the time this report was compiled, but it is likely that SEX infestations that were first detected in mid-April and continued through June in southern and central **Ethiopia** have significantly declined during the reporting period. The pest was also reported causing damage to crops and pasture in **Eritrea** in June and likely continued well into July. There were no reports of SEX activities in any of the IRLCO-CSA Countries (AELGA, IRLCO).

Forecast: SEX infestations will likely end in **Ethiopia** but continue in **Eritrea** during the forecast period. SEX operators and forecasters are encouraged to remain vigilant, implement proactive interventions and share information with partners as often as possible. The pest will remain calm in the IRLCO-region during the forecast period (DLCO-EA, OFDA/AELGA).

Quelea (QQU): **QQU** outbreaks were reported in Morogoro, **Tanzania** where a roost had been located, but later abandoned the site for unknown location before control was carried out. **QQU** outbreaks were also reported in Naivasha district in the Rift Valley Province in **Kenya** during this period. Unconfirmed outbreak was reported in Ahero Rice Scheme in Nyanza Province in **Kenya**

were survey was in progress at the time this report was compiled (IRLCO-CSA).

Forecast: QQU birds are likely to continue being a problem to wheat growing areas in the Rift Valley and irrigated rice growing areas in **Kenya**, small grain cereal crops in Kilimanjaro region of **Tanzania** and irrigated winter wheat in **Zimbabwe**. Active surveillance and preventive interventions are recommended (IRLOC, AELGA).



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

Facts: QQU birds can travel ~100 km/day looking for food. Each 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 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 raptor birds and animals are known nature's biological means of controlling this pest.

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as rapidly and as often as possible.

Acridid Pesticide Stocks

Very limited control operations were conducted in **Algeria** during this period and pesticide inventory did not change for other countries in July.

The likelihood of some of the pesticides listed in the below box becoming obsolete increases rapidly. 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 immediate. All options should be explored to avoid the huge environmental and financial costs associated with obsolete pesticides. ***A judiciously executed triangulation of pesticides from countries with large stocks to those where the need exists due to imminent threats of 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 and thereby reduce pesticide related health risks avoid and environmental contaminations, improve food security and contributing to the national economy. **End note.**

Country	Quantities in l/kg ^s
Algeria	1,800,000~
Chad	108,085~
Eritrea	44,800~
Ethiopia	17,280
Libya	Data not available
Mali	209,000%~
Mauritania	480,000~@
Morocco	4,104,997~

Niger	28,240+
Senegal	519,000~
Saudi Arabia	Date not available
Sudan	827,534 ^m
Tunisia	167,600~
Yemen	40,500 + 527 kg GM
<p>\$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</p>	

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
ha	hectare (= 10,000 sq. meters)
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)
LMI	<i>Locusta migratoria</i>
LPA	<i>Locustana pardalina</i>
MoAFSC	Ministry of Agriculture, Food Security and Cooperatives
MoARD	Ministry of Agriculture and Rural Development
NOAA	National Oceanic and Aeronautic Administration
NSE	<i>Nomadacris septemfasciata</i>
OFDA	Office of U.S. Foreign Disaster Assistance
PHD?S	Plant Health Directorate/ Services
PPD	Plant Protection Department

List of Acronyms

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 Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)
CNLA/CNLAA	Centre National de Lutte Antiacridienne (National Locust Control Center)
CRC	Commission for Controlling Desert Locust in the Central Region
CTE	<i>Chortoicetes terminifera</i>
DDLC	Department of Desert Locust Control

<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>SEX</i>	<i>Spodoptera exempta</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>
<i>UN</i>	<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/

Point of Contact:

If you have any questions, comments or suggestions, please, feel free to send us an e-mail: ybelayneh@ofda.gov
Yeneneh T. Belayneh, Ph. D.

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

Summary

The **Desert Locust (SGR¹)**: SGR situation remained calm in August in summer breeding areas. Only small-scale breeding was reported in the summer breeding areas in Mauritania and Pakistan. A similar situation may be present in parts of Mali, Niger, southern Algeria and eastern Chad, but could not be confirmed. Scattered adults were detected in northern Sudan and Eastern Ethiopia, but no locusts were reported in other countries during this period (CNLAA/Morocco, DDLC/Libya, DPPQS/India, DLMCC/Yemen, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan)

Forecast: Small-scale breeding will likely continue in the summer breeding areas from southeast Mauritania to eastern Chad and locust numbers will increase and form groups during the forecast period in areas where ecological conditions are favorable. Small-scale breeding will likely occur and increase locust numbers in the summer breeding areas along the Indo-Pakistan borders. Active surveys and monitoring are essential to avoid any undetected population build up and a potential invasion (DDLC/Libya, DPPQS/India, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan).

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

Other ETOPs

Red Locust (NSE): No update was received at the time this report was compiled, but it is likely that adult locusts began forming groups and concentrations in patches of green vegetation. Small swarms will likely form and move to unburned areas during the forecast period and eventually begin laying eggs (AELGA).

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts: A late received report indicated that DMA season has ended in CAC countries, but CIT activities continued in July where hopper developments, fledglings and egg laying were reported in a number of countries. This situation may have continued well into August. Control operations treated only 15,000 ha against CIT in July and no data was received for August. LMI continued developing in Kazakhstan and Uzbekistan in July and perhaps the situation continued into August. So far, close to 3 million ha were sprayed against DMA, CIT and LMI combined in the CAC countries (FAO-DLIS).

Madagascar Locust: A number of swarms of immature and mature Malagasy migratory locust were reported dispersed north and northwest over the past months. Some were seen laying eggs. There is a likelihood of extensive breeding occurring during the upcoming breeding season. **Should that occur, Madagascar will experience one of the most sever locust outbreaks in recent years and will be needing to launch large-scale control interventions through mid-2011.**

Armyworm (SEX): SEX activities were not reported in any of the summer outbreak areas in Ethiopia, Eritrea or elsewhere in the region in August and the situation will likely remain calm during the forecast period (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): Aerial spraying was carried out against QQU birds in Nakuru District in the Rift Valley Region in Kenya. The pest was seen feeding on wheat crops and roosting on a neighboring Napier grass fields. Ground control operations continued in some localities in Uasin Gishu, Nyandarua and Narok Districts in the Rift Valley Region. No reports were received from other countries. The pest may threaten winter wheat in Zimbabwe and irrigated wheat, rice and other crops elsewhere during the forecast period. Active surveillance and preventive interventions are necessary (AELGA, DLCO-EA).

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:

SRG 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. It is to be recalled that 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 **Caucases** as well as the **LAC** regions where OFDA/TAG intends to introduce similar initiatives.
- OFDA continues supporting capacity strengthening and pesticide disposal programs through FAO to mitigate, prevent and respond to DL emergencies and associated environmental risks.
- OFDA contributed to FAO's initiative to strengthen national and regional capacities in Central Asia and the

Caucasus (CAC) to help coordinate locust monitoring and reporting among neighboring countries. The ultimate goal of the initiative is to prevent and mitigating locust threats and improve food security and livelihoods of vulnerable communities. OFDA will continue its support for these initiatives.

- USAID/Morocco, OFDA and USDA/FAS are coordinating a study tour for a team of Moroccan locust experts and other crop protection and food safety specialists. The Moroccan team will be visiting US institutions, agencies and universities that are engaged in activities relevant to the experts. The tour is being sponsored by USAID/Morocco as part of a grant to the Kingdom of Morocco to improve agricultural activities.

Detailed accounts of ETOP situation and activities as well as ecological and weather data across the various regions are presented below.

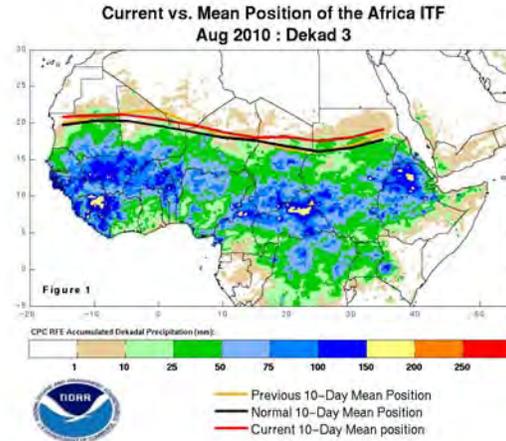
This SITREP and all others can be accessed on our website:

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

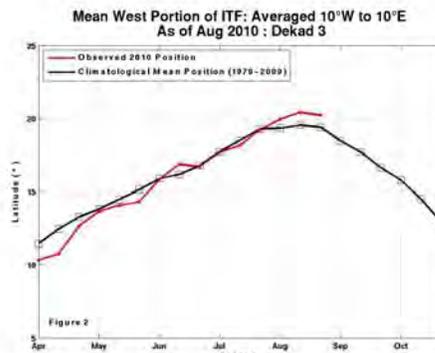
Weather and ecological conditions

During the third dekad of August, the ITF moved further north over parts of the far western and eastern regions of the Sahel. Its mean western portion was around 20.2N, with a slight retreat over parts of Mali and Niger, but still remained north over many parts of the region. This was

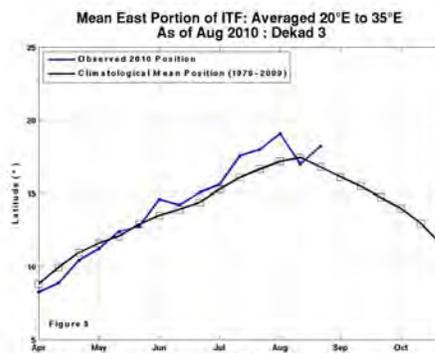
attributed to strong southerly winds and high amounts of available moisture over Senegal, western Mali, and southern Mauritania in late August. The mean eastern portion of the Front was around 18.2N north of its position in the previous dekad (see maps and figures below).



West Region

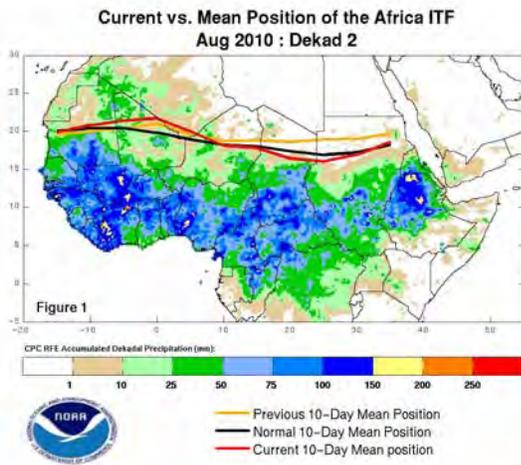


East Region



During the second dekad, the Front significantly advanced over many parts of the western Sahel, retreating southward over many parts of the central and eastern

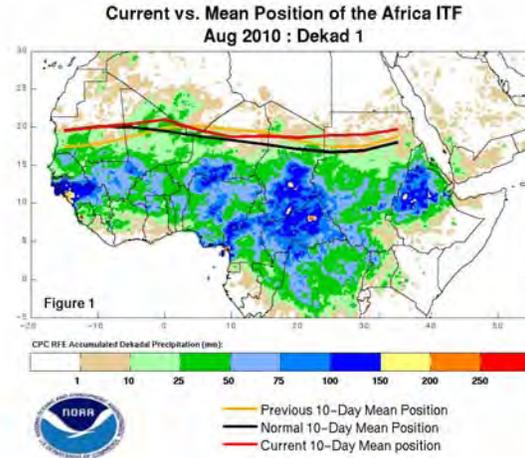
Sahel. The mean for the western portion of the ITF was around 20.4N, above the mean for mid-August and ahead of its previous dekadal position. This was caused by strong southerly winds that extended from the Gulf of Guinea to parts of northern Mali and Mauritania during the early half of this dekad. The mean eastern portion of the ITF was around 17.0N, below the climatological average position for the first time since late May. Over parts of Sudan and Chad, the prevailing northerly, dry, winds suppressed much of the convective rainfall in these areas (see map - NOAA).



During the first dekad of August (1-10), the ITF significantly advanced in many areas in the Sahel, producing heavy rainfall in Senegal, Mali, Mauritania, Niger, and Chad. Its mean western portion was around 19.9N, well north of its average position for early August and ahead of its previous position in July. The mean eastern portion of the ITF was around 19.1N, ahead of the climatological average position for this period. The advancements for both eastern and western portions of the ITF were associated with strong surges of southerly winds and moisture observed throughout the Sahel during early August (see map).

During August, rainfall was above average over southern Mauritania, southern Senegal, southwestern and eastern Mali,

parts of southern and central Niger and most parts of the Gulf of Guinea Countries. Eastern Chad, southern Sudan, northern Ethiopia and some parts of Somalia received above average rainfall.



Seasonably dry weather continued over southern Africa including Madagascar. Rainfall was also above average over the northern areas of central Africa, central Sudan, and western Ethiopia, but below average over southern Sudan during the first week of August (NOAA).

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 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. During Dec-Feb, Southern Africa will likely experience localized above average rainfall over parts of northern Mozambique, southern Malawi, and parts of eastern South Africa. 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 at all times. End note.*

Detailed accounts of ETOP situations and activities

DL-SGR - Western Outbreak Region

Small-scale breeding occurred in southeastern Mauritania and perhaps northern Mali and Niger as well as eastern Chad and southern Algeria. The situation could not be confirmed in many of these countries due to security situation. No locusts were reported in Senegal, Burkina, Morocco, or Libya during this period. (DDLC/Libya, FAO-DLIS, INPV/Algeria).

Forecast: Small-scale breeding will likely continue and locust numbers could increase and form groups in areas of recent rainfall in Mauritania, and may be Mali, Niger and Chad. Other areas in the region will likely remain calm during the forecast period (DDLC/Libya, FAO-DLIS, and INPV/Algeria).

DL - Central Outbreak Region

Scattered solitary adults were reported in northern Sudan during surveys carried out in more than 49,000 ha in August. A similar situation may be present in Eritrea, but no update was received during this period. Isolated scattered mature adults and a mixed population of 2nd and 3rd instar hoppers were detected in 1,000 ha during surveys in the summer breeding areas in the Somali Region in Ethiopia in August. Vegetation was green and conditions were favorable in these areas. No locusts were reported in other countries in the region during this period (FAO-DLIS, PPD/Ethiopia, PPD/Sudan).

Forecast: Small-scale breeding will likely occur and increased locust numbers in the interior of Sudan, western Eritrea and may be Yemen. Solitary adults could appear in areas of recent rainfall along the coasts of Yemen and northern Somalia, but other countries will likely remain calm during the forecast period. Active survey and monitoring are essential to avoid any surprises (DLCO-EA, FAO-DLIS, AELGA, PPD/Ethiopia, PPD/Sudan).

DL- Eastern Outbreak Region

Wide-spread monsoon rains continued in August in the summer breeding areas along the Indo-Pakistan borders. Low numbers of locusts were seen breeding in Tharparkar and Cholistan, Pakistan, but no locusts were reported in Rajasthan, Gujarat and other Scheduled Desert Areas in India although some scattered adult may be present (DPPQS/India, FAO-DLIS).

Forecast: Ecological conditions will continue improving along the Indo-Pakistan borders and adjacent areas in Rajasthan, Tharparkar and Cholistan and small-scale breeding will occur and increase locust numbers during the forecast period (DPPQS/India, FAO-DLIS).



(Breeding in the summer breeding areas, FAO-DLIS, 9/10)

Red Locust (NSE): *No update was received at the time this report was compiled, but it is likely that adult locusts began forming groups and concentrations in patches of green*

vegetation. Small swarms will likely form and move to unburned areas during the forecast period and eventually begin laying eggs (AELGA).

Forecast: Concentrations of adult locusts will likely continue and form swarmlets. Egg laying will likely commence during the forecast period in areas where floods have receded (AELGA).

Madagascar Locusts: Surveys were not carried out in August and no locusts were reported during this period. Swarms that were seen dispersed to northerly previous months are over-seasoning and awaiting for the rains to come to start laying eggs and begin a new generation.

FAO has put together a strategic action plan and continued contacts with the host-government and development partners. It has also deployed a campaign coordinator and will soon dispatch an entomologist to conduct aerial and ground survey and assess the situation in collaboration with CNA. OFDA has identified activities to support when the need arises. AFR/SD has deployed an expert to update the existing supplemental environmental assessment for Madagascar and also assess the situation (AELGA).

Forecast: Considering moist and warm forecast for spring, ecological conditions will likely become favorable and breeding will intensify causing hundreds of thousands of ha requiring control interventions involving significant resources. CNA must remain active and monitor areas where egg laying is believed to have occurred or will likely occur and report any activities as rapidly and as early as possible.

OFDA/TAG will continue monitoring the situation in collaboration with FAO,

CNA and other partners and issue updates and provide advice.

Moroccan (*Dociostaurus maroccanus* - DMA), **Italian Locusts** (*Calliptamus italicus* - CIT), Migratory locust, **Locusta migratoria** (LMI) in CAC: A late received report indicated that DMA populations significantly declined and the season has ended in most of the CAC countries, but CIT activities continued in July where hopper developments, fledglings and egg laying were reported in a number of countries. This situation may have continued well into August. 15,000 ha were sprayed against CIT in July compared to 1.15 million ha in June. LMI activities continued in Kazakhstan and Uzbekistan in July and perhaps in August as well. So far, close to 3 million ha have been sprayed against DMA, CIT and LMI in the CAC countries (FAO-DLIS).

The unusually late outbreak of LMI in Central Asia was caused by the flooding that occurred due to the rise in the water level in the Ural Sea. Subsequent flooding delayed hatching of the eggs till the floods began receding.



(map of locust prone CA countries, FAO)

Australian Plague Locust (APL): No update was received at the time this report was compiled, but it is likely that APL continue being active in parts of the country.



(Australian plague locust, source: APLC)

The Timor and South Pacific: No update was received in August on locusts or grasshoppers, but it is likely that they remained active during this period.

Armyworm (SEX): SEX activities were not reported in any of the outbreak areas in Ethiopia, Eritrea or other countries in the region in August. The situation will likely remain calm during the forecast period (AELGA, DLCO-EA).

Quelea (QQU): Aerial spraying was conducted against QQU in August in Nakuru District, in the Rift Valley region of Kenya where the pest was seen feeding on wheat crops roosting on neighboring Napier grasses. Ground control operations were launched in Uasin Gishu, Nyandarura and Narok Districts. QQU reports were not received from other countries, but it is likely that the pest is present and will threaten winter wheat in Zimbabwe and elsewhere in the region. Active surveillance and preventive interventions are essential (AELGA, DLCO-EA).

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as rapidly and as often as possible.

Acridid Pesticide Stocks

Control operation was not conducted and the pesticide inventory remained unchanged in all countries during this period.

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 obsolete pesticides. **A judiciously executed triangulation of pesticides from countries with large stocks to those**

where the need exists due to imminent threats of 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 contaminations, 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	480,000~@
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
DDLDC	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
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>
LMI	<i>Locusta migratoria</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>

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

Point of Contact:

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Yeneneh T. Belayneh, Ph. D.

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

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

Summary

The **Desert Locust (SGR¹)** situation remained relatively calm in September throughout summer breeding areas. Only small groups of mature swarms were controlled in 900 ha in Pakistan in the Gothki area near the Indian border. Scattered adults were reported in southern Mauritania, northern Mali, central Chad and central Sudan and small-scale breeding slightly increased locust numbers in some areas. Seasonal rains were winding down by end of September, but ecological conditions remained favorable in many summer breeding areas in the Sahel west Africa and along the Indo-Pakistan borders. No locusts were reported in other countries during this period (DDLCO/Libya, DLCO-EA, DPPQS/India, DLMCC/Yemen, FAO-DLIS, INPV/Algeria, PPD/Ethiopia, PPD/Sudan)

Forecast: Adult locusts will move from southern Mauritania to the west and northwest of the country and form small groups. Locusts will also likely concentrate in patches of green vegetation in northern Mali and Niger and northeast Chad during the forecast period. Sudan will likely experience locust movements from the interior of the country to the winter breeding areas along the Red Sea coast. Small-

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

scale breeding is likely in areas of recent rainfall on the Red Sea coastal plains, most notably on the coast in Tihama, Yemen. With monsoon rains ending in the summer breeding areas in Pakistan and India, locusts in Cholistan, Pakistan and Rajasthan, India will concentrate in areas of green vegetation along the borders. 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): *No update was received at the time this report was compiled, but a late received report indicated that the NSE situation remained calm in August and few concentrations may have formed in patches of green vegetation (IRLCO-CSA).*

Moroccan (DMA), Italian (CIT) and Migratory (LMI) locusts: No update was available for September at the time this report was compiled, but a late received report indicated that the locust situation remained relatively calm in August in all CAC countries and only less than 6,000 ha (nearly a tenth of areas treated in July) were sprayed against CIT in Armenia and Georgia in August. DMA disappeared after laying eggs and CIT was fledging in Armenia and laying eggs elsewhere. LMI completed its hopper development in Uzbekistan and started laying eggs in Kazakhstan in August. As of August, 2010, more than 3 million ha were sprayed against DMA, CIT and LMI

in the CAC region, excluding Afghanistan where a late received report indicated that more than 137,690 ha were sprayed during the 2010 control campaign (FAO-AGPP).

Madagascar Migratory Locust

(LMC): Immature and mature swarms of the Malagasy migratory locust were reported dispersed north and northwest over 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 in recent years and will be needing to launch large-scale control interventions through mid-2011.** The UN/FAO has issued an appeal to the international donors and responses are being anticipated. The United States Agency for International Development will be responding as part of its humanitarian assistance.

African Migratory Locust (LMM)

Adult LMM with a density of 2,500-3,000 insects/ha were reported on some 50-80 ha in Berak northeast of Dire Dawa, Ethiopia. A similar situation was reported in Jiidale northwest Somalia. Ecological conditions are favorable and breeding will likely continue in these areas during the forecast period (DLCO-EA).

Armyworm (SEX): SEX activities were not reported in September and the situation will likely remain calm until after the onset of the rains when moths will begin appearing and laying eggs in

the southern outbreak region (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): DLCO-EA carried out aerial spraying between 31st August and 30th September against QQU birds in the Rift Valley Region in Kenya. More than 220 ha were sprayed during this time. The pest was seen feeding on irrigated crops. No reports were received elsewhere in the region (AELGA, DLCO-EA).

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.
- USAID/Morocco, OFDA and USDA/FAS coordinated a study tour for

a team of Moroccan locust experts and food safety and security specialists. The team visited US Department of Agriculture research centers and offices in Beltsville, Maryland, Sydney Montana, Phoenix Arizona, Greenbelt in Maryland, HQ,, University of Maryland at College Park, University of Wyoming in Laramie Wyoming as well as US Environmental Protection Agency and USAID offices. The delegation met with Virginia Tech via a video conferencing facility. The tour was sponsored by USAID/Morocco as part of a grant to the Kingdom of Morocco to improve agricultural activities and ran from 14-29 September, 2010. The six-member strong delegation was satisfied with its tour and was grateful to USAID/Morocco as well as all that hosted them.

Detailed accounts of ETOP situation and activities as well as ecological and weather conditions across various regions are presented below.

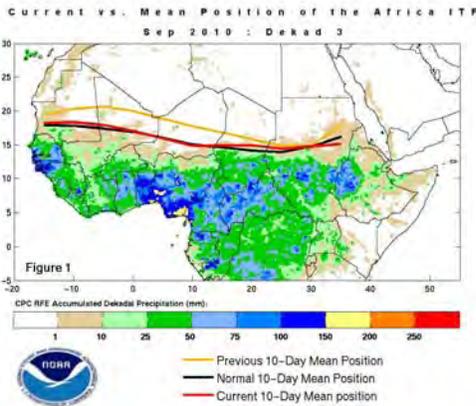
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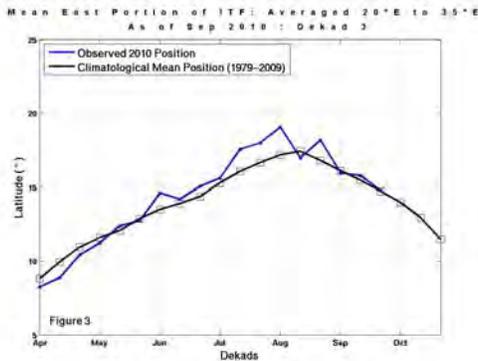
Weather and ecological conditions

During the last dekad of September, the Inter-Tropical Front (ITF) moved south towards its normal climatological position for West Africa with a mean position of 16.8N. This was far south of the positions it held over the past several dekads. This was due to weaker southerly winds across much of West Africa. In the eastern part, the Front was approximated at 14.8N (a near climatological position for this time of year)

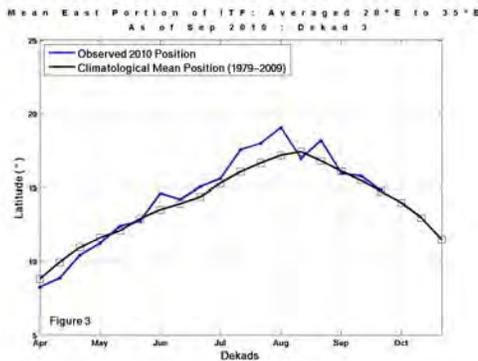
with the southward progression over eastern Africa (see map).



West Region

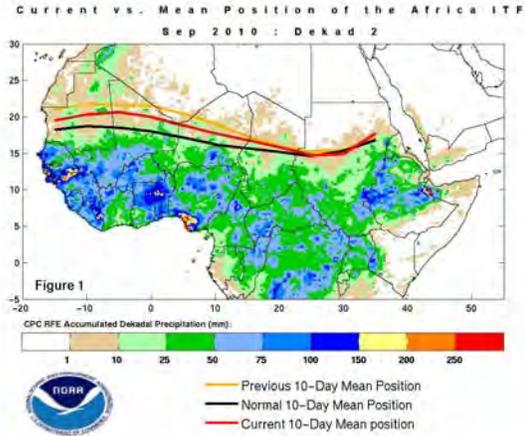


East Region

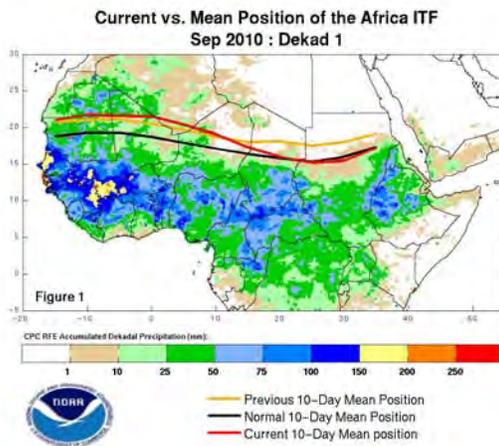


From September 11-20, 2010, the Front remained northward over many parts of West Africa while being close to the normal climatological position over much of the eastern Sahel region. The mean for the western portion was around 19.5N, slightly south of the previous dekad but still north of the climatological average for mid-September resulting in abundant precipitation across much of Senegal and Guinea and western Mali. This was

attributed to steady southerly winds. The mean eastern portion of the ITCF was around 15.8N, south of its previous position (see map) (NOAA).



During the first dekad of the month, the Front remained north of the climatological average position near 20.9N over many parts of West Africa due to strong southerly winds from the Gulf of Guinea region into the central parts of Mali and Mauritania. The Front retreated southward over much of the eastern Sahel region with an average mean portion of 16.0N, a considerable retreat from its previous dekadal position.



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. During Dec-Feb, Southern Africa will likely experience localized above average rainfall over parts of northern Mozambique, southern Malawi, and parts of eastern South Africa. Northwestern Mozambique, central Malawi, and some areas over southern Mozambique and western South Africa will likely experience below average rainfall (NOAA). *Most of the CAC countries remained fairly hot and dry (FAO-AGPP).*

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

DL-SGR - Western Outbreak Region

The **Desert Locust (SGR)**: SGR situation remained relatively calm in September throughout western summer breeding areas. Some scattered adults were present in southern Mauritania, northern Mali, and central Chad where small-scale breeding lead to a slight increase in locust numbers during this period. The rainy season started winding down in the summer breeding areas in the Sahel west Africa by the end of September, but ecological conditions remained favorable in many areas. No locusts were reported in other countries during this period (DDLC/Libya, FAO-DLIS, INPV/Algeria)

Forecast: Adult locusts will move from southern Mauritania to the west and northwest of the country and form small

groups. Concentrations of locusts in patches of green vegetation will also be likely in northern Mali and Niger and northeast Chad. Small-scale breeding will likely continue and locust numbers could increase and form groups in areas of recent rainfall in Mauritania, and may be Mali, Niger and Chad. Other areas in the region will likely remain calm during the forecast period (DDLC/Libya, FAO-DLIS, and INPV/Algeria).

DL - Central Outbreak Region

Scattered solitary adult SGR were reported in central Sudan and low numbers of scattered immature adults and hoppers of SGR mixed with LMM and tree locusts were reported in the Somali region around Shinille, Aysha and Berak in Ethiopia where local crop protection staff carried out control operations against LMM in irrigated sorghum and grazing land. A similar situation was observed in northwestern Somalia where small groups of mixed populations of SGR and LMM were reported in Jiidale (N1041/E4739) during surveys carried out from 17-23 September. Hoppers and fledglings were reported in grassland and crop fields (DLCO-EA, FAO-DLIS, PPD/Ethiopia, PPD/Sudan).

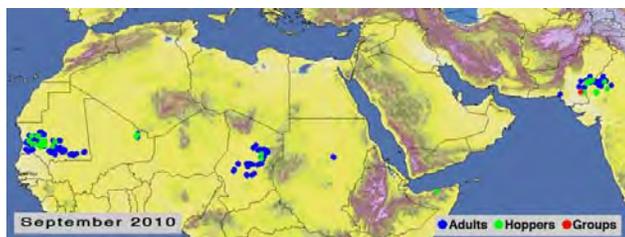
Forecast: Adult locusts will likely move from the interior of Sudan towards the winter breeding areas along the Red Sea coast. Small-scale breeding is likely in areas of recent rainfall on the Red Sea coastal plains, most notably on the Tihama coast of Yemen. Other countries will likely remain calm during the forecast period. Routine survey and monitoring are essential to avoid any surprises (DLCO-EA, FAO-DLIS, AELGA, PPD/Ethiopia, PPD/Sudan).

DL- Eastern Outbreak Region

A mature Desert Locust swarm measuring 4 km by 3 km was detected on 15 September near the Indo-Pakistan border just a few

kilometers inside Pakistan in the Gothki area south of Rahimyar Khan and west of Jaisalmer, India. The locusts settled and were ready to lay eggs. Pakistani teams launched control operations and treated some 900 ha from 18-30 September. Surveys were intensified in adjacent border areas of Rajasthan in India (DPPQS/India, FAO-DLIS).

Forecast: As the monsoon rains end in the summer breeding areas in Pakistan and India, locusts in Cholistan, Pakistan and Rajasthan, India will likely concentrate in areas of green vegetation primarily along the borders. Unless more rains fall, vegetation will start to dry out and scattered locusts will likely concentrate in patches of green vegetation for form groups. Active surveys and monitoring are essential to avoid any population build up and subsequent invasions (DPPQS/India, FAO-DLIS).



Scattered adults in the summer breeding areas, FAO-DLIS, 10/10)

Red Locust (NSE): *No update was received at the time this report was compiled, but a late received August report indicated that the NSE situation remained calm in August and few concentrations may have formed in patches of green vegetation (IRLCO-CSA).*

Forecast: Concentrations of adult locusts will likely continue and form small groups. Egg laying will likely commence during the forecast period in areas where floods have receded (AELGA).

Madagascar Migratory Locust (LMC): A number of immature and mature swarms of the Malagasy migratory locust 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.

With the spring forecast predicting above average precipitation and warm weather, there is a likelihood of extensive breeding occurring during the upcoming breeding season which commences sometime in November. Should that be the case, Madagascar will likely experience one of the most severe locust outbreaks in recent years and will be needing to launch large-scale control interventions through mid-2011.

FAO, in collaboration with the National Locust Control Center (CNA), has put together a strategic action plan and continued contacts with various agencies in the host-government and development partners. It has deployed a campaign coordinator, logisticians, an cardiologist and other technical staff to develop campaign plans, explore resources, conduct aerial survey and assess the situation in collaboration with CNA and other partners. Aerial surveys will continue and control intervention will commence as soon as hoppers begin appearing from November on.

FAO has issued an appeal to the international donors on behalf of the Government of Madagascar and responses are being anticipated. The US Agency for International Development is considering a response as part of its humanitarian assistance and it is anticipated that others will do the same.

Forecast: Given the moist and warm spring forecast, ecological conditions will likely be favorable for locusts to breed and develop in large numbers during the upcoming breeding season following the onset of the spring

rains in October/November. Should that be the case, the country will experience one of the most severe locust outbreaks in recent years and will be needing considerable amount of resources to launch large-scale control interventions through mid-2011.

CNA and DPV must remain vigilant 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 collaboration with FAO, CNA and other partners and issue updates and provide advice.

African Migratory Locust (LMM)

Small-scale breeding of LMM was reported in eastern Ethiopia and northwestern Somalia. Adult locust with a density of 2,500-3,000 insects/ha were reported on some 50-80 ha in Berak (0919N/04203E) 27 km (17 m) northeast of Dire Dawa, in eastern Ethiopia. A similar situation was reported in Jiidale (N1041/E4739) northwest Somalia. Ecological conditions were favorable and further breeding could occur in these areas during the forecast period (DLCO-EA).

CAC - DMA, CIT and LMI: No update was available for September at the time this report was compiled, but a late received report indicated that the locust situation remained relatively calm in August in all CAC countries and only less than 6,000 ha (nearly a tenth of areas treated in July) were sprayed against CIT in Armenia and Georgia in August. DMA laid eggs and disappeared and CIT was fledging in Armenia and laying eggs elsewhere. LMI completed its hopper development in Uzbekistan and started laying eggs in Kazakhstan in August. As of August, 2010,

more than 3 million ha were sprayed against DMA, CIT and LMI in the CAC region, excluding Afghanistan where more than 137,690 ha were sprayed during the 2010 control campaign (FAO-AGPP).



(map of locust prone CA countries, FAO)

Australian Plague Locust (APL): A widespread infestation of hoppers is developing in New South Wales, eastern South Australia and northern Victoria. Hatchings began in early September in northern New South Wales and in mid-September in South Australia, northern Victoria and western and central west New South Wales. By the end of September high density nymphs and hopper bands were recorded in Central West, Western, New South Wales, Northeast, South Australia and Northwest Victoria.

Forecast: Hatchings and widespread development of high density hoppers and bands will continue and infest vast areas in the New South Wales and North Central Victoria. Fledglings and swarms will follow from late October to late November in northern and then South Australia and Victoria and will likely affect several states and could continue into summer (APLC).

The Timor and South Pacific: No update was received in September on locusts or grasshoppers during this period.



(Australian plague locust, source: APLC)

Armyworm (SEX): SEX activities were not reported in September and the situation will likely remain calm until after the onset of the rains when moths will begin appearing and laying eggs in the southern outbreak region (AELGA, DLCO-EA, IRLCO-CSA).

Quelea (QQU): DLCO-EA carried out aerial spraying between 31st August and 30th September against QQU birds in the Rift Valley Region in Kenya. More than 220 ha were sprayed during this time. The pest was seen feeding on irrigated crops. No reports were received elsewhere in the region (AELGA, DLCO-EA).

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 and ELOs are encouraged to continue sharing information with partners and other stakeholders as often as possible.

Acridid Pesticide Stocks

Control operations were only conducted against SGR in Pakistan and LMM in Ethiopia and pesticide inventory remained unchanged in all other countries during this period.

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 obsolete pesticides. ***A judiciously executed triangulation of pesticides from countries with large stocks to those where the need exists due to imminent threats of 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	480,000~@
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

CNLA/CNLAA	<i>Centre National de Lutte Antiacridienne (National Locust Control Center)</i>
CRC	<i>Commission for Controlling Desert Locust in the Central Region</i>
CTE	<i>Chortoicetes terminifera</i>
DDLC	<i>Department of Desert Locust Control</i>
DL	<i>Desert Locust</i>
DLCO-EA	<i>Desert Locust Control Organization for Eastern Africa</i>
DMA	<i>Dociostaurus maroccanus</i>
DPPOS	<i>Department of Plant Protection and Quarantine Services</i>
DPV	<i>Département Protection des Végétaux (Department of Plant Protection)</i>
ELO	<i>EMPRES Liaison Officers</i>
EMPRES	<i>Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases</i>
ETOP	<i>Emergency Transboundary Outbreak Pest</i>
ha	<i>hectare (= 10,000 sq. meters)</i>
IRIN	<i>Integrated Regional Information Networks</i>
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>

List of Acronyms

AELGA	<i>Assistance for Emergency Locust Grasshopper Abatement</i>
AME	<i>Anacridium melanorhodon</i>
APL	<i>Australian Plague Locust</i>
APLC	<i>Australian Plague Locust Commission</i>
CAC	<i>Central Asia and the Caucasus</i>
CERF	<i>Central Emergency Response Fund</i>
CIT	<i>Calliptamus italicus</i>
CLCPRO	<i>Commission de Lutte Contre le Criquet Pèlerin dans la Région Occidentale</i>

<i>LMM</i>	<i>Locusta migratoria migratorioides (African Migratory Locust)</i>
<i>LPA</i>	<i>Locustana pardalina</i>
<i>MoAFSC</i>	<i>Ministry of Agriculture, Food Security and Cooperatives</i>
<i>MoARD</i>	<i>Ministry of Agriculture and Rural Development</i>
<i>NOAA</i>	<i>National Oceanic and Aeronautic Administration</i>
<i>NSE</i>	<i>Nomadacris septemfasciata</i>
<i>OFDA</i>	<i>Office of U.S. Foreign Disaster Assistance</i>
<i>PHD?S</i>	<i>Plant Health Directorate/ Services</i>
<i>PPD</i>	<i>Plant Protection Department</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>SEX</i>	<i>Spodoptera exempta</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>
<i>UN</i>	<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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