Emergency Transboundary Outbreak Pest (ETOP) update for October 2007

Summary

The desert locust (DL) continued breeding in **Sudan** and **Yemen** in October where control operations were carried out against hoppers and small swarms on more than 11,200 ha and 385 ha respectively. A few swarms were observed moving from northwestern Somalia to eastern **Ethiopia** where hoppers and adults were controlled on 35 ha in Elidar, Afar during the first week of October. There is a likelihood of locust numbers increasing along the Red Sea coasts of **Sudan** and to some extent **Yemen,** adults locusts in eastern Ethiopia laying eggs and a risk (very low) of swarms invading northeastern Kenya. **Egypt** and **Saudi Arabia** controlled locusts in 8 and 15 ha, respectively in October (Desert Locust Information Services, PPD/Ethiopia, PPD/Sudan). Active monitoring and preventive control interventions must be maintained. **End summary**

This report and previous updates on ETOP are available on AELGA webpage:

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

Central Region:

According to PPD/Sudan, the DL situation remained serious in October. Survey operation and ground and aerial control interventions were carried out in the River Nile, Northern State, Khartoum State, Kassala State and the Red Sea State against scattered and groups of immature and mature adults as well as different instar hoppers of various densities and treated in more than 11,210 ha by air and ground in October.

Forecast: As the vegetation dries up in most of the areas where locusts were reported, small swarms will be seen in patches of green vegetation in River Nile areas and later proceed to the Red Sea State where breeding will commence. It is important that active survey and monitoring are maintained in the coming months as the locust numbers will likely increases along the Red Sea coasts in the Red Sea State, including Tokar Delta and begin breeding with the onset of the winter rain.

PPD/**Ethiopia** reported that by late September a few swarms were seen entering winter breeding areas in Ogaden, Degehabur, Korahe, Warder and now Fik zones. The swarms were seen moving further west. Control operation was carried out on some 35 ha from 1-8 October. A survey and control team that covered close to 2,500 ha in Welwel and Warder, eastern Ethiopia from 26-28 October confirmed the presence of small hopper bands in a few places in Kelwan (N0723/E4556) and Landere (N0734/E4551), the result of the above swarms, but did not believe control intervention and opted close monitoring rather.

Locust numbers declined along the Red Sea coasts in **Eritrea**. Only a few solitary adults were seen copulating in northern Red Sea coast late October. Small-scale breeding may occur and locust numbers could increase along the Red Sea coasts if winter rains fall and according to DLIS, a few adults may

arrive from the southern Red Sea coast of Sudan in the coming months.

The prolonged and earlier than usual breeding in the Red Sea coasts and the Horn is a phenomenon that may have been influenced by the on-going climatological aberration.

Western Region

Earlier in the month, the presence of small-scale breeding west of N. Beika and scattered adults in Tagant, Brakna, Trarza and southwest Adrar, **Mauritania.** A similar situation may have occurred in northern Niger and northern Mali, but the pull out of the survey officers made it difficult to confirm. Some activities were reported in a few places in northeastern **Chad** earlier in the month, but a state of emergency issued for the northern and eastern parts of the country made a complete picture hard to obtain from these regions. While the northern and northwestern outbreaks/invasion areas, including Morocco, Tunisia and Libya remained calm during this period, a few adult locusts were reported in the extreme south of Hoggar in **Algeria** where the soil was still moist and vegetation was green in October.

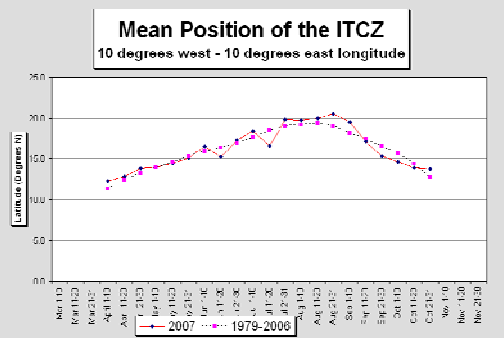
Eastern Region

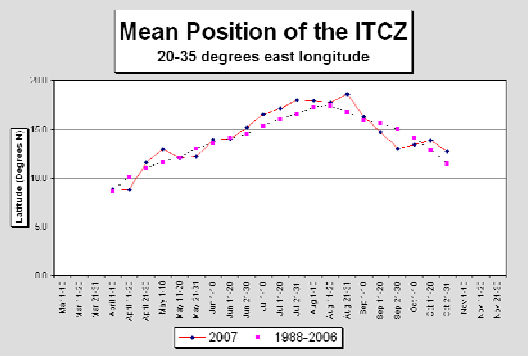
A few adult locusts persisted in the southeastern coast of Iran, but the rest of the eastern summer breeding areas along the Indo-Pakistan borders remained relatively calm during this period.

The color code for threat level for this period is **yellow** - increased surveys are required and control operations may be required as there may be a potential for crop damage (DLIS designation).

Note: *Assistance provided by OFDA through a cooperative agreement (CA) with the UN/FAO continues supporting host-countries to strengthen their capacities to prevent, control and mitigate ETOP emergencies and address obsolete pesticide (OPs). CA funds are sponsoring a National Professional Officer who has been seconded to the FAO/EMPRES Program and stationed in Yemen to assist Locust Control officers in Yemen and neighboring countries in the Red Sea and the Horn Region. In addition, a number of countries in Africa, Asia, Latin America, and the Middle East continue benefiting from CA mechanism.* ***End note***

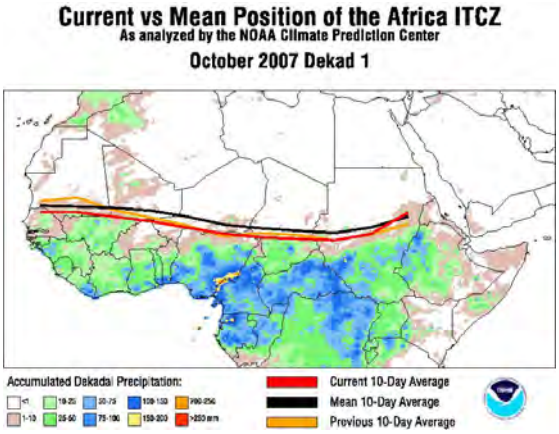
Climatological elements: The Inter-Tropical Convergence Zone (see the below graphs from NOAA for the entire season)





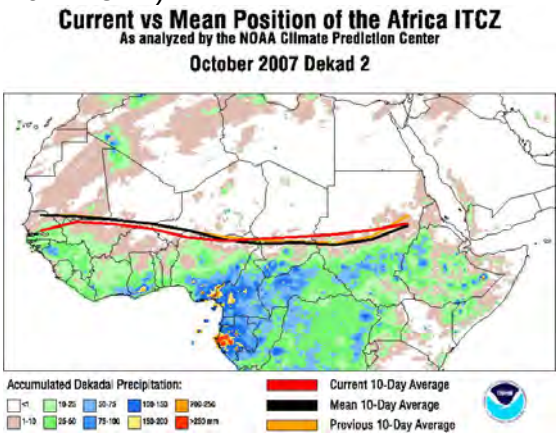
During the first dekad of October, the African portion of the ITCZ moved further south with a mean latitude of ~ 14.1N averaged over the

dekad from 15W-35E. Its normal position for this dekad is 15.1N. From 10W-10E, it was located near 14.8N compared to the long term mean of around 16.0N, and a position last year of 15.9N. In the east, from 20E-35E, it was located near 13.4N, compared with 14.0N for the mean and last years position of 14.4N. It has been moving south rapidly since late August and early September although this trend has slowed in the west and reversed slightly in the east. Apart from its location in eastern Sudan, the ITCZ remains south of its normal position throughout Africa. (Mod from NOAA).

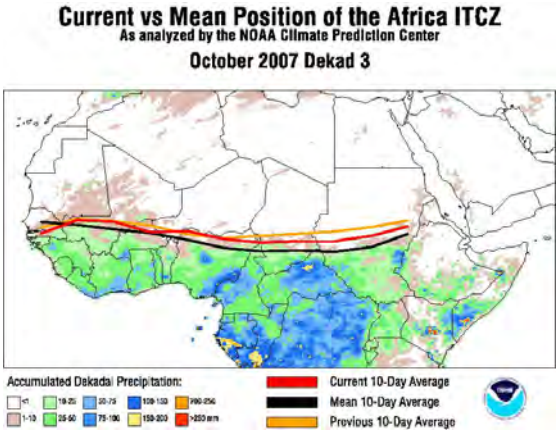


The African portion of the ITCZ shifted southward to a mean latitude of ~ 13.8N on over during the second dekad of October from 15W-35E. This is very close to the normal position of 13.9N for this dekad. In the west, from 10W-10E, it was located near 13.9N, compared to the long term mean of around 14.8N and last year's position of 15.6N.

In the east, from 20E-35E, it was located near 13.4N, compared with 12.8N for the mean and last year's position of 14.1N. The ITCZ had been moving south rapidly, but its progress has slowed down, and it now rests near normal. Local variations have the ITCZ located slightly south of normal in the west and slightly north of normal in the east (Mod from NOAA).



The ITCZ continued its southerly migration during the third dekad of October. On average the mean location was ~ 13.2N from 15W-35E, slightly north of the normal position of 12.3N. In the west, from 10W-10E, it was located near 13.7N (the long term mean is 12.9N and last year's was 13.5N. In the east, from 20E-35E, it was located near 12.8N (the mean for this time is 12.5N for last years it was 12.8N).



The ITCZ had been moving south rapidly, but its progress has slowed down considerable. It now rests further north of the normal position for this period. Local variations have the ITCZ located slightly south of normal in the far west. This is the final ITCZ analysis of the season. Analyses will resume with the first dekad of April (NOAA mod).

Central Asia

No locust activities were reported on the Moroccan locust (***Dociostaurus maroccanus*** - *DMA)* or the Italian locust (***Calliptamus italicus*** **-** *IL in* Tajikistan, Kyrgyzstan or other countries in the region in October and the summer outbreak season has ended.

East and West Timor

No report was received from **East** or **West Timor** at the time this update was complied. However, egg laying and hatching may have occurred along the borders of the two countries over the past weeks. AELGA will monitor the situation with its partners at the ALPC and issue updates - details on the situation in the previous month in W. Timor is available on AELGA website: http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/

Red Locust

The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) and MoAFS carried out extensive surveys in the hot spots in Lake Chilwa and Lake Chiuta plains in Malawi where low density populations (1-4 insects/m sq.) of Red Locust (***Nomadacris septemfassciata****)* were detected. A similar situation was observed in Buzi-Gorongosa plains in Mozambique, and the Lukanga swamps, Mweru wa Ntipa plains and Kafue Flats in Zambia where extensive survey operations were conducted. Residual populations were seen in patches of green vegetation in the Iku-Katavi plains, south Rukwa plains and Malagarasi basin.

Red locust swarm, Malagarasi Plain, Tanzania (Photo: IRLCO/CSA, 08/07)

Given the extensive burning of grasses in the outbreak areas, the relatively high residual parental populations and the subsiding of flood water in some of the outbreak areas (e.g., the Wembere plains and the Bahi Valley in Tanzania), an ideal environment for egg laying, successful breeding is likely sometime in late November to December. If so, medium to high numbers of hopper bands will form by the end of January 2008 (IRLCO).

African migratory locust

PPD/Ethiopia reported the African Migratory locust (***Locusta migratoria migratorioides)*** invasions in Humera, Kuara, Metema and Tsegede Woredas in northwestern Ethiopia bordering Sudan. The infestations were first detected in late September and progressed into early October. Aerial (with DLCO-EA aircraft) and ground control operations treated swarms and hoppers on close to 9,700 ha using Chlorpyrifos, Fenitrothion and Malathion and. Control operations targeted the most vulnerable crops and averted a major damage.

Tree locusts

Tree locust (***Anacridium* spp.**) outbreaks were reported in Tana River district in Kenya were large areas of natural vegetation, including *Acacia spp*., the

major source of feed for livestock in semi-arid areas, were infested.

(source: USAID)

Armyworm:

The armyworm season will commence soon in the southern Africa regions. IRLCO-CSA has begun distributing pheromone traps and accessories to member countries to assist them with a timely monitoring and reporting.

Armyworm outbreaks are an annual occurrence in most of the IRLCO-CSA member countries with the onset of the rains. It is expected that this pest will break out with the onset of the winter rains in CSA countries. Active monitoring ad timely reporting are essential (IRLCO).

Quelea birds

Quelea birds were reported causing damage to wheat in Narok and Nakuru districts and to rice in Kisumu, Siaya and Kirinyaga (Mwea) districts in **Kenya**. Control operations were carried out by Plant Protection Services in collaboration with the DLCO-EA. Additional information was not available on Quelea activities in the other outbreak countries at the time this report was compiled (IRLCO).

Quelea and other grain eating birds are likely to continue being a problem to paddy rice growers in **Kenya**. Quelea birds are likely to commence their early rains migration at the onset of the rains in November 2007 (IRLCO-CSA).

A roosting Quelea colony, (photo CC)

It is important that front-line countries in the outbreak regions remain vigilant and exercise preventive / mitigation control interventions and those in the invasion areas stay alert.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and advise and issue updates as often necessary.

Pesticide Stocks

Pesticide inventories remained unchanged in October in front-line countries except in Sudan, Yemen, Saudi Arabia, and Ethiopia, where control operations were launched.

Country	Quantities in litters
Ethiopia	57,703
Mali	222,524
Mauritania	545,189
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Algeria, Eritrea, Libya, Saudi Arabia, Sudan, Tunisia, Yemen	Data not available

* Yemen received 35,000 l (WFP airlift capacity) of the 40,000 l donated by Mauritania in August, 2007;

Note: *FAO rapidly relocated obsolete pesticides from flooded areas in the Zambezi basin in Mozambique to a safer location using funds from the OFDA cooperative agreement (CA). This has averted a potential crisis of the floods washing away the pesticides and contaminating the environment. CA funds were also used to train participants from Africa, Latin America, the Middle East, and Central Asia in inventory taking, risk assessment, identification and repackaging, assisting host-country decision making processes, safeguarding of high risk pesticides, overseeing repackaging, shipment and destruction of obsolete pesticides as well as developing projects. Through OFDA seed money, FAO has been able to leverage additional assistance from various donors to support safe the removal and prevention of accumulation of OPs. The CA will continue supporting similar activities to the extent possible.* ***End note***

ETOP updates and other important information on our activities can be accessed on AELGA web page:

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

Point of Contact:

Dr. Yene T. Belayneh,
ybelayneh@ofda.gov

Emergency Transboundary Outbreak Pest (ETOP) update for November 2007

Summary:

The desert locust (DL) situation continued gaining momentum in **Ethiopia**, **Somalia** and **Kenya** where swarms, egg laying and hoppers were seen. Control operations were carried out on more than 1,700 ha in eastern Ethiopia from 1-23 November. Swarms invaded northeastern **Kenya** (Mandera and Kalala) near the **Ethiopian** and **Somalia** borders, a phenomenon not seen for more than four decades. Crop damage was observed near the Dawa River on the **Ethiopian-Kenyan** border. Control operations are being coordinated by PPD/Kenya and DLCO-EA. In **Sudan** survey operations covered more than 134,000 ha and close to 17,200 ha were sprayed in November (PPD/Sudan). Adult locusts were seen and controlled in the Western Desert in **Egypt**. Small-scale breeding was reported in northeastern **Eritrea**, and **Yemen** and a similar situation may have occurred in **Saudi Arabia** (DLIS)**.**

Adult DL basking in the early morning sun in Mandera, northeastern Kenya, Nov. 2007 (ASEP)

West and Northwest Africa remained calm and only a few groups of adults and hoppers were seen in central **Mauritania** and northern **Niger** where small-scale breeding took place (CNLA/Morocco, INPV/Algeria and PPD/Libya). Summer breeding areas in Southwest Asia remained fairly calm and only two small swarms were treated in 250 ha in Baluchistan, **Pakistan** during the first week of November (DLIS).

Swarms migration pattern, hatching and hopper locations in eastern Ethiopia, Somalia and Kenya (mod from FAO/DLIS).

Locust numbers will gradually increase in winter breeding areas in the Horn and the Red Sea regions in Sudan, Egypt, Yemen, S. Arabia and also in the West in Mauritania and Niger (PPD/Sudan, DLIS, PPD/Eritrea, CLAA/Mauritania). Active survey, monitoring and preventive interventions are recommended. **End summary**

Swarms are moving towards the Red Sea coast in Sudan and adult are moving northwards in Egypt (FAO/DLS)

This and previous Sitreps can be accessed on AELGA webpage:

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

Central Region:

Swarms from southeastern Ethiopia invaded northeast **Kenya** (Mandera and Kalala) near the tri-state borders with **Ethiopia** and **Somalia** in November. Crop damage was observed near the Dawa River on the **Ethiopian-Kenyan** border. This phenomenon has not occurred for nearly five decades in this country. Control operations are being coordinated by PPD/Kenya and DLCO-EA. Gregarious and solitary hoppers were detected in **Belet Weyne** in **Juba** region in **Somalia** near the **Kenya** border by a local NGO around mid-November. A similar situation may be in progress in central and southern **Somalia** where survey and control operations cannot be carried out. In eastern **Ethiopia**, breeding, hatching and hopper bands were detected in parts of the Ogaden region where PPD/Ethiopia and DLCO-EA treated more than 1,700 ha in November. Hopper bands that are not controlled in **Kenya** could form swarms in January and move further south and threaten agriculture her and perhaps in **Tanzania**.

Survey operations were carried out in more than 134,000 ha and close to 17,200 ha were sprayed against adults and hoppers in the Northern State, the River Nile State, Kassala State, Northern Kordofan, and the Red Sea State in **Sudan** in November (PPD/Sudan). Several small swarms from summer breeding in the interior of the country have begun moving east towards the Red Sea coast where breeding is already in progress. Small hopper bands were reported in the main agricultural area in coastal areas of Tokar Delta.

Groups of adult locusts have been reported in oases in the Western Desert in **Egypt** some of which have reached Cairo. These locusts may have come from summer breeding areas in **Sudan** and augmented by local breeding in Upper Nile in **Egypt**. Control operations treated some 168 ha. Small-scale breeding has also occurred in the winter breeding areas in southeastern **Egypt**, northeastern **Eritrea**, and **Yemen** and will likely continue and locust numbers will increase gradually and during the coming months if conditions remain favorable (PPD/Sudan, DLIS, PPD/Ethiopia, PPD/Eritrea,).

It is important that active monitoring and preventive control interventions are implemented to avert a potentially dangerous situation.

Note: *The prolonged and earlier than usual breeding in the Red Sea coasts and the Horn is a phenomenon that may have been influenced by the on-going climatological aberration.* ***End note****.*

Western Region

Scattered, solitary and groups of immature and mature adults and hoppers were seen in hundreds of ha in southwest Adrar, northeast and northwest borders of Trarza and Brakna and the northwestern border of Tagant in November. Immature adults were also reported in southeast Hodh el Chargui. Locust numbers will likely increase in the southern corridor of Adrar where hatching may have taken place and will likely continue in the coming dekads in **Mauritania**. Small-scale breeding also occurred in northern **Niger** and perhaps northeastern Chad. No information was received in western Sudan, including Darfur at the time this report was compiled. The DL situation remained calm in Algeria, Morocco, Tunisia and Libya during this period and no further activities are expected in the coming month.

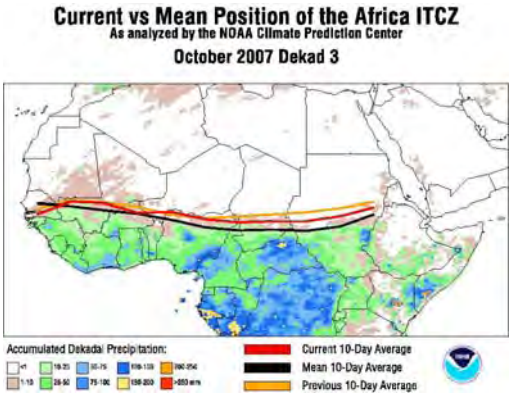
Eastern Region

The situation in the summer breeding areas in the eastern outbreak region in southwest Asia remained fairly calm and only two unexpected swarms were detected and controlled in some 250 ha in Baluchistan, **Pakistan** during the first week of November (DLIS).

Note: *Assistance provided by OFDA through a cooperative agreement (CA) with the UN/FAO continues strengthening capacities of host-countries to prevent, control and mitigate ETOP emergencies and address obsolete pesticides (OPs). CA funds are sponsoring a National Professional Officer seconded to the FAO/EMPRES Program in Yemen to assist Locust Control officers in Yemen and neighboring countries in the Red Sea and the Horn Region. A number of countries in Africa, Central Asia, Latin America, and the Middle East continue benefiting from CA-sponsored training in inventory taking, risk assessment, identification, repackaging, safeguarding and shipment of high-risk pesticides, developing projects for the destruction of OPs as well as assisting host-country decision making processes on this.*

It is worth mentioning that funds from the CA enabled FAO to rapidly relocate obsolete pesticides from flooded areas in the Zambezi basin in Mozambique to a safer location earlier in the year. This has averted a potential crisis of the floods washing away the pesticides and gravely contaminating the environment. ***End note***

Climatological factors: In November, the Inter-Tropical Convergence Zone moved far south of the summer locust invasion or outbreak areas across the Sahel and central Africa (the below map from NOAA shows the ITCZ position by the end of October for your perception). As most of the locusts in the Red Sea regions have begun moving to the winter breeding areas in northeastern Sudan, southeastern Ethiopia, Somalia and lately to northern Kenya any precipitation in these areas will likely create favorable conditions for the locusts to breed, increase in number and pose a threat to crops and pasture.



Central Asia

No information was received on locusts from the central region and no activities are expected in the coming month.

East and West Timor

No information was received from **East** or **West Timor** at the time this sitrep was compiled.

Red Locust:

According to the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA), the Red Locust **(*Nomadacris septemfasciata*, Serville)** situation remained relatively calm in the primary outbreak areas in Lake Chilwa/Lake Chiuta plains in Malawi, Buzi-Gorongosa plains in Mozambique, Iku-Katavi, Wembere, and Rukwa plains as well as Malagarasi Basin in Tanzania

and Kafue Flats and Mweru wa Ntipa plains in Zambia in November.

African migratory locust

The African Migratory locust (***Locusta migratoria migratorioides)*** invasions that occurred in Humera, Kuara, Metema and Tsegede Woredas in northwestern Ethiopia bordering Sudan have been controlled and no further activities were reported by PPD/Ethiopia at the time this sitrep was compiled.

Tree locusts

No reports were received on tree locust (***Anacridium* spp.**) in Kenya or other countries during this month.

Armyworm:

According to IRLCO-CSA, armyworm outbreaks were reported in several districts in Malawi from late October to early November 2007. The pest was seen attacking maize and pasture and control operations were carried out by farmers with material and technical assistance from the MoA.

Armyworm outbreaks will likely occur in other countries in the region and national PPD staff should maintain regular survey, monitoring and exercise timely reporting of trap catches.

Quelea birds

Quelea (*Quelea quelea* L) and other grain eating birds were reported threatening irrigated paddy rice in Kisumu and Siaya districts in Kenya**.** It is expected that Quelea activities will commence from January on in other IRLCO-CSA-member countries.

Front-line countries in the outbreak regions should remain vigilance and exercise mitigation and preventive control interventions to reduce risks and those in the invasion areas stay alert.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and advise and issue updates as often necessary.

Pesticide Stocks

Pesticide inventories remained unchanged in November in front-line countries except in Ethiopia and in Sudan, where control operations were launched against DL.

Country	Quantities in litters
Ethiopia	56,00
Mali	222,524
Mauritania	545,189
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Algeria, Eritrea, Libya, Saudi Arabia, Sudan, Tunisia, Yemen	Data not available

Point of Contact:

For more information please, contact:
Yene T. Belayneh, ybelayneh@ofda.gov

Desert Locust update for the Horn of Africa and Sudan covering the first fortnight in December, 2007

Locust situation:

The Desert Locust situation remained precarious in the Horn of Africa and Sudan in the first fortnight in December. Hoppers and bands were reported in southern Ethiopia and northeastern Kenya and adult groups and individuals as well as large numbers of hoppers were reported in Sudan during this period.

In Ethiopia, locusts were detected in Yabelo, Kebridehar, Gode, Liben and other areas in Oromiya and Somale Regions. While much of the Somale region is inaccessible, the chief pilot and the Dire Dawa base manager of the Desert Locust Control Organization for Eastern Africa (DLCO) managed to cross Dawa River and survey adjacent areas in Liben, Somale Region and detected 1st and 2nd instar hoppers in some 85 ha. An unconfirmed report of a mature swarm crossing over from the Moyale District of Kenya has been received. MoA/Eth has deployed a couple of days ago two locust experts equipped with sprayers and pesticides to Liben and Gode to implement survey and control operations. In Gode, a taskforce has been formed by FAO/TECO, WFP, the Regional Agricultural Office, NGOs, and other partners to help monitor the locust situation and coordinate response.

In Kenya, DLCO-EA and the MoA staff conducted survey in several locations in Mandera District and locusts were controlled on some 120 ha between 5-18 December.

In Sudan, breeding has been in progress in and around Tokar Delta in the Red Sea State and augmented by locusts arriving from the summer breeding areas in the interior of the country where ecological conditions have deteriorated. More than 29,450 ha were surveyed in the River Nile, the Red Sea and the North States from 1-17 December and adult locusts and hoppers were controlled on some 6,520 ha, mainly in the Red Sea State during this period.

Forecast:

If ecological conditions remain favorable or improve in the Horn, hoppers will mature, form swarms, especially in areas inaccessible to the survey/control teams, and likely invade the surrounding areas. Ecological conditions have begun deteriorating and locust numbers are declining in several areas Mandera District, however, if conditions improve there is a remote possibility of escapee swarms reaching the heart of Kenya and threaten crops and pasture in early 2008. In Sudan, breeding will likely continue in the Red Sea State and locust numbers will increase in the coming weeks.

It is important that active surveillance and preventive interventions are maintained at all times. Cross-border operations are recommended where applicable.

OFDA will continue monitoring the situation and advise accordingly.

Emergency Transboundary Outbreak Pest (ETOP) update for December 2007

Summary:

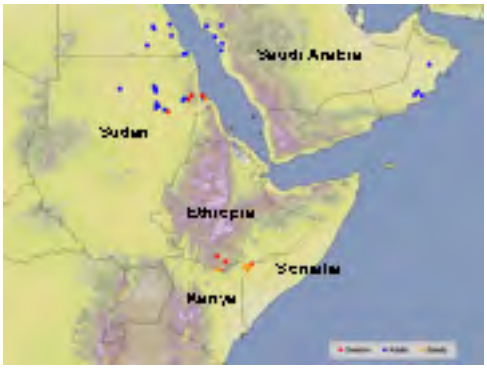
The Desert Locust situation was reported serious in southeast **Ethiopia,** northeast **Kenya**, and the **Red Sea region** of **Sudan** in December.

Cross-border survey and interventions were launched in south-eastern Ethiopia and **Mandera District** of **Kenya** later in the month after the Desert Locust Control Organization for Eastern Africa (DLCO-EA) received clearance from GoE for air space. Close to 350 ha were sprayed in southern Ethiopia and some 1,250 ha were treated in Mandera, Kenya in December.

The situation in Mandera District was reported improved by the end of the month, but unconfirmed reports of the presence of hopper bands across the border in **Somalia** and southeast **Ethiopia** where survey and control operations were not possible until late in the month remained a concern during this period.

Immature locust swarm near Kebri Dehar, eastern Ethiopia, Dec. 31 (FAO/DLIS)

In Sudan, more than 9,820 ha were sprayed in Tokar Delta, in the Red Sea State against local populations and locusts from the summer breeding areas (PPD/Sudan).



Locusts invasion areas in NE Kenya, SE Ethiopia, NE Sudan, Saudi Arabia and S Oman in December 07 (FAO/DLIS)

Ecological conditions remained favorable in and south of Tokar Delta and breeding will likely continue in the coming month. In **Egypt,** immature and mature adults were controlled on 10 ha near Lake Nassir and in **Saudi Arabia**, 27 ha were treated on the Red Sea coast in December (FAO/DLIS).

Scattered adults were sprayed in 766 ha in central **Algeria** and 3 ha in **Mauritania**. The situation remained calm in other areas in the region in December. Limited scale-breeding will likely occur in **southern Algeria** and **southeastern Morocco**, but significant activities are not expected in the coming month.

Mature locusts were controlled on 350 ha in the central eastern coastal plains of **Oman**. Hoppers and immature solitary adults were seen further north. Small-scale breeding occurred on the southeast coast of **Iran** where scattered hoppers were detected in December. No locusts were reported along the **Indo-Pakistan** borders. A few scattered adults will likely appear in spring breeding areas in **Baluchistan**, **Pakistan** (FAO/DLIS).

ETOP activities were not reported in **Central Asia.** Migratory locusts have begun developing in **West Timor** where control operations were minimal to none despite support provided by Australia and FAO. Locust operations are expected to escalate in 2008 in **Australia** in areas where long drought spells were broken by unusually good summer rains**. End summary**

This and previous Sitreps can be downloaded on AELGA webpage:

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

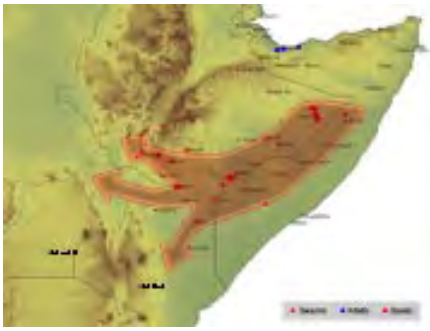
Climatological factors:

The Inter-Tropical Convergence Zone remained far south of the summer invasion and outbreak areas across the Sahel and central Africa. Dry and unfavorable ecological conditions forced locusts to move to the winter breeding areas in northern Red Sea areas, southeastern Ethiopia, Somalia and northern Kenya where favorable conditions allowed the locusts to persist, breed and threaten crops and pasture.

Central Region

The Desert Locust situation remained serious in **southeast Ethiopia,** northeast **Kenya**, and the **Red Sea region** of **Sudan** in December**.** According to PPD/Addis and DLCO-EA, an immature swarm was seen flying over Kerbosh (N5297/E43164) towards southwest on 24 December, 2007.

Ground surveys covered some 885 ha and 5th instar hoppers and fledglings were controlled on 189 ha in Afder Zone, Heloguduudo (N0558/E4329), Kurtumale (N0556/E4330), Gebile (N0557/E4329) and other areas in Gode (N5559/E43327, N55624/ E43308, N5548/E43342) in southeastern Ethiopia from 24-28 December 2007.



A few more swarms were expected to form and move south and southwest in Ethiopia and Kenya (FAO/DLIS)

Most of the infestations in and around Gode occurred in irrigated areas where vegetation was green and the soil was wet, but damage data was not available at the time this report was compiled. Fledging and immature swarms were reported in Mustahel (N0510/E4453) and Kelafo (N0530/E4412). Non-irrigated areas remained dry and no locusts were not reported in these areas (PPD/Addis) during the reporting month.

DLCO-EA commenced cross-border survey and control operations in southeastern and southern Ethiopia on the 3rd week of December after receiving clearance for airspace from the GoE, which it believed had saved time and scarce resources and contributed to abating the locust threat.

On December 20, 2007, DLCO-EA deployed an aircraft from Mandera, Kenya to southeastern Ethiopia where high-density 3rd instar hopper bands were controlled on 160 ha in Kachamo (035951N/414419E), Fikro (040011N/414213E & 040127N/ 414306E), Burabor (035908N/414506E), and Suftu (035816N/415123E). Another

DLCO-EA aircraft was deployed on December 23rd to southern Ethiopia to control a mature DL swarm that was reported earlier in Teltele, Yabelo, Arero and Konso districts in southern Ethiopia. Ground and aerial surveys could not locate the swarm. With ecological conditions deteriorating and the swarm considered a no-threat, the search was terminated and DLCO-EA aircraft and crew pulled back to base in Moyale, Kenya on January 2nd.

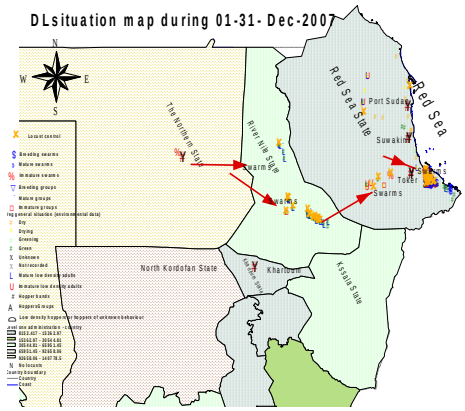
PPD/Addis deployed an expert to Gode on December 29 to assess the DL situation, evaluate actions taken and reinforce the survey and control team operating in the area.

On January 3, 2008, DLCO-EA deployed an aircraft, a Base Manager/locust expert and an aircraft mechanic to Gode, southern Ethiopia to implement aerial survey and control operations and reinforce PPD staff and the team that has been operating in the area. MoARD/Eth facilitated air lifting of Av-gas to Gode. A scattered low density immature swarm was controlled by air on 170 ha in Bersen (05539N/043221E) and Minimo (055300N/0433221E) the same day.

On January 5th, DLCO aircraft sprayed a low density immature swarm on 230 ha of irrigated land and acacia trees in Gerberaho (055708N/043293E) and Elgudo (051753N/0432858E). The team sprayed a medium density immature swarm on 200 ha in Heloguduud (055734N/043240E) on January 7. DLCO-EA, PPD and the Regional Bureau of Agriculture collaborated in the survey and control operations in Gode.
So far, all of the swarms that have been detected and controlled in and around Gode are immature and ecological conditions in non-irrigated areas are unfavorable, hence, it is likely that threats of further invasions will continue diminishing in this area. As of January 7, the PPD expert has returned to his post and the DLCO-EA team will likely wind down operations in Gode by the end of the week. Given the most recent development re locust swarm sightings in South Oromiya zone, DLCO aircraft and crew will likely be on standby.

The situation in **Mandera District** appears to be under control after some 1,254 ha were sprayed by DLCO-EA and MoA/Kenya staff in December. There have been unconfirmed reports of large numbers of hopper bands across the border in **Somalia** where survey operations were not possible and in southeast **Ethiopia** where operations could only commence after the third week of the month.

In **Sudan**, more than 46,700 ha were surveyed and a third was found infested with mature and immature adults and hoppers. Some 9,820 ha were sprayed by ground means mostly in Tokar Delta in the Red Sea State (PPD/Sudan).



(source: PPD/Sudan, Dec. 07)

Ecological remained favorable and breeding is expected to continue in and south of Tokar Delta and survey and monitoring are recommended here to the Eritrea border.

In **Egypt,** immature and mature adults were controlled on 10 ha near Lake Nassir and in **Saudi Arabia**, 27 ha were treated on the Red Sea coast in December (FAO/DLIS).

Western Region

Scattered adults were sprayed in 766 ha in **central Algeria** and 3 ha were treated in **central Mauritania** in December. Limited scale-breeding will likely occur in southern Algeria and southeastern Morocco, but significant activities are not expected in the coming month. The rest of the countries in the western region remained calm in December and will likely remain so in the coming month (CLAA, DLIS, LAPC, PPDs).

Eastern Region

In **Oman**, control operations treated mature groups on 350 ha in the central eastern coastal plains. Hoppers and immature solitary adults were seen north of the areas where spray operations were carried out in December. Small-scale breeding occurred on the southeast coast of **Iran** where scattered hoppers were detected in December. No locusts were reported along the **Indo-Pakistan** borders. Low numbers of scattered adults will likely appear in the spring breeding areas in **Baluchistan**, **Pakistan** (FAO/DLIS).

Central Asia

No information was received on ETOP in central Asia and significant developments are not expected in the coming month.

West Timor and South Pacific

Migratory locusts begun developing in **West Timor** where control operations were minimal to none despite support provided by Australia and FAO. In **Australia**, locust numbers will likely increase and control operations will escalate in spring of 2008 in areas where drought spells have been disrupted by widespread summer rains.

Red Locust:

The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) reported that isolated, scattered populations of Red Locust **(*Nomadacris septemfasciata*, Serville)** were encountered during surveys in Buzi-Gorongosa plains in Mozambique. The situation remained relatively calm in Malawi, Mozambique, Tanzania and Zambia in December.

African migratory locust

No report was received on the African Migratory locust (***Locusta migratoria migratorioides***) *in either DLCO-EA or IRLCO-CSA members countries at the time this update was compiled.*

Tree locusts

No report was received on tree locust (***Anacridium* spp.**) in Kenya or other countries during this month.

Armyworm:

Armyworm (***Spodoptera exempta***) outbreaks were reported in **Malawi** and **Tanzania** in December. In **Tanzania**, maize fields were attacked in **Same** district, Kilimanjaro region (see picture). Armyworm populations in the primary invasion areas appears to be above normal suggesting that this year may experience elevated outbreaks and threaten crops and pasture in Tanzania and elsewhere in East Africa.


Armyworm larvae damaging young maize plants in Same, Tanzania (Mushobozi, Dec. 07)

Quelea birds

Quelea (***Quelea quelea*** L) activities were not reported at the time this update was compiled, but it is likely that they will be threatening crop fields in DLCO (irrigated) and IRLCO regions.

Front-line countries in the ETOP outbreak regions should remain vigilant and exercise mitigation and preventive interventions and minimize unexpected risks. Those in invasion areas should stay alert.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and advise and issue updates as necessary.

Note: *Assistance provided by OFDA through a cooperative agreement (CA) continued sponsoring a National Professional Officer seconded to the EMPRES Program through December 2007 to assist countries in the Red Sea and the Horn Region. A number of countries in Africa, Central Asia, Latin America, and the Middle East continue benefiting from CA-sponsored training in inventory taking, risk assessment, identification, repackaging, safeguarding and shipment of high-risk pesticides, and developing projects for the destruction of OPs decision making processes.*

Funds from the CA also helped avert a potential crisis of washing away obsolete pesticides and contaminating the environment the Zambezi floods in Mozambique. ***End note***

Pesticide Stocks

Pesticide inventories changed in December in Ethiopia and Sudan and to a lesser degree in Mauritania where control operations were launched against DL.

Country	Quantities in litters
Eritrea	44,800
Ethiopia	54,920
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Algeria, Libya, Saudi Arabia, Sudan, Tunisia, Yemen	Data not available

Point of Contact:

For more information please, contact:
Yene T. Belayneh, ybelayneh@ofda.gov

Emergency Transboundary Outbreak Pest (ETOP) situation update for January 2008

Summary:

The Desert Locust (DL) situation remained serious in January in **Ethiopia**. Swarms were detected in southeastern, southern and southwestern parts of the country during this period. New swarms, presumably from the Ogaden region, were also seen moving west into Dire Dawa, Hara, Gursum, Babile, and several other places later in the month. DLCO-EA (Desert Locust Control Organization for Eastern Africa) aircraft and Plant Protection Department (PPD) staff controlled hoppers and swarms in more than 4,345 ha during this period. Damage was limited as most crops have matured and pastoral areas are largely dry. Survey operations are in progress against escapee swarms. If left uncontrolled, these swarms could reinvade other parts of the country or move east and northeast into neighboring countries and lay eggs with the onset of the rains. If that happens then, a new generation of hoppers and swarms could develop and pose threatens to crops and pasture in spring. (PPD/Addis, DLCO-EA, FAO/DLIS).

A few solitary adult locusts were reported in **northern Somalia** but no locusts were detected in and around **northeastern Kenya** where control operations treated more than 1,250 ha in December.

The DL situation improved in January in **Sudan**. Only 1,650 ha were reported infested from 1-27 January and 790 ha needed treatment mainly in and around Tokar Delta in the Red Sea State(16,000 ha were reported infested and close to 10,000 ha were sprayed in December, 2007). Favorable ecological conditions persisted in and south of Tokar Delta and breeding will likely continue here in the coming month. Active survey and monitoring are essential (PPD/Sudan). No locusts were reported in Egypt, Eritrea, S. Arabia or Yemen during this period (FAO/DLIS).

Swarms will persist in the Rift Valley in central Ethiopia and perhaps move to NW Kenya and NW Somalia (FAO/DLIS)

A few mature and immature adults and various instar hoppers were detected in south Adrar, **Mauritania** in January. A few scattered adults were present in southern **Algeria** and northeastern **Mali**. Survey was not conducted in Libya and no locusts were reported in Morocco, Niger and Tunisia during this period. Limited scale-breeding will likely occur in areas of recent rainfall along the southeastern Algeria - southwestern Libya borders and central Mauritania, but significant developments are not likely in the coming month (CLAA, CNLAA, FAO/DLIS, LAPC).

Scattered adult locusts were reported on the southeast coast of **Iran** where breeding took place in December and early instar hoppers were detected. A similar situation may be present in **Baluchistan**, **Pakistan**. Hopper bands were controlled in 5,880 ha in central **Oman**. No locusts were reported elsewhere in the region but good rain was recorded in spring breeding areas along Iran and Pakistan borders in January and conditions will likely improve in the coming months (FAO/DLIS).

ETOP activities were not reported in **Central Asia** and the **Caucasus** in January.

Migratory locusts continue developing in **West Timor** where control operations were minimal to none albeit support provided by Australia and FAO. In **Australia**, locust operations are expected to increase in 2008 in areas where unusually good rains fell this summer after a prolonged drought spell**.**

Rodent infestations were reported in Mizoram, India where bamboo flowering and fruiting have attracted large numbers of the pest. The has affected all villages in the State, caused crop damage in some 113,100 ha and impacted 84,018 families. It is reported that the crisis began in 2007 when more the 50% of the 2006 harvest was lost to rodents and other pests. So far, control interventions have not been successful in abating the problem. The State is asking for food assistance, income generating activities and agricultural input - seeds and fertilizers for families affected by the pest (from Dominic/Mizoram to UNDP, India). **End summary**

This and previous Sitreps can also be accessed or downloaded on AELGA webpage:

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

Climatological factors:

Unusually heavy rain was recorded in spring breeding areas in Baluchistan southeastern Iran and western Pakistan in mid-month and ecological conditions are expected to improve. Heavy rain was also reported in the Western Desert in Egypt, United Arab Emirate and northern Oman. Light rain was reported in Tokar Delta, Sudan where favorable conditions persisted. Central Ethiopia and the Rift Valley areas, northwest coast of Somalia, and central Oman received light. Very low precipitation was reported in eastern Algeria, western Libya and southern Tunisia. Conditions are favorable in western Sahara and northwestern Mauritania, but it remained relatively unfavorable in other outbreak and invasion areas during this period (FAO-DLIS, PPD/Ethiopia, PPD/Sudan, CNLAA, CLAA).

ETOP Situations and Activities:

Central Region

The Desert Locust (DL) situation remained serious in January in **Ethiopia**. Swarms were detected in southeastern, southern and southwestern parts of the country during this period. New swarms, presumably from the Ogaden region, were also observed moving west into Dire Dawa, Hara, Gursum, Babile and several other places later in the month. DLCO-EA aircraft and PPD staff controlled hoppers and adult swarms in more than 4,245 ha during this period. A low density flying immature swarm was controlled on 80 ha in Bisidimo, eastern Oromiya region on January 30th and a scattered immature swarm was controlled on 20 ha in Gera-bereha (091253N/422139E), eastern Oromiya region of Ethiopia the following day. A vehicle mounted sprayer was used to treat the swarm in Gera-bereha.

Survey operations are in progress searching for escapee swarms and other locust activities. If left uncontrolled, the swarms could reinvade other parts of the country or move into neighboring countries where they could lay eggs with the onset of the rains. If that happens then, a new generation of hoppers and swarms could develop and threaten crops and pasture in spring. (PPD/Addis, DLCO-EA, FAO/DLIS).

A few solitary adult locusts were reported in **northern Somalia** where survey is in progress. No locusts were detected during

this period in and around **northeastern Kenya** where control operations treated close to 1,250 ha in December (DLCO-EA, FAO/DLIS).

In **Sudan**, more than 22,555 ha were surveyed and 1,650 ha were found infested with mature and immature adults and hoppers, mostly in the Red Sea State in Tokar Delta and south of the Delta up to the Eritrean border. Surveys were also conducted on 3,500 ha in the northern Red Sea State where 260 ha were found infested with low density immature and mature adults and 30 ha of grazing land were infested with 1st to 4th instar hoppers. Surveys covered 3,000 ha in the River Nile State and only 10 ha were reported infested with scattered low density mature adults and control was not necessary. Control operations were carried out on 790 ha mostly in Tokar Delta and south of the Delta during this period. Farmers in the northern part of the Red Sea State refused to allow pesticide spraying on the 30 ha infested with hoppers for fear of livestock and human poisoning.

Small to medium-scale breeding is expected in the coming month in Tokar Delta and south of the Delta where a moderate shower was recorded on January 13th and vegetation is green and soil is wet. Active survey and monitoring are recommended here to the Eritrea border. Other areas will likely remain calm in the coming month (PPD/Sudan). No locusts were reported in Egypt, Eritrea, S. Arabia or Yemen during this period (FAO/DLIS).

Western Region

A few mature and immature adult locust and various instar hoppers were detected in a few places in south Adrar, central **Mauritania** in January. A few scattered adults were present in southern **Algeria** and northeastern **Mali**. Survey was not conducted in Libya and no locusts were reported in Morocco, Niger and Tunisia during this period. Limited scale-breeding will likely occur in areas of recent rainfall along the southeastern Algeria - southwestern Libya borders and in central Mauritania, but significant developments are not expected in the coming month (CLAA, CNLAA, FAO/DLIS, LAPC).

Eastern Region

Scattered adult locusts were reported on the southeast coast of **Iran** where early instar hoppers were detected from breeding that occurred in December. A similar situation may be present in **Baluchistan**, **Pakistan**. Hopper bands were controlled on 5,880 ha in central **Oman**. No locusts were reported elsewhere in the region but unusually good rain was recorded in spring breeding areas along Iran and Pakistan borders in January (FAO/DLIS) and this will likely improve breeding conditions in the coming months in this region. Conditions will also likely improve in central Oman where light rain was recorded this month.

Central Asia

No information was received on ETOP in central Asia and the Caucuses and significant developments are not expected in the coming month.

West Timor and South Pacific

Migratory locusts continue developing in **West Timor** where control operations were minimal to none albeit support provided by Australia and FAO. In **Australia**, locust operations are expected to increase in 2008 in areas where unusually good rains fell this summer breaking a prolonged drought spell of several years**.**

Red Locust:

The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) earlier reported the presence of isolated, scattered populations of Red Locust **(*Nomadacris septemfasciata*,** Serville**)** in Buzi-Gorongosa plains in Mozambique. The recent flooding here and in other areas in the region will likely create favorable conditions for the pest to develop. It is important that regular survey and monitoring are maintained.

African migratory locust

Swarms of African Migratory locust (***Locusta migratoria migratorioides***) were reported in 14 villages in Gambella, Western Ethiopia in mid-January. A systematic assessment was yet to be done and data was not available on the extent of the infestations and damage to crops or pasture at the time this report was compiled. Survey and control teams have been dispatched to the area with pesticides and spray equipment in the last week of the month. Additional information is being awaited.

Tree locusts

No report was received on tree locust (***Anacridium* spp.**) during this month.

Armyworm:

Armyworm (***Spodoptera exempta***) outbreaks continued in **Tanzania** in January. Above normal high density populations in the primary invasion areas suggest an elevate invasion and a serious threaten to crops and pasture (Mushobozi). Pasture and maize were reported attacked in Kilimanjaro, Moshi, Dodoma, Morogor and Arisusha regions. Control operations were being implemented by the National Plant Health Service experts and technicians at the time report was compiled. Additional information is being awaited.

Armyworm larvae damaging young maize plants in Same, Tanzania (Mushobozi, Dec. 07)

Quelea birds

Quelea (***Quelea quelea*** L) activities were not reported at the time this update was compiled, but it is likely that they will be threatening crop fields (mainly in irrigated areas) in DLCO and IRLCO regions.

Rodents

Rodent infestations were reported in Mizoram, India where bamboo flowering and fruiting have attracted large numbers of the pest. The pest has affected all villages in the State, caused crop damage in some 113,100 ha and impacted 84,018 families with an approximately 76% loss. The crisis began in 2007 when more the 50% of the 2006 harvest was lost to rodents and other pests. So far, mechanical, physical, and chemical control interventions and planting alternative crops have not been successful. The State Government is asking for food assistance (rice), income generating activities and agricultural input - seeds and fertilizers for

the families affected by the pest (from Dominic/Mizoram to UNDP, India).

Recommendations:

Front-line countries must remain vigilant and exercise mitigation and preventive interventions to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Note: Many countries continue benefiting from training in obsolete pesticide management co-sponsored through OFDA Coop Agreement with the UN FAO.

Pesticide Stocks

Pesticide inventories changed in Ethiopia, Sudan and Oman where control operations were carried out during this period.

Country	Quantities in l
Eritrea	44,800
Ethiopia	42,820
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Algeria, Libya, Oman, Saudi Arabia, Sudan, Tunisia, Yemen	Data not available at the time this report was compiled

Point of Contact:

For more information please, contact:
Yene T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

ETHIOPIA: LOCUST ACTIVITIES
JANUARY, 2008

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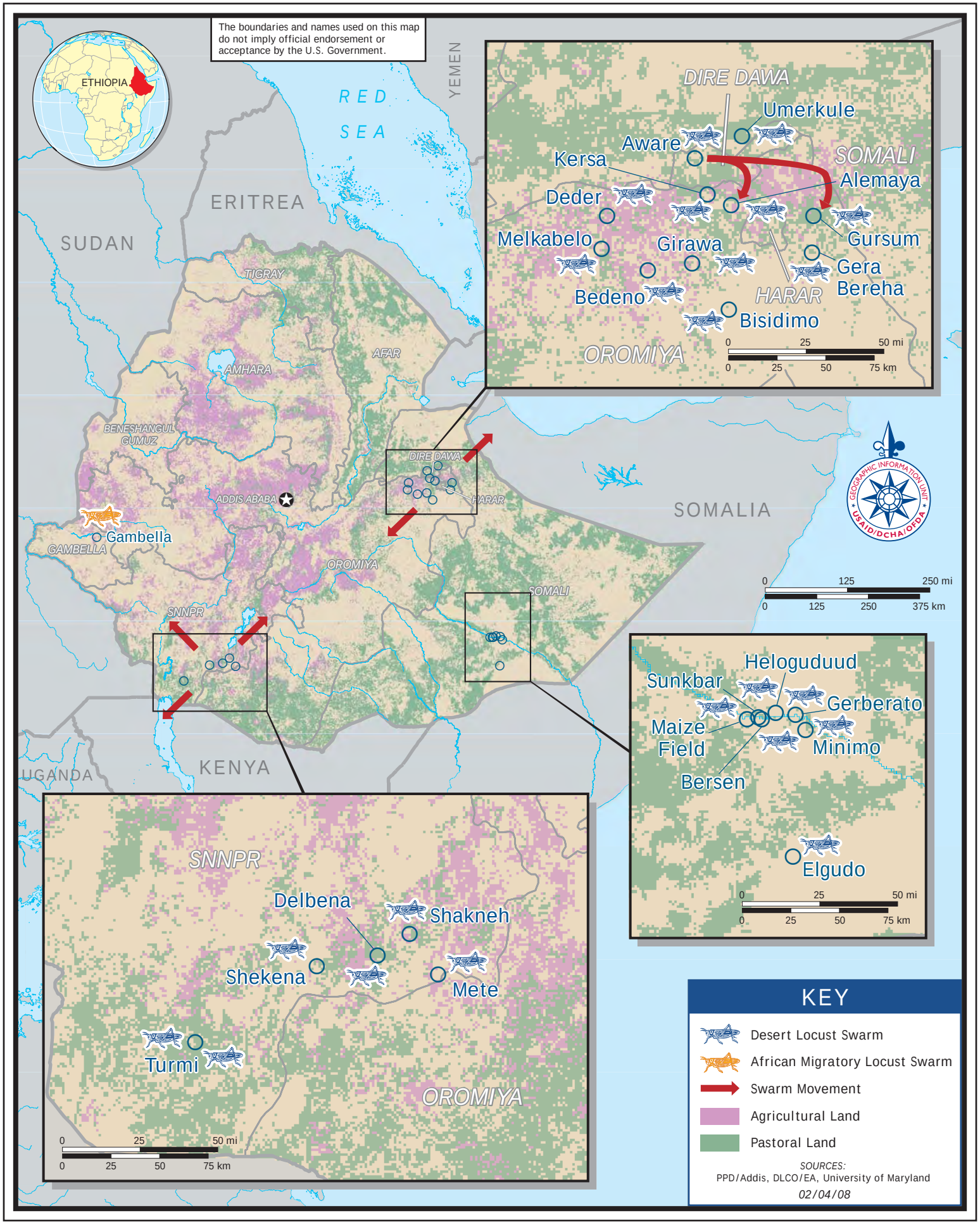


KEY

- Desert Locust Swarm
- African Migratory Locust Swarm
- Swarm Movement
- Agricultural Land
- Pastoral Land

SOURCES:
PPD/Addis, DLCO/EA, University of Maryland
02/04/08

Rodent infestations in Bangladesh and India, February, 2008

Bangladesh

Farmers and residents in the remote hilly Chittagong region of southeast Bangladesh are hit by large infestations of rats that destroyed their crops. It is reported that the pest has affected 150,000 people in three of the districts. Residents of Chittagong who have been significantly affected say the rats eat everything that is green and are bigger than normal. Many people have resorted to eating roots and the residents of the region will likely be pre-disposed to extreme food insecurity and perhaps, forced looking outwards in search of food and coping mechanisms. A senior official says the rat invasion has turned hilly plantation areas into scorched earth. Aid workers said The government, already struggling to help millions of victims of last year's floods and a devastating cyclone, has sent food aid to 15,000 people affected by rat infestations http://australianetwork.com/news/stories/asiapacific_stories_2158958.htm.

There is serious concern that the rat populations will increase as the bamboo trees continue blossoming. The outbreaks can possibly last several years before the population declines. Here, the most common species of rats in field crops and those associated with bamboo blossoming are *Rattus rattus* or roof rat and *Bandicota benegalensis. Mus spp*. and *B. indica* are also found near pods, roadsides, and riverbanks in the vicinity of crop fields. The last time a plague of rat of this magnitude hit Bangladesh was in 1958 http://www.dailyindia.com/show/214507.php/Bangladesh-battles-rat-infestation; http://news.bbc.co.uk/1/hi/world/south_asia/7234213.stm

R. rattus (roof rat, house rat or black rat (photo:Wikimedia Commons).

India:

Rodent infestations were also reported in January in the neighboring State of Mizoram in northeastern India where a similar situation has attracted large numbers of rats. It was reported that the rats have already caused severe crop damage in 113,100 ha and impacted 84,018 families in this State alone. ***Note:*** *In addition to consuming, destroying or contaminating food, feed, and produce, or damaging properties, structures, etc., some species of rats are also notorious vectors of deadly diseases, such as plagues (bubonic plague), Hemorrhagic fever, Hantavirus, Lassar Fever, Arenavirus, Salmonella, Tularemia, etc..* ***End note.***

The State of Mizoram is soliciting food assistance, income generating activities and agricultural input - seeds and fertilizers for the families affected by the pest. In the recent past, authorities pledged up to 2 Rupees/rat tail to get rid of the rats, but so far, this have not been able to abate the problem (from Dominic/Mizoram to UNDP, India; et al.).

Note: *The gregarious or simultaneous flowering of bamboo is* a phenomenon that occurs once every 3 to 4 decades or even longer during the entire lifetime of the bamboo tree. *This is followed by a rapid growth in the rat population because eating bamboo flowers enhances estrogen (a sex hormone) secretion in rodents, causing early puberty and elevated sexual activity, a kind of " aphrodisiac lure". Healthy rodents, feasting on bamboo blossoms, can breed up to eight times a year, far more than normal.*

The bamboo flowers also provide abundant food supply to the rodents, but when they dry up, the rodents begin attacking crops and granaries. This situation could trigger a cascade of severe food insecurity as thousands of rodents start feeding on crops and green vegetations and invading more granaries. In addition, gregarious flowering of bamboos results in large-scale deaths of the trees and subsequently leads to ecological disaster as it will leave the ground bare and the soil exposed to wind and water erosion as well as causing animals that thrive on bamboo plants perish due to lack of food. ***End note.***

Control Interventions

Control interventions often include chemicals - rodenticides (e.g., anti-coagulants and fumigants...), traps (e.g., ordinary mouse traps, pitfall traps/water traps with a bucket half-filled with water, a drop or two of detergent added and the inner walls covered with a slippery material are placed in holes dug in crop fields), search-and-destroy methods, releasing predators (e.g., cats), as well as removing weeds, clearing and burning piles of debris and refuses, etc. However, rat's prolific breeding, short gestation period, ability to disappear in small and narrow cracks, gaps, slits and crevices as well as the nocturnal behavior of this pest often undermine these efforts.

The ability to spot rats in tiny spaces or crevices as little as one inch or in rat holes is a challenge as their body frame allows them to slide through a very narrow crack where no other animal with a collar bone could manage. This is further complicated by the nocturnal behavior of the rats that gives them the advantage of feasting at night and causing severe damage. Spotty control efforts often worsen the problem by allowing them to expand their invasion radius by breeding in areas where control interventions have not been launched.

The most effective and perhaps the safest and practical means of preventing and controlling rat infestations would be to launch community-based campaigns which will involve removing and burning debris and refuses in and around crop fields, granaries, residential areas, barns, pens, and other places where food and animal feed may be the main attraction for this pest.

Possible actions

To address the rodent pest problems, first and foremost, affected areas must be identified and assessed and the magnitude of damage and crop/produce losses to the pest must be determined taking into consideration the ability of the households to sustain or absorb the losses to an acceptable degree, i.e., households can withstand the shock or losses with some level of resilience. If such information is readily available from recent studies, it can be reviewed for actionable items.

Technicians from crop protection offices and other relevant entities, including public health and environmental offices should be involved in awareness raising and training of affected communities and farmers. All stakeholders, including non-governmental aid workers should work closely with technical staff, local authorities and affected communities in both awareness raising and preventive and curative interventions, including training on how to accurately identify and report the type, nature and the extent of infestations, areas infested, crops/produce damaged or threatened, habitat management, plant heath and crop hygiene (e.g., weeding, collecting and destroying debris and refuses from residential areas, barns, pens, around crop fields and water ways, making sure that items that would be food sources for the rodents are not left within their reach...) following good agricultural practices as well as mobilizing both human and materials resources where they are need the most.

Crop protection staff and community contact persons or village farmers' designates should keep detailed account of the rodent infestations, damage/losses and activities under taken to abate the problem and share these reports with all partners and stakeholders, including local, regional, and international authorities as well as relevant regional and international entities on a regular basis.

In areas where the problem is rampant, affected households and communities must be identified and provided with coping mechanisms, including substituting their lost assets, such as seeds, planting materials, income generating activities and other forms of assessment-based assistance.

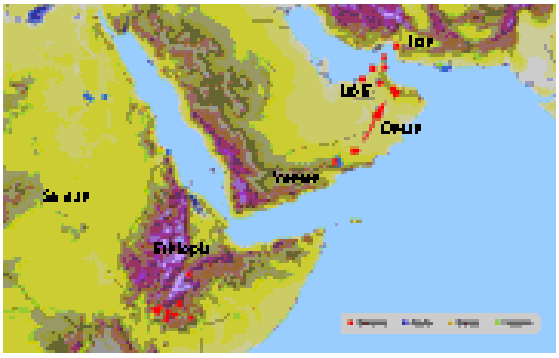
As always, AELGA will continue monitoring the situation and advise and issue updates.

For more information, please, contact: **Yene**neh T. Belayneh, Ph.D.; ybelayneh@ofda.gov

Emergency Transboundary Outbreak Pest (ETOP) situation update for February 2008

Summary:

FAO Desert Locust Information Service (DLIS) reported that several desert locust (DL) swarms formed in February in Central **Oman** and moved through north eastern **Yemen**, **Saudi Arabia** and **UAR** and reached southern **Iran**. Control operations treated some 150 ha in **Iran** and 400 ha in **Oman** during this period. Escapee locusts will likely breed and form hopper bands in the coming months. Immature swarms were detected in February in the rugged and inaccessible areas in southern **Ethiopia** and controlled on a mere 47 ha. These swarms will mature and likely move to the Ogaden region of **Ethiopia** and northern **Somalia** and breed in the coming months. Locust numbers declined in the winter breeding areas along the Red Sea coasts of **Sudan** where some 2,154 ha were sprayed during this month. No locusts were reported in **Eritrea** in February. The situation in the western and northwester regions remained calm during this period and significant developments are not likely in the coming months (FAO/DLIS, PPD/Addis, PPD/Sudan, CLAA/Mauritania, CNLAA/Morocco, DLAPCC/Libya).



swarms could threaten several countries in the region (FAO/DLIS, Feb. 25)

Rodent infestations

Unusual, massive gregarious bamboo flowering and fruiting have attracted large numbers of rats in **Bangladesh** and **India**. Rat infestations have affected more than 150,000 farmers and residents in the remote hilly **Chittagong** region in the southeast **Bangladesh**. The rat invasion has turned hilly plantation areas into scorched earth and the residents of the region will likely be pre-disposed to extreme food insecurity. The GoB, already trying to cope with helping victims of last year's floods and a cyclone, has sent food aid to 15,000 people affected by rat infestations in **Chittagong**.

Rat infestations were also reported in the neighboring State of **Mizoram** in northeastern **India**, where the pest has already caused severe crop damage in 113,100 ha and impacted 84,018 families in this State alone. Control operations, including 2 Rupees/rat tail have not been successful to stop the infestations. The State is soliciting food assistance, income generating activities and agricultural input, including seeds and fertilizers for families affected by the pest (from Dominic/Mizoram to UNDP, India).

Note: *The gregarious or simultaneous flowering of bamboo is followed by rapid increase in rat population as it gets a fertility boost by eating estrogen-secretion enhancing bamboo flowers (estrogen is a sex hormone). This phenomenon leads to early puberty, elevated sexual activity, and prolific breeding.* ***End note.***

AELGA ETOP Sitreps can be accessed and downloaded on our website:

http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/locust/ **End summary.**

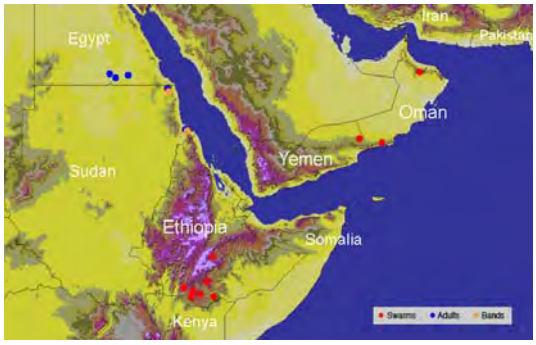
Climatological factors:

Very little or no ran fell in February in the central and western outbreak regions, but ecological conditions were favorable in the Tokar Delta as well as a few places in northern Sahel that received rain earlier. Moderate rains were recoded in the spring breeding areas in Baluchistan along the southeastern **Iran** and southwestern **Pakistan** borders. in February. As a result, ecological conditions improved in these areas, whereas. Dry conditions persisted along the **Indo-Pakistan** border (FAO/DLIS, PPD/Ethiopia, PPD/Sudan, CNLAA, CLAA, DLAPCC/Libya).

ETOP Situation and Activities:

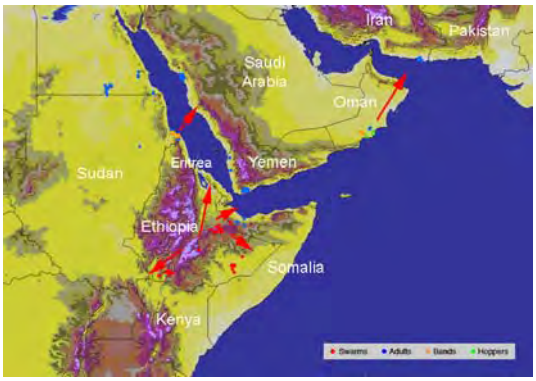
Central Region

The Desert Locust (DL) situation improved in February in **Ethiopia** where large numbers of swarms and hoppers were controlled earlier. One of the two small swarms that were detected earlier in the month in eastern Hararghe was partially controlled around Alemaya. The second swarm is believed to have migrated further east into northwest **Somalia.**



(swarms could threaten several countries in the region (FAO/DLIS, Feb. 18)

Highly mobile immature swarms were detected on several ha east of the Rift Valley in the highlands of Oromiya region, mainly in Borena, Arsi and Bale zones by mid-February, and in southern Somali region during the third dekad of the month.



Swarms in Ethiopia may threaten several countries in the region (FAO/DLIS, Feb. 4)

The rugged terrain and high mobility of swarms impeded survey and control operations and only 47 ha were sprayed in February in **southwestern Ethiopia**. There is a risk that the swarms could move to the Ogaden in eastern **Ethiopia** and/or northern **Somalia**, and likely mature and lay eggs sometime in March with the onset of the long rains.

No locusts were reported in **northern Somalia** or northeastern **Kenya** during this period.

The DL situation continued improving and locust numbers declined in the winter breeding areas in the Red Sea State along the northern and southern Red Sea coasts, in **Sudan** in February. Of the 22,000 plus ha surveyed, only some 2,600 ha were reported infested with immature and matured adults and hoppers and some 2,154 ha were sprayed during this period. Ecological conditions deteriorated in most of the winter breeding areas in **Sudan** except in the Tokar Delta where swarms and hoppers will likely coalesce in the coming weeks, but pose no significant threat. Locusts were not reported in **Eritrea** during this period (PPD/Sudan).

Several swarms formed in Central **Oman** and moved through north eastern **Yemen**, **Saudi Arabia** and **UAR** and reached southern **Iran** in February. Control operations treated some 400 ha in **Oman** during this period. Late instar hopper bands and immature adults from local breeding that occurred near the Marmul oil fields and the coast were controlled here earlier in the month. Escapee swarms will likely breed and form hopper band in the coming months. In eastern **Yemen**, two immature swarms were seen in the Al-Mahra region near the border of **Oman** between Hat and Shehen in mid-February.

Western Region

Immature adults and hoppers were detected in a few places in south Adrar, **Mauritania** where small-scale breeding continued in February. These hoppers will fledge, adults will mature and numbers will increase in the coming months. Scattered adults were present in southern and central **Algeria**. Low numbers of adults may also be present in northern **Mali** and **Niger** and could breeding with the onset of the rains, but the situation could not be confirmed due to insecurity. Survey was not conducted and locusts were not reported in other countries in the **Sahel**, **Libya**, or **Morocco** and **Tunisia** during this period. Significant developments are not expected in this region in the coming month (CLAA, CNLAA, FAO/DLIS, DLAPCC).

Eastern Region

Locusts were reported on the southeast coast of **Iran** where 150 ha were treated in February against early instar hoppers and immature swarms. No locusts were reported elsewhere in the region, but moderate rains were recoded in the spring breeding areas in **Baluchistan** along the southeastern **Iran** and southwestern **Pakistan** borders during the first, second and third dekad of February. As a result ecological conditions improved in these areas. Dry conditions persisted along the **Indo-Pakistan** border (FAO/DLIS).

Central Asia

No information was received on ETOP in central Asia and the Caucuses and significant developments are not expected in the coming month.

West Timor and South Pacific

Migratory locusts continue developing in **West Timor** where significant control operations are yet to be implemented. In **Australia**, locust operations are expected to increase in 2008 in areas where unusually good rains fell this summer, breaking a prolonged drought spell**.**

Red Locust:

No information was received on the Red Locust (***Nomadacris septemfasciata***, Serville) situation in the southern and south-central outbreak areas during this period. The recent flooding here and in other areas in the region will likely affect locust breeding and development significantly.

African migratory locust

Plant protection technicians and control staff were deployed to conduct survey and control operations against swarms of African Migratory locust (***Locusta migratoria migratorioides***) in Gambella, Western Ethiopia. Additional information is being awaited.

Tree locusts

A tree locust (***Anacridium* spp.**) outbreak was reported on acacia trees in south

western Mauritania adjacent to northern Senegal in January, but no new infestations were reported at the time this report was compiled.

(a tree locust couple copulating on a tree branch, photo: USAID/TAG)

Armyworm:

Armyworm (***Spodoptera exempta***) outbreaks that were reported earlier in **Tanzania** continued being a problem to maize, pasture and other plants. The pest has infested Kilimanjaro, Dodoma, Morogor and Arusha regions. Control was being implemented by the National Plant Health Service experts and technicians. Additional information is being awaited on control operations and the overall situation in the country. No reports were received on armyworm from other countries in the region at the time this update was compiled.

Armyworm larvae damaging young maize plants in Same, Tanzania (Mushobozi, Dec. 07)

Quelea birds

Quelea (***Quelea quelea*** L) activities were not reported at the time this update was compiled, but it is likely that they are threatening crops (mainly in irrigated areas) in DLCO and IRLCO regions.

Rodents

Farmers and residents in the remote hilly **Chittagong** region of southeast **Bangladesh** are hit by large infestations of rats that destroyed their crops. It is reported that the pest has affected 150,000 people in at least three districts in the region. Residents of **Chittagong** say the rats ate everything that is green and are bigger than normal. Many people have resorted to eating roots and the residents of the region will likely be pre-disposed to extreme food insecurity. It is reported that the rat invasion has turned hilly plantation areas into scorched earth. The government, already struggling to help millions of victims of last year's floods and a devastating cyclone, has sent food aid to 15,000 people affected by rat infestations.

In **India**, a similar situation was manifested in the northeastern mountainous **State of Mizoram** where crop damage was reported on some 113,100 ha and 84,018 families have been impacted. The authorities, willing to pay up to 2 Rupees/rat tail to get rid of the infestation, had not been successful. The State is soliciting food assistance, income generating activities and agricultural input, including seeds and fertilizers for families affected by the pest (from Dominic/Mizoram to UNDP, India).

Note: *In addition to consuming, destroying or contaminating food, feed, and produce, or damaging properties, structures, etc., some*

species of rats are also notorious vectors of deadly diseases, such as plagues (bubonic plague), Hemorrhagic fever, Lassar Fever, Salmonella, Tularemia, etc.. ***End note.***

Note: *The gregarious or simultaneous flowering of bamboo is* a phenomenon that occurs once every 3 to 4 decades or even longer during the entire lifetime of the bamboo tree. *This is followed by a rapid growth in the rat population because eating bamboo flowers enhances estrogen (a sex hormone) secretion in rodents, causing early puberty and elevated sexual activity, a kind of " aphrodisiac lure". Healthy rodents, feasting on bamboo blossoms, can breed up to eight times a year, far more than normal.*

The bamboo flowers also provide abundant food supply to the rodents, but when they dry up, the rodents begin attacking crops and granaries. This situation could trigger a cascade of severe food insecurity as thousands of rodents start feeding on crops and green vegetations and invading more granaries. In addition, gregarious flowering of bamboos results in large-scale deaths of the trees and subsequently leads to ecological disaster as it will leave the ground bare and the soil exposed to wind and rain erosion as well as causing animals that thrive on bamboo plants perish due to lack of food. ***End note.***

Recommendations:

Front-line countries must remain vigilant and exercise prevention and mitigation to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Note: *Many countries continue benefiting from activities, including training in obsolete pesticide management co-sponsored through OFDA Coop Agreement with the UN FAO.* ***End note***

Pesticide Stocks

Pesticide inventories changed in Ethiopia, Sudan and Oman where control operations were carried out during this period.

Country	Quantities in l
Eritrea	44,800
Ethiopia	42,773
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Algeria, Libya, India Iran, Oman, Pakistan, Saudi Arabia, Sudan, Tunisia, Yemen	Data not available at the time this report was compiled

Point of Contact:

For more information please, contact:
Yeneneh T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

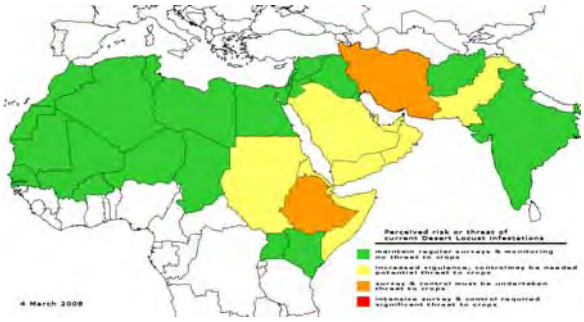
Emergency Transboundary Outbreak Pest (ETOP) situation update for March 2008

Summary:

The desert locust situation remained serious in southern **Ethiopia** where highly mobile swarms were controlled in 355 ha in March. Some swarms escaped into valleys and rugged terrains and were inaccessible by air or land. Several swarms were detected in crop fields in eastern **Saudi Arabia** where more than 6,550 ha were sprayed.

Swarms (red) persisted in Ethiopia and breeding is in progress in Iran (blue and orange) (FAO/DLIS, 04/08)

Scattered adults were controlled in the Sahara region of **Algeria** and northwest **Mauritania**. Insignificant numbers of adults were reported in southeast **Libya.** Surveys were not conducted in **Mali** and **Niger** due to security reason but scattered adult locusts may be present. No locusts were reported in **Sudan, Eritrea** or other outbreak countries and significant developments are not expected in the coming month (FAO/DLIS, DLCO-EA, PPD/Ethiopia, PPD/Sudan, CLAA/Mauritania, DDLC/Libya). Egg laying and hatching have occurred in the coastal and interior areas of southeast **Iran** where small groups and hopper bands have formed and control operations treated some 1,700 ha from 25 February to March.



The current risk level (FAO/DLIS, 03/08)

A 30-day joint survey operations have begun in the spring breeding areas in Baluchistan along the **Iran-Pakistan** borders.

Active survey, monitoring and preventive interventions are recommended.

Rat infestations

Rat infestations have affected large numbers of farmers and residents in the remote hilly **Chittagong** region in southeast **Bangladesh**. The pest attacked the hilly plantation areas undermining food security in the region. A similar infestation has been reported in neighboring State of **Mizoram,** northeastern **India**, where the pest has already caused severe crop damage in tens of thousands of ha and impacted thousands of families. Food assistance, income generating activities and agricultural input, including seeds and fertilizers for families affected by the pest are being sought by the State Gov and FAO/WFP has provided 20,000 metric tons of food to assist affected families and households.

USAID/OFDA is deploying a rodent expert to participate in a needs assessment mission that will take place in Bangladesh from 8-12 April, 2008.


Gregarious flowering and fruiting of bamboo plants attracts large numbers of rodents (photo: telegrapg.co.uk)

Other ETOPs

Hopper bands and/or fledglings of **red locust** were detected in Iku Katavi, Rukwa and parts of Wembere plains and Bahi valley in **Tanzania**. Swarms of the African migratory locust that escaped control operations in Gambella, western Ethiopia have spread to adjacent areas in western Oromiya where the regional agricultural bureau and PPD/Addis are coordinating control operations.

Armyworm outbreaks were reported in paddy rice, maize fields and pasture in **Tanzania** and **Quelea** outbreaks were reported in **Kenya** and **Tanzania**.

This and previous Sitreps can be accessed and downloaded on our website:

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

Climatological factors:

March remained fairly dry and ecological conditions were unfavorable in most of the outbreak and invasion areas. Light to moderate rains fell during the second dekad of March in Konso, Gamu Gofa and south Omo, in southern Ethiopia where immature swarms persisted over the past months. Rains continued in Tanzania, Uganda, south-central and southern Africa in and around red locust, Quelea and armyworm outbreak/invasion zones (FAO/DLIS, PPD/Ethiopia, DLCO-EA, PPD/Sudan, CNLAA, CLAA, DLAPCC/Libya, IRLCO-CSA).

ETOP Situation and Activities:

Central Region

The desert locust situation remained serious in southern **Ethiopia** where highly mobile immature swarms were controlled in 355 ha in March. Some swarms escaped into valleys and rugged terrain inaccessible by air or ground means. Several swarms were reported attacking crop fields in eastern **Saudi Arabia** where more than 6,550 ha were sprayed in late and March.

Although significant developments are not expected in the coming weeks, vigilant survey and preventive control interventions are recommended in **Ethiopia, Saudi Arabia** and **Iran** where locust swarms were detected from in late February on. No locusts were observed during surveys carried out in Tokar Delta in the Red Sea State in **Sudan** despite the relatively favorable ecological conditions that persisted in this area. No locusts were reported in northeastern **Kenya** and only a few scattered adults were observed in Hiranle areas in northwestern **Somalia** during surveys carries out in late March (FAO/DLIS, PPD/Ethiopia, DLCO-EA).

Western Region:

Scattered adults were controlled in 25 ha and 3 ha in the Sahara region of **Algeria** and northwest **Mauritania**, respectively. Scattered adult locusts were reported in southeast **Libya** but control was not necessary. The ongoing security problem hindered survey operations in the primary

outbreak areas in **Mali** and **Niger** where scattered adult locusts may be present. (FAO/DLIS, PPD/Ethiopia, PPD/Sudan, DLCO-EA, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Eastern region:

Control operations treated some 1,700 ha in the southeastern coast of **Iran** during the last week of February and in March. Swarms from **Oman** reached coastal and interior areas of southeast **Iran** and laid eggs. Hatching small groups and bands of hoppers are forming. Hatching and small groups of hoppers are forming. This is expected to continue in the coming weeks. Active surveys and preventive control interventions are recommended. **Iran** and **Pakistan** have begun a 30-day joint survey operations in the spring breeding areas along their common borders in Baluchistan (FAO/DLIS).

West Timor and South Pacific

No reports were received from **Timor**, at the time this update was compiled, but it is likely that the **Migratory locust** may have continued developing in **West Timor** where control operations needed to be implemented. Locust operations are expected to increase in 2008 in areas where unusually good rains fell after a prolonged drought in **Australia.**

Red Locust:

The IRLCO-CSA carried out surveys in all RL outbreak areas in **Tanzania** in March and detected hopper bands and concentrations of fledglings on some 4,000 ha in **Iku** plains and groups of fledglings (8 to 30 locusts/m^2) on some 4,000 ha in the **South Rukwa** plains and 500 ha (5 to 20 locusts/m^2) in **North Rukwa** plains. The **Wembere** plains and **Bahi valley** were mostly flooded while the **Malagarasi Basin** was partially submerged and here only scattered populations were observed. Plans are underway to carry out surveys in **Malawi, Mozambique** and **Zambia** where fledglings may be present. No locusts were reported in **Kenya** or **Zimbabwe**. Hoppers are expected to fledge and likely form swarms in most of the outbreak areas in **Malawi, Mozambique** and **Tanzania** in the coming month (IRLCO-CSA).

African migratory locust

Escapee swarms of the African migratory locust (***Locusta migratoria migratorioides***) in Gambella region of western Ethiopia spread into adjacent areas in Oromiya where the regional agricultural bureau and PPD/Addis are coordinating interventions.

Tree locusts

No information was received on the tree locust (***Anacridium* spp.**) at the time this report was compiled.

Armyworm:

Armyworm (***Spodoptera exempta***) outbreaks occurred in Kisarawe district (Coast Region), Korogwe district (Tanga region) and Arusha Seed Farm (Arusha region) in **Tanzania**. Most of the infestations occurred on paddy rice, maize and pastures. **Kenya, Malawi, Mozambique, Zambia** and **Zimbabwe** remained free of AW in March. However, infestations will likely continue in **Tanzania** and follow a northerly migration with the AW reaching southern **Kenya** and the coastal region and greeted by the ITCZ and the summer rains (IRLCO-CSA, DLCO-EA).

Quelea birds

Flocks of Quelled birds (***Quelea quelea*** L) were reported in Bahi (Dodoma Region), Singida and Kondoa regions in **Tanzania.** Quelea infestations were also reported in irrigated rice fields in Siaya district (Nyanza Province) in **Kenya**. Aerial control operations were in progress at the time this report was compiled. This pest will likely continue being a problem to small grain cereal crop farmers in **Kenya, Tanzania** and **Zimbabwe** in the coming months (IRLCO-CSA, DLCO-EA).

Rodents

Farmers and residents in the remote hilly **Chittagong** region of southeast **Bangladesh** are hit by large infestations of rats that destroyed their crops. Tens of thousands of residents of the region are reported to have been severely affected in at least three districts in the region and pre-disposed to food insecurity. The GoB has sent food and other assistance to the affected people.

In **India**, a similar situation was manifested in the northeastern mountainous **State of Mizoram** where crop damage was reported large numbers of families have been impacted. The State solicited food assistance, income generating activities and agricultural input, including seeds and fertilizers for families affected by the pest.

USAID/OFDA is deploying a rodent expert to participate in a needs assessment mission that will take place in Bangladesh from 8-12 April, 2008.

Note: *The gregarious or simultaneous flowering of bamboo is* a phenomenon that occurs once every 3 to 4 decades or even 5 decades and *is followed by a rapid increase in rat populations due to the diet of protein-rich bamboo flowers that boost estrogen (a sex hormone) secretion, causing early puberty and elevated sexual activity* (this phenomenon last occurred in 1959 sending a shock wave throughout the affected regions and leading to a prolonged period of food insecurity which triggered unrest among affected communities in Mizoram). A healthy *rat, feasting on bamboo blossoms can breed up to eight times a year, far more than normal. Some species of rats are also notorious vectors of deadly diseases, such as bubonic plague, Hemorrhagic fever, Lassar Fever, Salmonella, Tularemia, etc, but so far no report has been received from Bangladesh or India that suggests that this has occurred.* ***End note.***

Recommendations on ETOPs:

Front-line countries must remain vigilant and exercise prevention and mitigation to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories changed in March in Ethiopia, Oman and Saudi Arabia where control operations were carried out during this period.

Country	Quantities in l / kg
Eritrea	44,800
Ethiopia	47,730
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Sudan	735,676
Algeria, Libya, Saudi Arabia, Tunisia, Yemen	Data not available at the time this report was compiled

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored through OFDA Coop Agreement with the UN FAO.* ***End note***

Point of Contact:

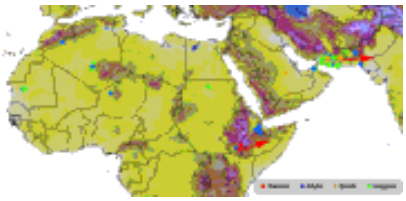
For more information please, contact:
Yeneneh T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

Emergency Transboundary Outbreak Pest (ETOP) situation update for April, 2008 with a forecast for June

Summary:

Desert Locust: The desert locust persisted in April in the Horn of Africa, the Arabian Peninsula and Southwest Asia. According to FAO/DLIS, hoppers were controlled on a few farms on the northern edge of the Empty Quarter in **Saudi Arabia.** It is likely that more hatching and band formations could occur in other farms in the coming month Adult locusts persisted in remote and inaccessible areas in southern **Ethiopia** where highly mobile swarms were detected earlier. Most of these swarms will likely move to the Ogaden region in the eastern part of the country and lay eggs in areas where rains have begun falling. However, some swarms may remain in the southern part and lay eggs and hatching may occur in June. Small hopper bands were detected in the southern coastal and the interior areas in **Iran.** As vegetation continues drying up in the region, adult locusts are expected to concentrate and move to the summer breeding areas along the **Indo-Pakistan** border where they will likely begin laying with the onset of the monsoon rain in June.

Control operations were carried out against local populations in northern **Sudan**, central **Algeria** and northwestern **Mauritania**. Some adults are expected to move south into the northern Sahel and breed with the onset of the summer rains starting in June. No locusts were reported in **Libya** and surveys were not conducted in **Mali** and **Niger** due to security reason but scattered adult locusts may be present. No locusts were reported in **Eritrea, Somalia, Djibouti, Yemen** or other outbreak areas in the western and central regions. Active survey, monitoring and preventive interventions are recommended (FAO/DLIS, DLCO-EA, national PPDs/DPVs)..


Swarms persisted in Ethiopia and breeding is in progress in Iran (FAO/DLIS, 05/08)

Other ETOPs

Italian Locusts in Central Asia: Infestations of Italian locust were reported in the southern region of **Tajikistan,** adjacent to northern **Afghanistan,** where more than 67,000 ha were sprayed by GoT. Infestations may be larger than GoT can handle. FAO has put together an assistance package worth over $410,160 through the UN CERF. Locusts were also controlled in North West region of **Afghanistan** (Balkh, Jawzjan, Sar-e Pul, Samangan and Faryab). Local plant protection officers predict that this year's infestations could be more severe than last year's as a relatively warmer and earlier spring favored above normal breeding. Large locust outbreaks can significantly affect grazing land and undermine livestock production which, according to information from USAID field staff, scarcity of grazing land has taken a toll on this sector and Kuchi representatives have requested Turkmenistan for graze permits.

Rat infestations: An assessment mission was deployed to **Bangladesh** in April to determine the impact of the rodent infestations that hit the remote hilly **Chittagong** region in southeast of the country. U***SAID/OFDA contributed a rodent expert to the assessment mission.*** The final report and

recommendations of the mission are being awaited.

The neighboring State of **Mizoram, India** also suffered from rodent infestations and crop damage has been reported earlier in the year. Additional information was not forthcoming at the time this update was compiled.

Red Locust: No information was received on red locusts in April, but it is likely that hopper bands, fledglings, and adults that were detected in March in Iku Katavi, Rukwa and parts of Wembere plains and Bahi valley in **Tanzania** have further developed and may have formed groups and small swarms.

Armyworm and **Qulelea** outbreaks were reported in **Tanzania** and **Kenya** where aerial control operations were carried out by DLCO-EA aircraft.

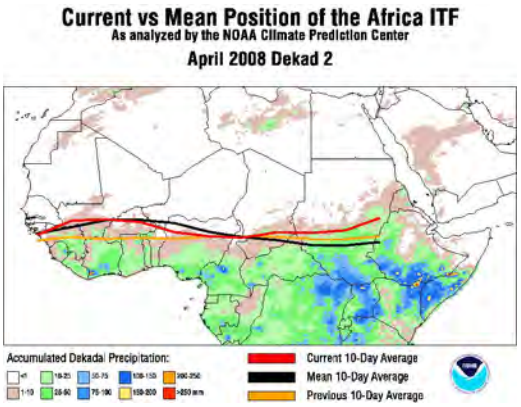
Current and archived Sitreps can be accessed and downloaded on our website:

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

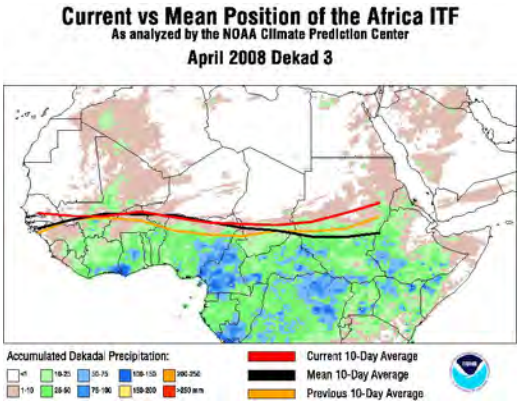
Climatological factors:

April was slightly wetter than March in some places, but drier in many outbreak areas. As a result ecological conditions were favorable in some, but unfavorable in most of the outbreak areas (FAO/DLIS, PPD/Ethiopia, DLCO-EA, PPD/Sudan, CNLAA, CLAA, DLAPCC/Libya, IRLCO-CSA).

During the second and third dekads of April, the African portion of the Intertropical Front (ITF) or Intertropical; Convergence Zone (ITCZ) was located at around 11.8 and 13.4 degrees north latitude, respectively.



These positions are relatively further north than the normal positions for the month (see figures 2 and 3, adopted from NOAA).



ETOP Situation and Activities:

Central Region

A few highly mobile swarms persisted in southern **Ethiopia** were control operations were hampered by the high mobility of the target, lack of aviation fuel and inaccessibility of the terrain. Surveys were carried out on more than 12,800 ha in southern and eastern Ethiopia. Some swarms escaped into valleys and rugged and impenetrable areas.

Western Region:

Small-scale control operations were carried out in **Algeria** and northwest **Mauritania**. Escapee locusts will likely migrate

southwards into northern Sahel. No locusts were reported in **Libya, Tunisia** or **Morocco** in April. The ongoing security problem in **Mali** and **Niger** continued hindering survey operations (FAO/DLIS, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Eastern region:

Hopper bands formed in coastal and interior areas of southeastern **Iran.** If left uncontrolled, infestations could form small groups or a small swarms. As vegetation continues drying up in the region, adult locusts are expected to move to the summer breeding areas along both sides of the **Indo-Pakistan** border in May where they will begin laying with the onset of the seasonal monsoon sometime in June. (FAO/DLIS).

Central Asia - Italian Locust

Infestations of Italian locust were reported in the southern region of **Tajikistan**, adjacent to northern **Afghanistan** where more than 67,000 ha were sprayed by GoT. Control operations may be needed in areas larger than GoT's can handle as it has already started soliciting external assistance. FAO has put together an assistance package worth over $410,160 through the UN CERF.

Hoppers were also treated in North West region of **Afghanistan** (Balkh, Jawzjan, Sar-e Pul, Samangan and Faryab). Local plant protection officers fear that this year's infestations could be more severe than last year's due to a relatively warmer and earlier spring favoring above normal breeding.

Large locust outbreaks can significantly affect grazing land and undermine livestock production which, according to information from USAID field staff, is already taking a toll from lack of grazing land and Kuchi representatives have requested Turkmenistan to allow them to graze their herds there.

The Timors and South Pacific

No information was received from the **Timors**, at the time this update was compiled, but it is likely that hoppers and bands of **Migratory locust** are present and pose threats to pasture, maize and/or rice crops in valleys and other areas. Cross-border infestations often impact both countries. Last year this time, control operations missed a chance to abate the development of the locust in **WT** and it is important that this situation is avoided to the extent possible. Locust operations are expected to increase in 2008 in **Australia** in areas that received unusually good rains after a prolonged drought**.**

Red Locust:

No information was received on red locusts in April, but it is likely that hopper bands and concentrations of fledglings that were detected in March on thousand of ha in **Iku**, **South Rukwa**, and **North Rukwa** plains in **Tanzania** have further developed and some may have matured.

Plans were underway in March to carry out surveys in **Malawi, Mozambique** and **Zambia** where fledglings may have been present. No locusts were reported in **Kenya** or **Zimbabwe**. Hoppers may have begun fledging and forming swarms in most of the outbreak areas in **Malawi, Mozambique** and **Tanzania**.

African migratory locust

No new information was received in April on the African migratory locust (***Locusta migratoria migratorioides***) reported in Gambella region of Ethiopia that spread into

adjacent areas in Oromiya and control operations were coordinated by the regional Agri offices and PPD/Addis.

Tree locusts

No information was received on tree locusts+ (***Anacridium* spp.**) at the time this report was compiled.

Armyworm:

Widespread infestations of African armyworm (***Spodoptera exempta***) occurred in April in Arumeru district in Arusha region and Siha, Rombo, Hai, Moshi, Same and Mwanga districts in Kilimanjaro region of Tanzania.. The pest was seen feeding on maize seedlings as well as pasture. Trap networks in **Tanzania** are reporting large catches which suggests that more infestations are likely in the coming months. Armyworm infestations were also reported in Taveta, Kaloleni, Loitokitok, Garbatula and Lamu areas in the Coastal Province of Kenya, but additional information was not available at the time this update was compiled. This shows that the pest is in its normal northward migration patter which will likely continue for the next months and reach other parts of **Kenya** and perhaps southern **Ethiopia**.

Other armyworm invasion/outbreak countries reported no armyworm infestations, however, infestations will likely continue in **Tanzania** and follow a northerly migration with the AW reaching southern **Kenya** and the coastal region and greeted by the ITCZ and the summer rains (IRLCO-CSA, DLCO-EA).

Quelea birds

Outbreaks of Quelled birds (***Quelea quelea*** L) were reported in April in Siaya district in the Western Province of **Kenya**. Aerial operations continued in Dodoma and Shinyanga regions **Tanzania,** where DLCO-EA aircraft treated Quelea colonies on 235 ha. The birds were threatening rice, millet, finger millet and bulrush. This pest will likely continue posing a problem to small grain cereal crop farmers in **Kenya, Tanzania** and **Zimbabwe** in the coming months (DLCO-EA).

Rodents

Farmers and residents in the remote hilly **Chittagong** region of southeast **Bangladesh** were hit by large infestations of rats that destroyed their crops earlier in the year. An assessment mission was deployed in **Bangladesh** in April to determine the significance of rodent infestations and the impacts they have had in the communities of the remote hilly **Chittagong** region in southeast of the country. U***SAID/OFDA contributed a rodent expert to the mission.*** The final reports and finding of the assessment mission are being awaited.

A similar infestation was reported in neighboring **State of Mizoram,** northeastern **India**, where rodent-related crop damage occurred earlier in the year. Tens of thousands of residents of the region are reported to have been severely affected in at least three districts in the region and pre-disposed to food insecurity. The GoB has sent food and other assistance to the affected people. Additional information was not forthcoming at the time this update was compiled

Note: *The gregarious or simultaneous flowering of bamboo is* a phenomenon that occurs once every 3 to 4 or even 5 decades and *is followed by a rapid increase in rat populations due to the high protein in bamboo flowers that boosts estrogen (a sex hormone) secretion, causing early puberty and elevated sexual activity (a* healthy *rat, feasting on bamboo blossoms can breed up*

to eight times a year, far more than normal). Rat infestations of this magnitude were last recorded in 1959 and caused a prolonged period of food insecurity and even triggered unrest among affected communities in Mizoram. *Some species of rats are also notorious vectors of deadly diseases, such as bubonic plague, Hemorrhagic fever, Lassar Fever, Salmonella, Tularemia, etc, but so far no report has been received from Bangladesh or India that suggests any significant rat-related diseases occurrence.* ***End note.***

Recommendations on ETOPs:

Front-line countries must remain vigilant and exercise prevention and mitigation to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories did not show any significant change in April as no major control operations were carried out during this time.

Country	Quantities in l / kg
Eritrea	44,800
Ethiopia	47,730
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Sudan	735,676
Algeria, Libya, Saudi Arabia, Tunisia, Yemen	Data not available at the time this report was compiled

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored through USAID/OFDA Cooperative Agreement with the UN FAO.* ***End note***

Point of Contact:

For more information please, contact:
Yeneneh T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

Emergency Transboundary Outbreak Pest (ETOP) situation update for May, 2008 with a forecast till July

Summary:

Desert Locust: The desert locust situation remained relatively calm in May in most of the spring breeding areas and control operations only treated 1,280 ha in central **Algeria** and 9 ha in northwestern **Mauritania** during this period. The situation in northern **Mali** and **Niger** where scattered adults normally begin appearing and laying about this time was unclear. No locusts were seen during surveys carried out in southern **Ethiopia**. Nonetheless, the summer rains and favorable ecological conditions will likely allow escapee adults to lay and hoppers to develop. There is also a slight chance of adults moving east into the **Ogaden** region and breeding freely where the ongoing situation will likely undermine interventions. It is important that efforts focus on abating swam movements and unexpected surprises are minimized. No locusts were seen in **Sudan** or **Eritrea** during surveys carried out in May and only a few scattered adults were detected in the Red Sea coasts in **Yemen** and a similar situation may exist on the other side of the Red in **Somalia**. Locust numbers declined in the winter and spring breeding areas in southern **Iran** and western **Pakistan.** A few adults will likely appear along the **Indo-Pakistan** border and begin breeding with the onset of the Monsoon rains, but significant developments are not expected during this time. Nonetheless, survey and monitoring are essential as the summer rains have begun in many places tailgating the northern migration of the inter-tropical front (FAO/DLIS, AELGA, DLCO-EA, national PPDs/DPVs).

Other ETOPs:

Moroccan and Italian locusts in Central Asia:

Infestations of **Moroccan** locust that were reported in the southern region of **Tajikistan** adjacent to northern **Afghanistan** will soon come to an end as population continue declining. Control operations will soon shift to the northern part of the country where more and more populations of **Italian** locust will likely begin appearing in the coming months. Infestations of Moroccan locust in eastern **Uzbekistan** appeared to have been more serious than anticipated (details are being awaited on this). No locusts were reported in May in **northwest Afghanistan** where plant protection officers launched control operations earlier (FAO, USAID).

Note: OFDA/AELGA is working closely with FAO to explore options to develop a platform or a mechanism to assist Central Asian and Caucus countries to develop and strengthen the capacity for locust operations on a regional scale. End note.

Rat infestations: No new information was received on rodent situation in **Bangladesh** or other countries in the region at the time this report was

compiled and new outbreaks are not expected.

Red Locust: Red Locust swarms covering more then 4 km long and 1 km wide were detected in Buzi-Gorongosa, the Dimba Plains during surveys carried out in May by the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) in collaboration with the Ministries of Agriculture in **Mozambique** and **Malawi**. Crop damage was reported on maize and sorghum. IRLCO cautioned that interventions are urgently needed to abate what seems to be a serious threat to countries in the sub-region

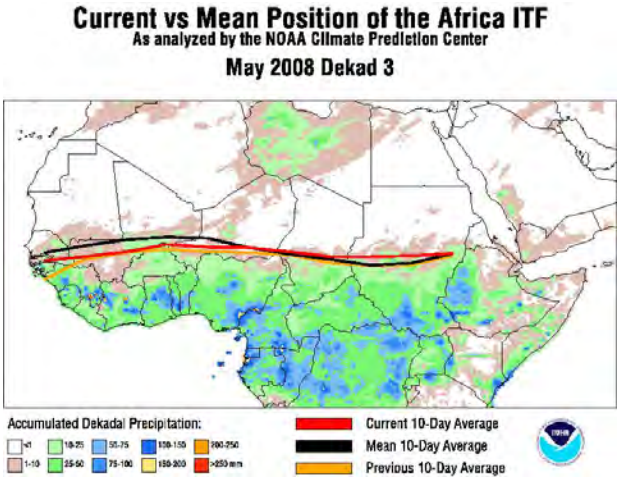
Armyworm outbreaks were reported in **Kenya** and **Ethiopia** and quelea activities were seen in several provinces of **Tanzania** and Eastern Province of **Kenya**. Aerial control operations were carried out on thousands of hectares of crop and fields and grazing land with assistance of DLCO-EA (DLCO-EA, MoAFSC, personal account).

This and other archived Sitreps can be accessed and downloaded on our website:

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

Climatological factors:

The African portion of the Intertropical Front (ITF) or Inter-tropical Convergence Zone (ITCZ) was located at around 13.9 degrees N, slightly south of 14.1 degrees N, the normal during the third dekad of May (see map, from NOAH). However, rainfall has been slightly below normal in several locations south of the ITF. The ITF in the west was almost a degree north (14.3 N) than in the east (13.5 N), but still lower than the long time mean of 15.2 N in the west but higher than the mean of 12.9 N in the east (modified from NOAA).



ETOP Situation and Activities:

Central Region

Surveys were carried out in May in southern **Ethiopia** and Oromoia region where a few highly mobile swarms persisted in previous months, but locust were not detected. However, the onset of the summer rains and improved ecological conditions may allow escapee adults to lay and hoppers to begin developing here. There is a remote chance of some adults moving east into the Ogaden region where they may breed freely due to the ongoing situation that will hamper survey and interventions (PPD/Addis). No locusts were seen in **Sudan** or **Eritrea** during surveys carried out in these countries

and only a few scattered adults were detected in the Red Sea coasts in **Yemen** and a similar situation may exist on the other side of the Red coast (PPD/Asmara, PPD/Khartoum, FAO-DLIS, DLCO-EA).

Western Region:

Small-scale control operations were carried out in **Algeria** and northwest **Mauritania** where a total of 1,289 ha were sprayed (1,280 in Algeria and 9 in Mauritania) in May. The ongoing security problem in **Mali** and **Niger** continued hindering survey operations (FAO/DLIS, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Eastern region:

Locust numbers declined in the spring breeding areas in southern **Iran** and western **Pakistan.** A few adults will likely appear and begin breeding along the **Indo-Pakistan** border with the onset of the Monsoon rains, but significant developments are not expected. As the vegetation continued drying up in the region, adult locusts are expected to move to the summer breeding areas along both sides of the **Indo-Pakistan** borders where they will likely begin laying with the onset of the summer rains from June on (FAO/DLIS).

Central Asia - Moroccan and Italian Locusts

Infestations of **Moroccan** locust that were reported in the southern region of **Tajikistan** adjacent to northern **Afghanistan** will soon come to an end as population continue declining. Control operations will soon shift to the northern part of the country where more and more populations of **Italian** locust will likely begin appearing in the coming months. So far, FAO has put together an assistance package worth over $410,160 through the UN CERF for **Tajikistan.**

Infestations of Moroccan locust in eastern **Uzbekistan** appeared to have been more serious than anticipated (details are being awaited on this). No locusts were reported in May in **northwest Afghanistan** where plant protection officers launched control operations earlier (FAO, USAID).

Large locust outbreaks can significantly affect grazing land and undermine livestock production which, according to information from USAID field staff, has already been hit hard by lack of grazing land and as a matter of fact, Kuchis in **Afghanistan** requested Turkmenistan to allow them to graze their herds there.

Note: OFDA/AELGA is working closely with FAO to explore options to develop a platform or a mechanism to assist Central Asian and Caucus countries to develop and strengthen the capacity for locust operations in their regional. End note.

The Timors and South Pacific

No new information was received on the locust situation in the **Timors** at the time this update was compiled, but it is likely that hoppers and bands of **Migratory locust** are present and pose threats to pasture, maize and/or rice crops in

valleys and other areas. Cross-border infestations often impact both countries. **This time last year,** control operations missed a chance to abate the making of locust infestations in **West Timor**. It is important that a situation like this is avoided to the extent possible.

Summer locust operations in 2008 in **Australia** was elevated in areas that received unusually good rains after a prolonged drought. Further details are being awaited.

Red Locust:

The International Red Locust Control Organisation for Central and Southern Africa (IRLCO-CSA) carried out Red Locust (*Nomadacris septemfasciata* Serville) survey operations in the Buzi-Gorongosa Red Locust outbreak area and the Dimba Plains in Caia district of Sofala Province and the Lake Chilwa/Lake Chiuta plains in the Republic of Malawi in collaboration with the Ministries of Agriculture in Mozambique and Malawi. Survey operations were conducted using the Organisation's Bell 206 III Jet Ranger Helicopter.

Large and dense swarms measuring up to 4km long and 1 km wide were located in the Dimba Plains (Dimba Plains extend well into Mozambique). Some swarms escaped from the Dimba Plains and caused damage to sorghum and maize in Ntopa, Chatala, Nsona, Nhacueaha, villages some 20 to 45 km from Dimba Plains. **If left uncontrolled, swarms could escape and invade adjacent areas in Mozambique and neighboring countries.** IRLCO puts a total estimated appeal to address the red locust issue in Mozambique, Malawi and Tanzania at about US $222,000.

Armyworm:

African armyworm (***Spodoptera exempta***) infestations occurred in 11 districts in Eastern Province of **Kenya** in early to mid-May, 2008. An update from the DLCO-EA indicates that the infestations that were first reported at the end of April in **Kenya** continued being a problem in Eastern and Central Provinces as well as the Rift Valley region of the country. Crop and pasture damage was reported on more than 50,000 ha. Ground control operations were launched and the infestations were abated in many places by the end of May.

Outbreaks of armyworm were also reported on some 279,480 ha of crops and pasture in 93 districts in six regions in the southern and southeastern parts of Ethiopia. Control operations treated more than 26,000 ha of crop fields and pasture (PPD/Addis).

Given the seasonal migration of the pest, and the movement of the ITF, outbreaks will likely be witnessed in the central and northern parts of **Kenya**, the eastern, northern and northeastern parts of **Ethiopia**. The pest will likely begin appearing in southern and the highlands of **Eritrea** by the end of June. Active surveillance and monitoring through trap catches are essential to determine the moth migration patterns and intensity as well as plan on preventive/curative interventions. The armyworm season in Tanzania has come to an end (DLCO-EA,

Mushobozi, Red Cross, personal observations).

Quelea birds

Outbreaks of Quelled birds (***Quelea quelea*** L) were reported in Kenya and Tanzania in May. This pest will likely continue posing a problem to small grain cereal crop farmers in **Kenya, Tanzania** and **Zimbabwe** in the coming months (MoAFSC/Tanzania, personal account, DLCO-EA).

Rodents

No new information was received on the rodent situation in **Bangladesh** or other countries in the region at the time this report was compiled and new outbreaks are not expected.

Recommendation:

Front-line countries should remain vigilant and exercise preventive interventions. Invasion countries should stay alert and implement preventive strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise as necessary.

Pesticide Stocks

Pesticide inventories did not change much in May since no major control operations were carried out during this time.

Country	Quantities in l / kg
Eritrea	44,800
Ethiopia	47,730
Mali	222,524
Mauritania	545,166
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Sudan	735,676

Data on pesticide stocks was not available for Algeria, Libya, Saudi Arabia, Tunisia, and Yemen at the time this report was compiled.

Note: *OFDA/AELGA is working with the FAO Pesticide Disposal and Prevention Project to address the long-standing issue of obsolete and dangerous pesticide stockpiles in Eastern Europe, Central Asia and the Caucuses where hundreds of thousands of tones of such products are literally littering the environment (residential areas, old state farms, play grounds, pasture, water ways, etc.) of these countries. Currently, a number of countries are benefiting from activities co-sponsored through USAID/OFDA Cooperative Agreement to FAO.* ***End note***

Point of Contact:

For more information please, contact:
Yeneneh T. Belayneh, Ph.D.,

ybelayneh@ofda.gov or visit us at:

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

Emergency Transboundary Outbreak Pest (ETOP) situation update for June, 2008 with a forecast till August

Summary:

Desert Locust: The desert locust situation remained relatively calm in June in most of the outbreak areas. Only low numbers of solitary adults were seen in the **central Sahara in Algeria** controlled on some 50 ha. Escapee adults will likely start moving to the northern Sahel in the coming weeks. Isolated adults were seen in **Niger** on the southern **Tamesna plains** and in the **Tenere Desert**, suggesting that scattered locusts may be present throughout the area. Despite improving ecological conditions locusts were not detected during surveys carried out on more than 12,040 ha in **southern, southwestern, and northern Ethiopia.** Significant developments are not expected in the coming weeks in Ethiopia, but it is still unclear whether breeding will be progressing in t**he Ogaden region** where **surveys could not be carried out** due to the ongoing security situation. If ecological conditions continue improving, breeding could take place and swarms will develop in this region. No locusts were detected **in Sudan** or **Eritrea** during this month. Small-scale local breeding occurred in June near **Lake Nasser** in **southern Egypt** and scattered adults are likely to persist in the coming weeks. Scattered adults were also detected in the **interior of Yemen.**

Active survey and monitoring are recommended given the onset of the summer rains tailgating the northern migration of the inter-tropical front (FAO/DLIS, AELGA, DLCO-EA, national PPDs/DPVs).

Other ETOPs: Moroccan and Italian locusts in Central Asia:

Infestations of **Moroccan** locust that were reported earlier in the southern region of **Tajikistan,** adjacent to northern **Afghanistan,** where spray operations treated more than 67,000 ha had diminished, but **Italian** locusts were seen in the northern part of the country in the past weeks and will likely continue appearing over the coming months.

Earlier, FAO provided an assistance package worth more than $410,160 through the UN CERF and a technical assistance for two weeks to respond to the Moroccan locust invasions.

No new information was received on the locusts that were reported earlier in **North West Afghanistan** (Balkh, Jawzjan, Sar-e Pul, Samangan and Faryab) where plant protection officers carried out control operations.

Severe locust outbreaks can significantly affect grazing land and undermine livestock production as the scarcity of grazing land has already taken a toll on Kuchis who, according to USAID field staff, resorted to requesting for graze permits from **Turkmenistan**.

Rodents: No new information was received on the rodent situation in the Chittagong region in southeast of Bangladesh where OFDA deployed a rodent expert in April for an assessment mission.

Red Locust: The international Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) reported the presence of swarms and concentrations of Red Locust in Dimba Plains in **Mozambique**, Lake Chilwa Plains in **Malawi** and in Iku-Katavi, Rukwa Plains and Malagarasi Basin in **Tanzania**. More than 50 dense swarms were reported controlled on some 10,000 ha in **Mozambique**. Isolated to scattered populations were detected in Buzi-Gorongosa Plains, Mozambique and Dambo and Lake Chiuta Plains, Malawi. T**here is a strong chance that if left untreated, swarms could escape and invade neighboring countries, including Mozambique, Tanzania, Zambia, Zimbabwe, Swaziland, and even Southern Africa (IRLCO-CSA).**

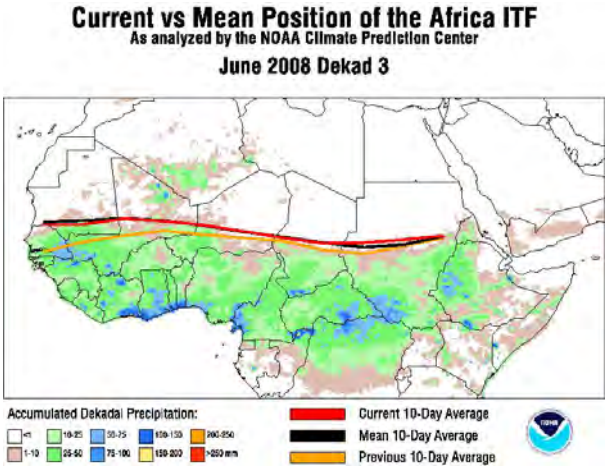
Armyworm outbreaks continued appearing in **Ethiopia** where more than **802,000** ha of crop and pasture were reported infested and **150,247** ha of cropland were sprayed (DLCO-EA, PPD/Addis).

Quelea bird colonies and roosts were controlled in Shinyanga and Morogoro Regions of **Tanzania** and Nyanza and Rift Valley Provinces of **Kenya** where DLCO-EA aircraft were deployed (DLCO-EA, IRLOC-CSA). E**nd summary.**

This and archived Sitreps can be accessed and downloaded on our website:

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

Climatological factors:



During the third dekad of June from 21-30, 2008, the African portion of the Intertropical Front (ITF = ITCZ) was located at around 15.8 degrees N latitude, which is also the average (see Figure above). During this dekad, the ITF surged northward bring rainfall north to the area where the ITF is normally situated this time of year. The ITF had moved north since the last dekad especially in the west and the east. Currently it is 16.7 degrees N in the west and 14.7 degrees N in the east (Mod from NOAA, June 2008). Overall, June was wetter than May and as a result, ecological conditions continued improving in some of the DL breeding areas.

ETOP Situation and Activities:

Western Region

Low numbers of solitary adults were present in the **central Sahara in Algeria** and will likely start moving into the northern Sahel in the coming weeks. Isolated adults were seen in Niger on the southern **Tamesna plains** and in the **Tenere Desert** suggesting that scattered locusts may be present in the surrounding areas.

Central Region

Surveys were carried out on more than 12,040 ha in **Amhara**, **Oromia and southern states (**southwest of Dire Dawa - 0935N/4150E between Kebri Dehar - 0644N/4416E, and Kelafo - 0537N/4408E) **in Ethiopia** in June, but no locusts were detected despite the presence of favorable ecological conditions in most of these areas where summer rains have began falling. No locusts were reported in western lowlands in **Eritrea** where surveys were carried out in 20-23 June. Scattered low density solitary mature adults were seen in the Nile Valley between Atbara (1742N/3400E) and Abu Hamed (1932N/3320E) in **Sudan** in mid-June. A localized breeding occurred in June near **Lake Nasser** in **southern Egypt** where scattered adults are likely to persist in the coming weeks. Scattered adults were also detected in the **interior of Yemen** and a DL swarm was reported flying over **Hargeisa** on July 1st, supposedly coming from the **Harar Highlands in Ethiopia, but no information was available to corroborate at the time this update was compiled** (DLCO-EA, FAO-DLIS, PPD/Addis, PPD/Asmara, PPD/Khartoum).

Forecast

Low numbers of adults could appear in the northern part of western lowlands, **in Eritrea** and breed in the coming months. Scattered adults may be present on the plateau between Boroma and Hargeisa **in Somalia** where small scale breeding could occur in areas of recent rainfall. There is a low to moderate risk that a few small swarms could appear from **eastern Ethiopia** early in the forecast period. Small-scale breeding is likely to persist in crops in the Nile Valley ands scattered adults are likely to appear in Darfur, Kordofan, White Nile and Kassala States **in Sudan**. Locusts will likely be seen in **Saudi Arabia** and **Yemen** and number could increases during the forecast period in areas that receive rainfall (PPD/Khartoum, FAO-DLIS, PPD/Addis, DLCO-EA). Active survey and monitoring are essential to abate unexpected surprises.

Eastern Region

Ground control operations were undertaken in early June on some 310 ha against a few groups of hoppers that remained in **southeast Iran**, and small residual population were present in **Baluchistan in western Pakistan**. Early breeding occurred in Pakistan adjacent to the summer breeding areas along the Indo-Pakistan border where low numbers of hoppers and scattered adults were seen (FAO/DLIS, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Central Asia

Infestations of **Moroccan locust** that were reported in southern **Tajikistan**, adjacent to northern **Afghanistan** where more than 67,000 ha were sprayed earlier by GoT had ended and **Italian locusts** have taken over and begun appearing in the northern part of the country. FAO provided a package worth over $410,160 through the UN CERF to assist **Tajikistan** control Moroccan locust infestations.

Note: Large locust outbreaks can significantly affect grazing land and undermine livestock production which, according to information from USAID field staff, is already taking a toll from lack of grazing land and Kuchi representatives have requested Turkmenistan to allow them to graze their herds there. **End note.**

The Timors and South Pacific

No information was received on locusts from the **Timors** at the time this update was compiled, but it is likely that hoppers and bands of **Migratory locust** are present and pose threats to pasture, maize and/or rice crops in valleys and other areas. Cross-border infestations often impact both countries. Last year this time, control operations missed a chance to abate the development of the locust in **WT** and the locusts severely impacted rice, maze and pasture in both countries. it is important that such incidences are avoided to the extent possible. Locust operations are expected to increase in 2008 in **Australia** as most outbreak areas had received unusually good rains after a prolonged drought**.**

Red Locust:

The international Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) reported the presence of swarms and concentrations of Red Locust (*Nomadacris septemfasciata* Serville) in Dimba Plains in Mozambique, Lake Chilwa Plains in Malawi and in Iku-Katavi, Rukwa Plains and Malagarasi Basin in Tanzania. More than 50 dense swarms (>30 locusts/m^2) were reported controlled on some 10,000 ha using 5,500 l of Fenitrothion 96% in Dimba plains in Caia district in Sofala Province of Mozambique. Isolated to scattered populations were detected in Buzi-Gorongosa Plains in Mozambique and in the Mpatsanjoka Dambo and Lake Chiuta Plains in Malawi.

Swarms over 4 km long and 1 km wide were detected in the Dimba Plains, in **Mozambique**; some escaped and caused **damage to sorghum and maize in Ntopa, Chatala, Nsona, Nhacueaha, villages some 20 to 45 km from Dimba Plains. According to IRLCO, if control is not undertaken on time, there is a high risk of swarms escaping and invading Mozambique, Malawi, Tanzania, Zambia, etc. The Center is** appealing for assistance to control swarms before they cause further damage to crops and pasture in **Tanzania** and possibly cross over to **Uganda, Rwanda, Burundi, and Zambia**.

Forecast: The vegetation burning that has begun and will continue in the coming months will likely concentrate locust populations in unburned patches of vegetation. Some of the swarms could migrate to other locations where grass burning will not take place. IRLCO-CSA in collaboration with the Ministries of Agriculture in the affected countries is planning on carrying out control operations in the outbreak areas. IRLCO has sent out requests for assistance to Development partners, including the UN Food and Agriculture Organization.

African migratory locust

No new information was received in June on the African migratory locust (***Locusta migratoria migratorioides***) and an AML invasion in northern Ethiopia turned out to be a false alarm.

Tree locusts

No information was received on tree locusts (***Anacridium* spp.**) at the time this report was compiled.

Armyworm:

Widespread infestations of African armyworm (***Spodoptera exempta***) and control operation continued in the **southern, eastern, central and northern parts of Ethiopia** in June where **440,055 ha** of crop and **362,032 ha** of pasture were reported infested and **150,247** ha of cropland were sprayed by ground means. Armyworm infestations were not reported in **Kenya** or **Tanzania** in June and further infestations are not expected.

Forecast

Armyworm infestations will likely continue in **northern Ethiopia** in the coming several weeks and there is a high risk of outbreaks occurring in parts of **Eritrean**. Pheromone traps are highly recommended in potential breeding areas to detect moth appearance and contain outbreaks early on (DLCO-EA, AELGA, PPD/Kenya, PPD/Addis).

Quelea birds

Outbreaks of Quelled birds (***Quelea quelea*** L) were reported in June in Nyanza and the Rift Valley Regions **Kenya**. Aerial operations continued in Morogoro and Shinyanga regions of **Tanzania,** where DLCO-EA aircraft treated Quelea colonies on 235 ha in collaboration with Tanzania Plant Health Services. The birds were threatening rice, millet, finger millet and bulrush.

Forecast: Quelea birds will likely continue posing a problem to small grain cereal growers in the Rift Valley and Nyanza Provinces of **Kenya,** Morogoro and Shinyanga regions of **Tanzania** and in some provinces in **Zimbabwe** where winter wheat is grown in the coming months (DLCO-EA, IRLCO-CSA).

Rodents

No new information was received on rodent situation **in Bangladesh** or elsewhere in the region at the time this report was compiled and no significant activities are expected.

Recommendations on ETOPs:

Front-line countries must remain vigilant and exercise prevention and mitigation to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories did not change much as most of the outbreak countries remained calm and only Ethiopia carried out massive control operations against armyworm invasions in June where **more than 800,000** ha were infested and some **150,245 ha** were sprayed.

Country	Quantities in l/kg
Eritrea	44,800
Ethiopia	29,000
Mali	222,524
Mauritania	545,186
Morocco	3,998,365
Niger	184,084
Senegal	532,960
Sudan	735,676
Algeria, Libya, Saudi Arabia, Tunisia, Yemen	Data not available at the time this report was compiled

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored through USAID/OFDA Cooperative Agreement with the UN FAO.* ***End note.***

Point of Contact:

For more information please, contact:

Yeneneh T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

or visit our website at:

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

Emergency Transboundary Outbreak Pest (ETOP) situation update for July with a forecast till September, 2008

Summary

Desert Locust: The Desert Locust situation remained relatively calm in July in most of the outbreak areas surveyed. Adult groups were reported laying eggs in Central Sahara in **Algeria** and controlled in 54 ha near irrigated fields. Survey and monitoring were hindered by on-going security problems in **northern Mali**, **northern Niger**, **eastern Chad** and **western Sudan**. It is likely that low numbers of solitary adults are present in these areas and perhaps begin breeding in areas of recent rainfall. No locusts were reported in **eastern Ethiopia** where surveys were carried out in July, despite improved or improving ecological conditions in most of the surveyed areas. The situation in the **Ogaden** region is unclear as surveys are impeded by on-going security problems. Scattered adults were reported in northern **Somalia** and on the Red Sea coast of **Yemen** (FAO-DLIS). Adult locusts may be present in the summer breeding areas in **Sudan** and **Eritrea**. No locusts were detected during surveys carried out in **Egypt**, **Oman** and **Saudi Arabia**. Small-scale breeding is in progress in areas of recent rainfall along both sides of the **Indo-Pakistan** borders.

Forecast

Some adults will persist in the summer breeding areas in northern Sahel and small-scale breeding will likely occur here and along the **Indo-Pakistan** borders and locust numbers will slightly increase during the forecast period. Frontline countries adjacent to outbreak areas where security problems continue hindering survey and monitoring should remain vigilant as they remain vulnerable to *allochthonous* populations. Regular surveys are recommended in all summer breeding areas as ecological conditions continue improving (FAO-DLIS, AELGA, DLCO-EA, PPD/Ethiopia, PPD, Sudan, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Other ETOPs

Italian locust, Moroccan locust: **Moroccan** locust infestations were not in sight in southern **Tajikistan** and adjacent areas of northern **Afghanistan**, but **Italian** locust has begun appearing in northern **Tajikistan**.

Note: FAO experts are fielded to assess and assist 10 Central Asian countries with the development of a project to help create a platform to strengthen national and regional capacities for locust survey and control. The mission is being co-sponsored by FAO, OFDA, and others. End note.

Note: Farmers in northern **Afghanistan** who were promised 7 kg of wheat for each kg of dead locusts were disappointed as the promise failed to materialize. Though good intentioned, it appears that the promise was not well coordinated and the PPD staff became aware of it after effect. **End note.**

Rodents: No new information was received on rodents during this period.

Red Locust: Swarms of red locust that originated in **Mozambique** invaded **Zimbabwe** during the second dekad of July. The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) deployed a helicopter and locust experts and survey and assessments began on 22nd July. All PPD staff and personnel in **Zimbabwe, Zambia, Malawi, Botswana, Swaziland, South Africa** and **Tanzania** have been alerted to remain vigilant and report any locust sightings.
Armyworm outbreaks affected close to 911,000 ha of crops and pasture in **Ethiopia** and more than **187,247** ha were sprayed as of the end of the first dekad of July. The infestations affected more than 290 districts in 8 of the 10 Regional States, including Addis Abeba. Control operations have been concluded in most of the affected areas, but there is a likelihood of new outbreaks occurring in the northern part of the country where the pest can persist for the next several weeks before it moves on to Eritrea.

A late received report indicated that **Yemen** has been fighting armyworm infestations since the end of May, 2008. Control operations were carried out in several governorates and averted what could have become a major threat to maize, wheat, sorghum, millet and pasture.

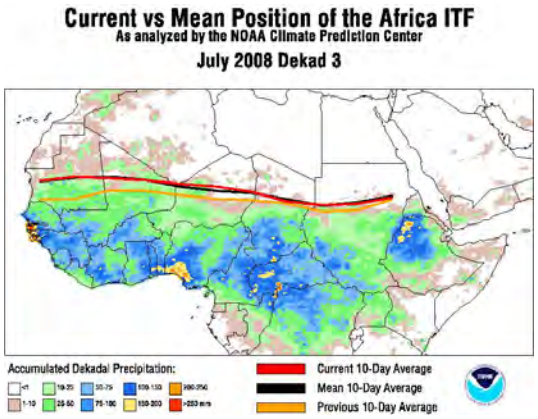
Quelea: Colonies and roosts of **Quelea** birds were controlled in Shinyanga and Morogoro Regions of **Tanzania** and Nyanza and Rift Valley Provinces of **Kenya** using DLCO-EA aircraft (DLCO-EA, IRLOC-CSA). **End summary.**

This Sitrep and previous issues can be accessed and/or downloaded on our website:

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

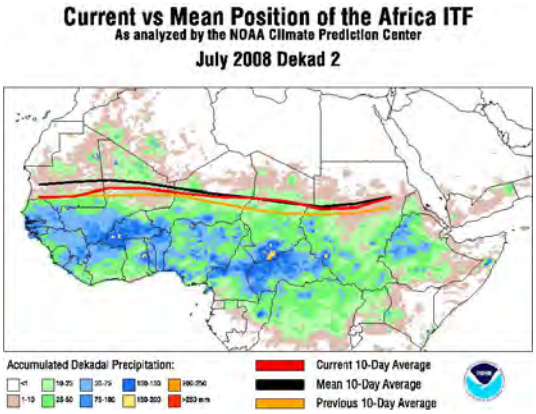
Climatological factors:

The African portion of Intertropical Front (ITF) was located at around 18.3N during the 3rd dekad of July, 2008. In the west, the ITF had been lagging throughout the season, until the last week of July when it surged northward to the average position of 19.5N and 16.5N in the east. These positions are comparable with the 30 year mean positions of around 19.3N in the west and a position of around 16.7N in the east The southward lag has caused a delayed or below normal rain fall in the summer breeding areas in the Sahel (mod from NOAA).

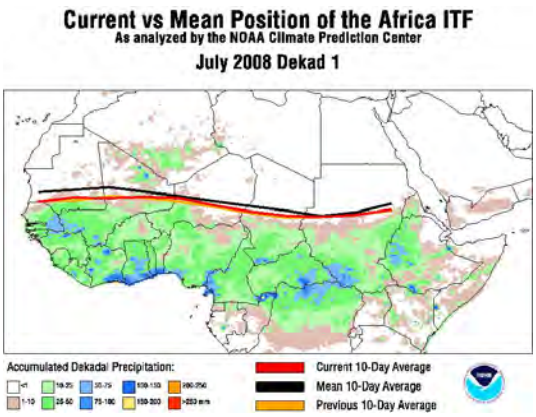


The ITF remained below the 30 year average locations in the first and second dekads of July. It was at around 16.8N in the second dekad, which is

below the average of 17.5N location. It remained at the below normal location in this area for almost three dekads.



During the first dekad, it was located around 16.0N, significantly below the average location of 16.8N. It remained below normal position throughout much of the season in the west and only showed a slight northward movement the last week of June and then stalled during the first week of July across Africa. It then moved slightly to the north in the west, but shifted south in the east during this period and this has negatively affected the rainfall pattern during this period (mod from NOAA).



ETOP Situation and Activities:

Western Region

The Desert Locust situation remained calm in most of the outbreak areas in the western region in July. Only adult groups were observed laying eggs in Central Sahara in near Adrar, **Algeria** where control was carried out in 54 ha near irrigated fields (FAO-DLIS). Survey and monitoring were hindered in **northern Mali**, **northern Niger**, **eastern Chad** and **western Sudan** by the on-going security problems. it is likely that low numbers of solitary adults are present in these areas and perhaps begin breeding in areas of recent rainfall during the forecast period (FAO-DLIS).

Central Region

Locusts were not reported in **eastern Ethiopia** where surveys were carried in more than 5,760 ha in July, but ecological conditions have improved or are improving in most of these areas. The situation in the **Ogaden** region is still unclear as surveys are hindered by the on-going security problems. Scattered adults were reported in northern **Somalia** and on the Red Sea coast of **Yemen** (FAO-DLIS). A sighting of a swarm flying on July 1st over Hargeisa was reported, but additional information was not available on its whereabouts. No locusts were reported in **Sudan** or **Eritrea**, but it is likely that scattered adults may be present in the summer breeding areas in these countries. Locusts were not reported during surveys carried out **in Egypt**, **Oman** and **Saudi Arabia** in July.

Forecast

Adult locusts will likely persist in the summer breeding areas in northern Sahel and small-scale breeding will likely take place here and along the **Indo-Pakistan** border and locust numbers will slightly increase during the forecast period. Frontline countries adjacent to outbreak areas where security problems continue hindering surveys and monitoring should be extra cautious as they are vulnerable to invasions by *allochthonous* populations. Regular surveys should be maintained to the extent possible in all summer breeding areas where ecological conditions have improved and/or will likely improve (FAO-DLIS, AELGA, DLCO-EA, PPD/Ethiopia, CLAA/Mauritania, DDLC/Libya, INPV/Algeria).

Eastern Region

Small-scale breeding is in progress along both sides of the **Indo-Pakistan** border in areas where monsoon rains fell (FAO-DLIS). No locust was reported in other countries in the eastern region and significant activities are not expected during the forecast period.

Central Asia

Moroccan locust infestations were no longer in sight in southern **Tajikistan** and adjacent areas of northern **Afghanistan**, but **Italian** locust has begun appearing in the northern part of the country.

Note: Farmers in northern Afghanistan who were promised 7 kg of wheat for each kg of dead locusts were disappointed as the promise failed to materialize. Though good intentioned, it appears that the promise was not well coordinated and the PPD staff was not aware of it until it hit the media outlet. End note.

Note: FAO experts are fielded to assess and assist 10 Central Asian countries with the development of a project to help create a platform to strengthen national and regional capacities for locust survey and control. The mission is being co-sponsored by FAO, OFDA, and others. End note.

Note: During the Soviet era, locust control operations in Central Asia were carried out through a centralized structure. As the countries in the region became independent the structure was disbanded and locust operations were left to individual countries with no operational units or structured technical know-how. This has contributed to the worsening of the locust situation and becoming a serious problem as these pests move freely across the new political boundaries. FAO has been continuously trying to create a platform that could bring together individual countries and help coordinate their efforts to launch regional/sub-regional operations and counter or match cross-border outbreaks. **End note.**

Red Locust:

The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) in collaboration with the MoAs in **Mozambique, Zimbabwe** and **Zambia** carried out

survey operations in the outbreak areas in these countries and on more than 240,000 ha in Mozambique alone in July. Swarms and concentrations were detected in the Lake Chilwa Plains in **Malawi** and in the Iku-Katavi, Rukwa Plains and Malagarasi Basin in **Tanzania** and required immediate control. Swarms that escaped from Dimba Plains in **Mozambique** invaded **Mashonaland** East and **Mashonaland** Central Provinces of **Zimbabwe**. Isolated and scattered populations were also seen in the Dimba and Buzi-Gorongosa Plains in **Mozambique** and in the Kafue Flats and Lukanga swamps in **Zambia**. However, the threats the locusts pose is limited to irrigated crops as the rain-fed crops have already been harvested. During the second dekad of July, swarms that originated in **Mozambique** invaded **Zimbabwe**. IRLCO-CSA deployed a helicopter and locust experts to the invasion areas and survey and assessments began on 22nd July. IRLCO has issued an alert to all PPD staff and officers in **Zimbabwe, Zambia, Malawi, Botswana, Swaziland, South Africa** and **Tanzania** to remain vigilant and report any locust sightings. It is to be recalled that in June more than 50 dense swarms were reported controlled on more than 10,000 ha in Malawi, Mozambique and Tanzania (IRLCO/CSA). **Forecast:** The grass burning that has begun and will continue in the coming months will likely concentrate locust populations in unburned patches of vegetation. Some of the swarms could migrate to other locations where grass burning will not take place. IRLCO-CSA is planning on carrying out control operations in the outbreak areas in **Malawi, Mozambique, and Tanzania** in collaboration with the MoAs. **UN Food and Agriculture Organization h**as responded positively to the IRLCO appeal for assistance (IRLCO-CSA).

African migratory locust

No new information was received in July on the African migratory locust and an AML invasion in northern Ethiopia turned out to be a false alarm.

Tree locusts

No information was received on tree locusts at the time this report was compiled.

The Timors and South Pacific

No new information was received on locusts from the **Timors** at the time this update was compiled, but it is likely that hoppers and bands of **Migratory locust** are present and pose threats to pasture, maize and/or rice crops in valleys and other areas. Cross-border infestations often impact both countries. it is important that incidences that exacerbate cross-border invasions and re-invasions are avoided.

Locust operations are expected to increase in 2008 in **Australia** as most outbreak areas had received unusually good rains after a prolonged drought**.**

Armyworm:

Armyworm outbreaks continued in **Ethiopia** where close to 911,000 ha of crop and pasture were reported infested and more than **187,247** ha were sprayed using close to 121,500

l/kg of pesticides by the end of the first dekad of July. According to PPD/Addis, the infestations were among the worst in decades and they affected more than 290 districts in 8 of the 10 Regional States, as well as Addis Abeba administration and other urban areas. In some instances, crop fields were completely wiped out, e.g., in **Dire Dawa** administration alone, close to 8,050 ha of crop fields were destroyed. A similar situation was reported in western **Arsi, Oromiya zone** where farmers had to re-saw more than 3,364 ha (8,242 acres) of crop fields that were mowed down to the ground. A late received report indicated that **Yemen** has been fighting armyworm infestations since the end of May, 2008 in Taiz, al-Dhalei, Lahj and Ibb governorates and averted what appeared to be a major threat to maize, wheat, sorghum, millet and pasture. More than 25 motorized vehicle mounted sprayers were mobilized to control the infestations (Note: Armyworm infestations occur in **Yemen** during the rainy season as the moths migrate from eastern Africa and the Horn north and northeast following the movement of the ITCZ which is associated with the rains. End note).

Forecast

Control operations have been concluded in most of the areas infested in **Ethiopia,** but there is a likelihood of new infestations occurring in northern part of the country, particularly **Tigray** region where the pest can persist well into August and even early September. According to PPD/Addis, pheromone traps have been set up in several places in Tigray zone and monitoring and surveillance are in progress (note: the higher the moth catch the greater the likelihood of caterpillar infestations occurring). Armyworm infestation will also likely occur in parts of **Eritrean** and it is essential that similar actions are taken to abate any potential threats from this pest (AELGA, PPD/Addis, PPD/Kenya,).

Quelea

Quelea birds outbreaks were reported in Siaya district of Nyanza Province and Naivasha district of Rift Valley Province in **Kenya**. Aerial control operations were conducted using an avicide. There were no reports of Quelea birds causing damage to small grain cereal crops in other IRLCO- member countries (IRLOC-CSA).

Forecast: Quelea birds are likely to continue being a problem to small grain cereal growers in Nyanza Province of **Kenya** and in provinces of **Zimbabwe** where winter wheat is grown.

Rodents: No new information was received on rodents during this period.

Recommendations on ETOPs:

Front-line countries (in particular, those adjacent to areas off limit to survey and monitoring) must remain vigilant and exercise prevention and mitigation to minimize unexpected risks from ETOPs. Those in invasion areas should stay alert and implement preventive intervention strategies. Countries in the outbreak zones should collect information on ETOP regularly and share it with all stakeholders as often as possible.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories did not change much as most of the outbreak countries remained calm and did not carry out significant control operations during the reporting period.

Country	uantities in l/kg
Algeria	1,800,000**
Burkina Faso	0.00
Cape Verde	0.00
Chad	108,085
Eritrea	44,800
Ethiopia	12,300~
Gambia*	
Libya*	
Mali	230,000
Mauritania	497,600+
Morocco	4,107,300
Niger	69,000
Saudi Arabia*	
Senegal	519,000
Sudan	735,676
Tunisia*	167,600*
Yemen*	
Most current data unavailable at the time this report was compiled + Mauritania donated 70,000 litres to Yemen in July 2007 ** Inventory expected to be updated this month ~ these pesticide stocks represent at of DL	

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored through USAID/OFDA Cooperative Agreement with the UN FAO.* ***End note.***

Point of Contact:

For more information please, contact:

Yene T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

or visit our website at:

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

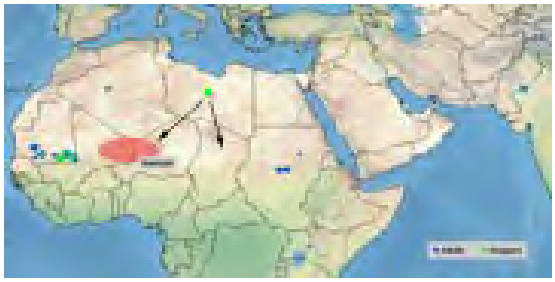
Emergency Transboundary Outbreak Pest (ETOP) situation update for August with a forecast till October, 2008

Summary

Desert Locust: The Desert Locust situation remained relatively calm in August in most of the outbreak areas. Control operations were carried out against some hoppers in **Libya** and **Algeria** (FAO-DLIS). Scattered hoppers were detected in southern **Mauritania** and a similar situation may exist in northern **Mali** and **Niger** where surveys were impeded by on-going security problem. Isolated hoppers may be present in areas of recent rainfall in **Chad and** the interior of **Sudan.** No locusts were seen during surveys carried out in western **Eritrea** and eastern **Oromiya** of **Ethiopia** but the situation in the **Ogaden** region is still unclear. No locusts were reported in **Egypt**, **Oman Saudi Arabia**, **Somalia** or **Yemen.** Small-scale breeding continued along the **Indo-Pakistan** borders where monsoon rains continued (DLCO-EA, FAO-DLIS, PPDs and DPVs).

Forecast

Adult locusts will persist and breed and numbers will slightly increase in the summer breeding areas from southern **Mauritania** to western **Eritrea**, the **Red Sea** region and along the **Indo-Pakistan** borders, but significant developments are not expected in the coming months (AELGA, FAO-DLIS, DLCO-EA, DPVs, PPDs).



Summer breeding and possible migration (FAO-DLIS)

Other ETOPs

New information was not received on I**talian** locust that begun appearing in northern **Tajikistan** in the past month.

Note: A team of experts that was deployed to assess and assist with the creation of a regional structure for locust control in 10 Central Asian countries continued its field visits. The mission is being sponsored by FAO, OFDA, and others. **End note.**

Red Locust: The International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) helicopter and locust experts deployed to locust affected areas in **Zimbabwe** continued operations. IRLCO-EA urges PPD staff and personnel in **southern Africa** to remain vigilant and report any locust sightings.

Armyworm outbreaks were reported at the time this Sitrep was compiled.

Quelea infestations were controlled by a DLCO-EA aircraft in Nyanza province **Kenya** in rice fields. Infestations were also reported in the Rift Valley province in Kenya where ground and aerial control operations continued. **Tanzania** remained free from Quelea outbreaks

during this period (DLCO-EA, IRLOC-CSA). **End summary.**

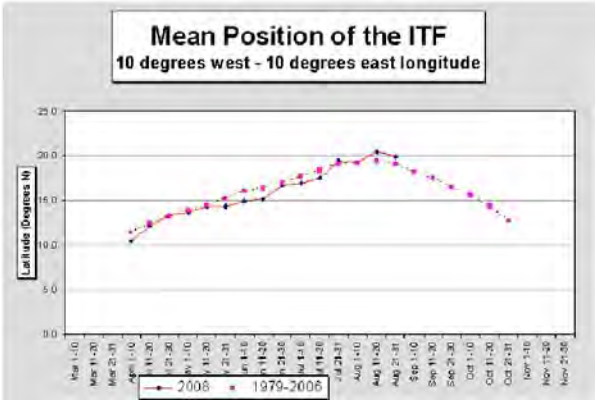
This and other archived Sitreps can be accessed on our website:

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

Climatological factors:

In August, the Africa portion of the ITF moved slightly north from the previous month, more so in the second and third dekads. In the second dekad, it was located around 19.1N latitude with the highest reaching 21.1N in the west and at 20.1N in the east and slightly lower in the third dekad (NOAA). This brought rains in many parts of West Africa and the summer breeding areas in the East. Flooding occurred in Niger, Benin, Togo and elsewhere in the region and ecological conditions remained favorable, but it did not coincide with the critical mass of locusts (***the 2004-05 campaign and the harsh weather that followed effectively broke the breeding cycle of the locust***).

a)



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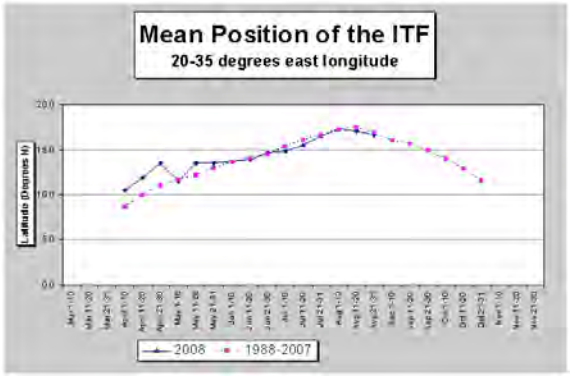

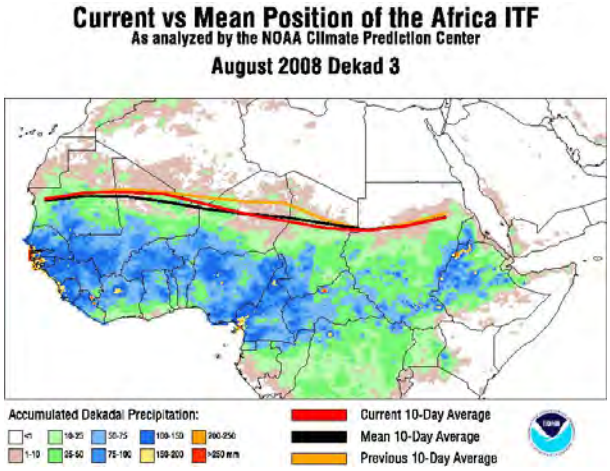

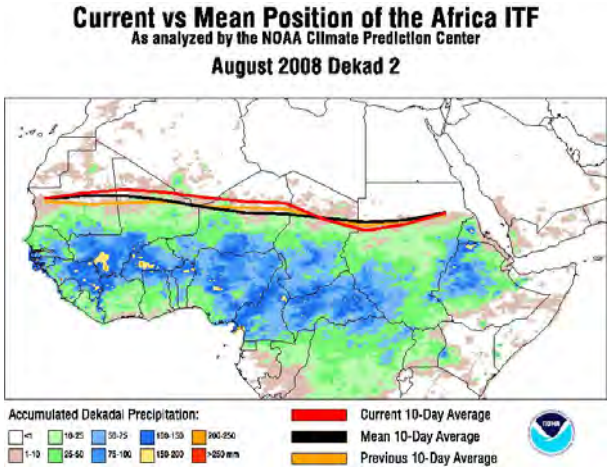

ETOP Situation and Activities:

Western Region

The Desert Locust situation remained calm in most of the outbreak areas in the western region in August. Only

scattered hoppers were controlled in 4,000 ha in central **Libya** and a mere 15 ha in central **Algeria** during this period. Small-scale breeding occurred in southern **Mauritania** and similar activities may been present in northern **Niger** and northern **Mali** that are inaccessible to DPV staff due to on-going security problems (DPVs, FAO-DLIS).

Central Region

Surveys were carried out in the summer breeding areas in the interior of **Sudan,** western **Eritrea**, and eastern **Ethiopia** and solitary mature adults were detected in **Sudan**, but no locusts were reported in **Eritrea** or **Ethiopia**. The situation in the **Ogaden** region remains unclear as surveys were not possible due to the on-going security problem. No locusts were reported in **Egypt, Oman, Saudi Arabia, Somalia**, **Yemen**, or elsewhere in the region.

Eastern Region

Small-scale breeding is in progress along both sides of the **Indo-Pakistan** border in areas where monsoon rains fell (FAO-DLIS). No locust was reported in other countries in the eastern region and significant activities are not expected during the forecast period.

Forecast

Adult locusts will likely persist in the summer breeding areas in northern Sahel and small-scale breeding will occur here and along the **Indo-Pakistan** border. As a result, locust numbers will slightly increase during the forecast period. Frontline countries adjacent to outbreak areas where surveys and monitoring are being undermined by the security situation should be extra cautious as they may be most vulnerable to invasions by *allochthonous* populations. Regular surveys should be maintained in summer breeding areas where ecological conditions are favorable (FAO-DLIS, AELGA, DLCO-EA, PPDs, DPVs).

Central Asia

Moroccan locust infestations ended in southern **Tajikistan** and adjacent areas of northern **Afghanistan.** No new information was received on the **Italian** locust that appeared in northern **Tajikistan** earlier.

Note: Three major locust species, i.e. ***Italian, Migratory***, and ***Moroccan*** locusts invade CA and the caucuses and affect more than 27 million people. During the Soviet era, locust operations in Central Asia (CA) and the caucuses were carried out through a centralized structure. As the countries in the region became independent, the structure fell apart and locust operations were left to individual countries. Most of these countries lack functional units or viable technical capability to counter locust invasions. As a result, the locusts can move across political boundaries and cause damage to crops and pasture.

FAO has been trying to create a regional platform that will bring together countries and resources and help coordinate cross-border survey and control operations. With assistance from OFDA and others, FAO has been

able to deploy a team of experts to assess and assist 10 CA countries and neighbors, including Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan as well as Afghanistan and adjacent areas in Russian Federation and strengthen capacity for a regional coordination of survey and control. **End note.**

Red Locust: The IRLCO-CSA survey helicopter and locust experts that were deployed on July 21st to **Zimbabwe** continued operations. IRLCO-CSA urges PPD staff and personnel in **southern Africa** to remain vigilant and report any locust sightings.

Forecast: Grass burning continued in August and forced locusts to concentrate in patches of unburned areas. Some of the swarms could migrate to other locations where grass burning will not take place. IRLCO-CSA is pursuing survey and control operations in **Malawi, Mozambique**, and **Tanzania** in collaboration with the MoAs. UN/FAO responded positively to an appeal issued by the IRLCO for assistance with locust control (IRLCO-CSA).

No new information was received on the **African migratory locust** and **tree locusts** in August.

The Timors and South Pacific

No new information was received on locusts from the **Timors** at the time this update was compiled, but it is likely that hoppers of **Migratory locust** are present and threaten pasture, maize and/or rice crops. Cross-border infestations often impact both **East** and **West Timor**. It is important that active surveillance and preventive interventions are implemented to the extent possible.

In **Australia**, locust operations are expected to increase in 2008 as a result of unusually good rains that fell in the outbreak areas ending a prolonged drought.

Armyworm outbreaks that affected more than 911,000 ha of crops and pasture earlier in **Ethiopia** have ended. Armyworm activities have not been reported in August in **Tigray**, **Eritrea** or **Yemen** - the last stops of the pest in outbreak years. This suggests that the armyworm season has ended in these countries.

Quelea birds were seen attacking rice crops in Nyanza province **Kenya** and control operations were carried out by a DLCO-EA aircraft. Infestations were also reported in the Rift Valley province in Nakuru, Laikipia, Nyahururu and Meru districts in **Kenya**. Ground and aerial control operations continued in these areas. Quelea activities were not reported in **Tanzania** in August (DLCO-EA, IRLOC-CSA).

Forecast: Quelea infestations are likely to continue being a problem to small grain cereal growers in Nyanza Province of **Kenya** and in winter wheat growing areas of **Zimbabwe**.

Recommendations:

Front-line countries, particularly, those adjacent to areas not accessible for survey must remain vigilant. Countries

in invasion zones should implement preventive control interventions. PPDs and DPVS should collect ETOP information and share it with all stakeholders regularly.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories did not change much as most of the countries did not require significant spraying during this period.

Country	Quantities in l/kg
Algeria	1,800,000**
Burkina Faso	0.00
Cape Verde	0.00
Chad	108,085
Eritrea	44,800
Ethiopia	12,300~
Gambia, Libya*	??
Mali	230,000
Mauritania	497,600+
Morocco	4,107,300
Niger	69,000
Saudi Arabia*	??
Senegal	519,000
Sudan	735,676
Tunisia*	167,600*
Yemen*	??

Current data not available at the time this report was compiled
+ Mauritania donated 70,000 litres to Yemen in July 2007
** Inventory expected to be updated
~ this represents only DLCO's stocks

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored by USAID/OFDA's Cooperative Agreement with the UN FAO through capacity building and other means.* ***End note.***

Point of Contact:

For more information please, contact:

Yene T. Belayneh, Ph.D.,
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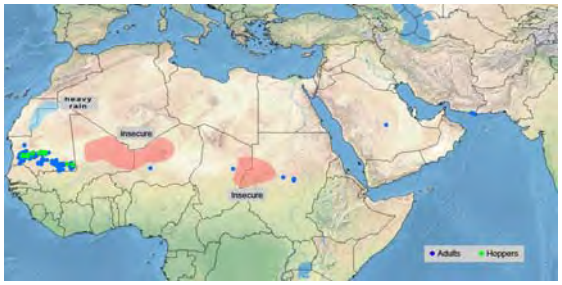
Emergency Transboundary Outbreak Pest (ETOP) situation update for September with a forecast till November, 2008

Summary

Desert Locust: Small-scale breeding continued in southern **Mauritania** and a similar situation may exist in northern **Mali** and **Niger** where surveys were impeded by on-going security problems. Scattered adults were reported in northeastern **Chad**, in the interior of **Sudan** and on a farm in **Saudi Arabia**. No locusts were reported elsewhere in the summer breeding areas in the western, central or eastern regions.

Forecast

Locusts will move from southern **Mauritania** to the north and northwestern Mauritania and southern **Morocco** and will likely breed in the coming months. Locusts will also migrate from the interior of **Sudan** west of the Nile to the Red Sea region and lay eggs. Egg laying could also occur on the coastal areas in **Saudi Arabia**, **Yemen** and **Eritrea** during the forecast period, but significant developments are not expected (FAO-DLIS, DPVs, PPDs).



Insecurity and heavy rains - cause for concern in Sahel West and northwest Africa (FAO-DLIS)

Other ETOPs

No additional information was received on **Italian** locust or other locusts in Central Asia and the Caucuses.

Note: A team of experts is in the field assessing and assisting Central Asian countries to develop a regional platform for locust control. The mission is being sponsored by FAO, OFDA, and others. **End note.**

Red Locust: No new information was received at the time this report was compiled, however, the extensive grass burning in most of the Red Locust outbreak areas may have forced locusts to concentrate in unburned areas. It is likely that the ground is bare and ideal for egg laying, especially in flooded areas.

Armyworm season has ended in **Ethiopia**, **Kenya** or **Yemen**, but the season will soon begin it southern Africa.

Quelea New information was not received at the time this report was compiled, however, **Quelea** birds may continue threatening irrigated rice crops in **Kenya** where earlier **DLCOEA** aircraft launched control operations. It may also threaten winter wheat in **Zimbabwe. End summary.**

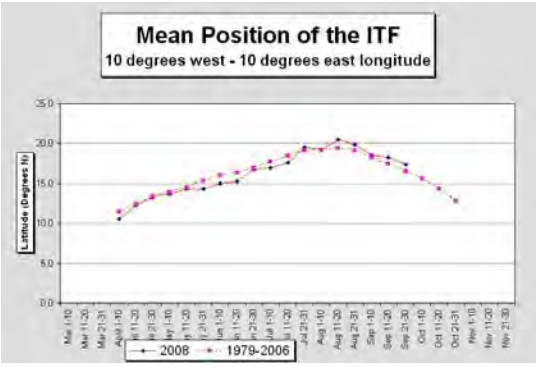
Current and archived Sitreps can be accessed on our website at:

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

Climatological and ecological factors

In September, the Africa portion of the Intern-Tropical Front (ITF) across the west and the east zones progressively moved south from its position in August. There were a couple of days during the third dekad when ITF surged northward into the Sahara desert across Mali and Mauritania resulting in light precipitation in some areas where conditions were favorable until they gradually began declining. The ITF averaged at 17.3N in the west and 15.1N in the east this month, which is slightly higher than its long-term mean positions of 16.6N and 14.7N in the west and the east, respectively(mod from NOAA). **(Note: *the 2004-05 campaign and the harsh weather that followed effectively broke the breeding cycle of the locust upsurge that had the potential to develop into a full blown multiple year plague. End note.*).**

a)



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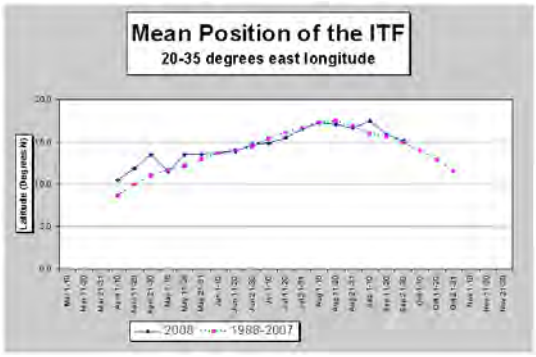

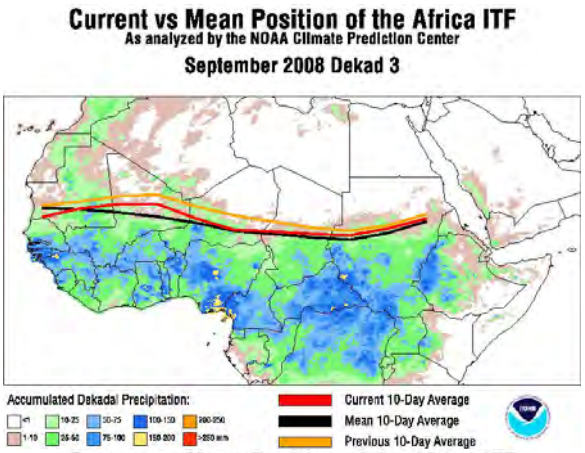

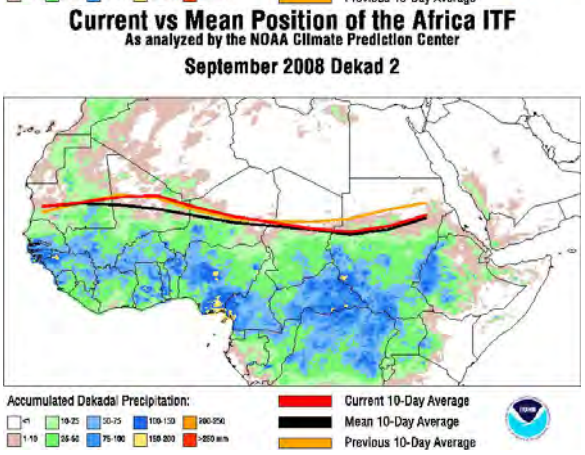

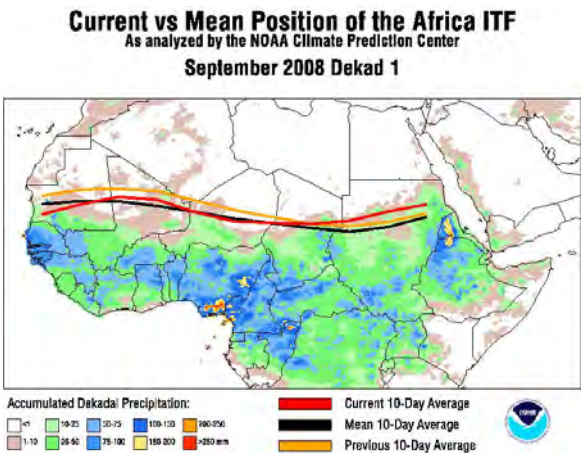

ETOP Situation and Activities

Western Region

The Desert Locust situation remained relatively calm in the western region and only small-scale breeding was reported in southern **Mauritania** in September. A

similar situation may have existed in northern **Mali** and **Niger**, but could not be confirmed due to security problems. A few isolated adults were seen in northeastern **Chad**, but no locusts were reported elsewhere in the region during this period.

Forecast

With the summer rains ending, vegetation drying out and ecological conditions continue becoming unfavorable, locusts will be forced to move into patches of green vegetation. Adult locusts in southern **Mauritania** have already begun moving north and northwest and some of locusts may reach southwestern **Morocco** where they will likely breed in the months to come (FAO-DLIS).

Central Region

Adult locusts were reported in the summer breeding areas in the interior of **Sudan** west of the Nile. Isolated adults were also seen on a farm in the interior of **Saudi Arabia**. No **l**ocusts were detected in **Egypt**, **Eritrea**, northern **Somalia** or **Oman**. Ecological conditions were unfavorable and surveys were not carried out in eastern and southern **Ethiopia**. Despite good rains that fell in the Red Sea coasts of **Yemen**, surveys were not carried out and it is not clear whether locusts persisted.

Forecast

Adult locusts will likely move from the interior of **Sudan** to the Red Sea coast and lay eggs during the forecast period. Limited breeding may take place on the coastal areas of **Yemen**, **Saudi Arabia** and **Eritrea** during the forecast period, but significant developments are not expected.

Eastern Region

The summer breeding areas in Rajasthan, **India** remained calm. Scattered adults were seen in southeastern coast of **Iran**. No reports were received from **Afghanistan** or **Pakistan** during this period(FAO-DLIS).

Forecast

Due to poor monsoon rains, ecological conditions remained largely unfavorable and limited locust activities. As a result, significant developments are not expected in the coming months.

Central Asia

No new information was received on the **Italian** locust or other locusts in CA during this period and further development is not expected.

Note: Three major locust species, i.e. ***Italian, Migratory***, and ***Moroccan*** locusts affect more than 27 million people in CA and the caucuses. During the Soviet era, locust operations in CA and the caucuses were carried out through a centralized structure. After the countries in the region became independent, the structure fell apart and locust operations were left to individual countries. Most of these countries lack fully functional units or viable technical capability to counter locust invasions on their own. As a result, locusts were allowed to move across political boundaries and cause damage to crops and pasture.

With assistance from OFDA and others, FAO deployed a team to assess and assist CA and neighboring countries - Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan as well as Afghanistan and adjacent areas in Russian Federation to identify ways and means of strengthening capacities for a regional coordination of locust survey and control. **End note.**

Red Locust:- No new information was received at the time this report was compiled, however, extensive grass burning that took place in most of the Red Locust outbreak areas may have concentrated adult locusts in unburned areas, but significant developments are not expected during the forecast period.

No new information was received on the **African migratory locust** and **tree locusts** in September.

The Timors and South Pacific

Although new information was not received at the time this update was compiled, it is likely that hoppers of **Migratory locust** are present and threaten pasture, maize and/or rice crops in **East Timor**. Cross-border infestations can impact both **East** and **West Timor and require** active surveillance and preventive interventions.

In **Australia**, locust operations are expected to increase in 2008 as a result of unusually good rains that fell in the outbreak areas ending a prolonged drought. Spray operations are expected to commence in October/November.

Armyworm:- Armyworm season has ended in **Ethiopia**, **Kenya** and **Yemen**, but will soon begin in southern Africa.

Quelea No update was received at the time this report was compiled, however, the bird may have continued being a threat to irrigated rice crops in Nyanza and the Rift Valley provinces in **Kenya** where earlier **DLCOEA** aircraft launched control operations and to winter wheat in **Zimbabwe**. ***Quelea*** activities were not reported in **Tanzania** in September.

Note: Grass burning that is practiced in the IRLCO region destroys the primary food source of the ***Quelea*** birds, grass seeds, and forces them into searching for alternative sources, small grain crops. **End note.**

Forecast: Quelea infestations are likely to continue being a problem to rice in **Kenya** and perhaps winter wheat in **Zimbabwe**.

Recommendations:

Front-line countries are advised to remain vigilant. Countries in the outbreak zones should seize every opportunity to strengthen and maintain their preventive capacity to avoid any unexpected surprises. PPDs and DPVs should continue

sharing ETOP and related information with stakeholders as often as they can.

AELGA (Assistance for Emergency Locust and Grasshopper Abatement) will continue monitoring the situation and issue updates and advise.

Pesticide Stocks

Pesticide inventories in front-line and outbreak countries remained unchanged as no interventions were undertaken in September.

Country	Quantities in l/kg@
Algeria	1,800,000**
Burkina Faso	0.00
Cape Verde	0.00
Chad	108,085
Eritrea	44,800
Ethiopia	12,300~
Gambia, Libya*	??
Mali	230,000
Mauritania	497,600+
Morocco	4,107,300
Niger	69,000
Saudi Arabia*	??
Senegal	519,000
Sudan	735,676
Tunisia*	167,600*
Yemen*	??
@some of these pesticide have expired or will soon expire *Current data not available at the time this report was compiled + Mauritania donated 70,000 litres to Yemen in July 2007 ** Inventory expected to be updated ~ this represents only DLCO's stock	

Note: *Many countries continue benefiting from obsolete pesticide management activities co-sponsored by USAID/OFDA's Cooperative Agreement with the UN FAO through capacity building and by other partners.* ***End note.***

Point of Contact:

For more information please, contact:

Yene T. Belayneh, Ph.D.,
ybelayneh@ofda.gov

or visit us at:

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