1.0 WEATHER AND ECOLOGICAL CONDITIONS

In the Central Region, good rains fell in the winter breeding areas along both sides of the Red Sea during November. In Saudi Arabia, moderate rains fell on the northern coastal plains during the first decade and on the central and southern coast during the second decade while light rain fell at other times during the month along parts of the coast. In Yemen, heavy rains fell in the highlands during the last decade, some which may have runoff onto the Red Sea coastal plains. In Eritrea, good rains fell near Massawa during the last two decades. No significant rain fell along the coast of Sudan and Egypt. Ecological conditions were favorable for breeding along the Red Sea coast of Saudi Arabia, Yemen and Eritrea and the of Aden coast west of Aden in Yemen. (FAO DL bulletin No. 422)

Djibouti

Report not received.

1.1 Eritrea

During November, light to medium amount of rains fell on the Red Sea coastal areas. Soil was moist crops and other vegetation were green creating conducive ecological conditions for locust breeding.

1.2 Ethiopia

Light to heavy rainfall occurred in the southern half and the eastern part of the country mainly during the first decade of November 2013. During the second decade, the coverage and intensity increased and more rains fell in wider parts of the country except along the middle and northern Rift Valley areas.

The continued rainfall in most of the eastern parts has maintained soil moisture and triggering the greening of the vegetation even in those arid areas. Consequently, ecological conditions have become suitable for breeding and development of locusts.

The following rainfall data is obtained from Dire Dawa meteorological station during November, 2013:

<table>
<thead>
<tr>
<th>Date</th>
<th>Dire Dawa 0936N/4150E (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>04</td>
<td>17.0</td>
</tr>
<tr>
<td>05</td>
<td>6.5</td>
</tr>
<tr>
<td>06</td>
<td>6.2</td>
</tr>
<tr>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>13</td>
<td>28.5</td>
</tr>
<tr>
<td>25</td>
<td>trace</td>
</tr>
<tr>
<td>Total</td>
<td>75.8</td>
</tr>
</tbody>
</table>

1.3 Kenya
During November, although there were some localized heavy rainfalls mostly light to medium amount of rains occurred in many parts of the country. Perennial vegetation continued to remain green while annual vegetations were green and greening in areas where rains fell.

1.4 Somalia

During the first two decades of November, low to heavy rains fell covering many regions of the country. Drift of tropical cyclone that hit the horn region during the last days of the 2nd week of the month have inflicted heavy casualties, including the destruction of houses, death of animals and humans mainly in Berbera, Garbo-Dadar and other localities along the coast in the north. In Puntland region, many villages and infrastructure have been washed away due to floods and deaths of people and thousands of animals were also reported. More than 100,000 residents of the villages have been internally displaced. The Central and Southern regions of the country have also received low to moderate rains during the month. Consequently, vegetation was reported greening to green across many parts of the country.

Rainfall record in some stations during November, 2013

<table>
<thead>
<tr>
<th>Date</th>
<th>Hargeisa</th>
<th>Berbera</th>
<th>Caynabo</th>
<th>Cadadle</th>
<th>Sheikh</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>-</td>
<td>-</td>
<td>42.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>05</td>
<td>-</td>
<td>-</td>
<td>19.0</td>
<td>0.5</td>
<td>7.0</td>
</tr>
<tr>
<td>06</td>
<td>9.0</td>
<td>-</td>
<td>7.0</td>
<td>8.5</td>
<td>30.0</td>
</tr>
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<tr>
<td>11</td>
<td>-</td>
<td>85.0</td>
<td>58.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>22.0</td>
<td>60.0</td>
<td>22.0</td>
<td>50.0</td>
<td>90.0</td>
</tr>
<tr>
<td>13</td>
<td>49.0</td>
<td>50.0</td>
<td>-</td>
<td>38.5</td>
<td>40.0</td>
</tr>
<tr>
<td>14</td>
<td>8.0</td>
<td>-</td>
<td>-</td>
<td>23.0</td>
<td>14.0</td>
</tr>
<tr>
<td>15</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.5</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>88.0</td>
<td>195.0</td>
<td>148.0</td>
<td>121.0</td>
<td>185.0</td>
</tr>
</tbody>
</table>

1.5 Sudan

During November 2013, ecological conditions declined and no significant rainfall received. As a result, conditions were becoming unfavorable for DL development and breeding as vegetation cover dried out in all traditional summer breeding areas mainly in Northern Kordofan, River Nile and White Nile States. However, there were some patches of green areas in the Wadis, tributaries (Wadi AlMogadam) and irrigated schemes in River Nile where Desert Locusts were attracted to.

1.6 Tanzania

During November, most parts of the country received medium to low rainfall. The Coastal, Western parts, the Southern highlands, the Northern highlands and the Central parts of the country received most of the rains. Vegetation started greening in areas where rains fell.

1.7 Uganda

Most parts of the Country continued to record heavy showers and some thunderstorms. There were more press reports on destruction of crops and infrastructure. Vegetation in most parts of the Country remained very green.

2.0 Desert Locust (*Schistocerca gregaria*)

2.1 Djibouti

Report not received.

2.2 Eritrea

During November, a sudden and unwarranted Desert Locust outbreak has been reported in many locations on the Red Sea coastal areas south and north of the port City of Massawa. Several mixed stages of gregarious and transiens hopper groups and bands were reported in the sub-Zones of Sheib (1553N/3906E), Wochiro (1548N/3918E) Emberemi (1541N/3925E), Massawa, Afabet, Krora on the northern Red Sea coastal areas and in the sub-Zones Ghelealo and Foro on the southern coast.
10,040 ha during 1-21 November using several vehicle mounted and Knapsack sprayers. By the end of the month, an aircraft is also deployed to control the infestation.

2.3 Ethiopia

Desert locust survey was conducted on 1,230 ha by the Somali Administrative Region Agricultural Bureau experts and mixed population of solitary mature and immature Desert Locust adults and 3rd to fledging stages of hoppers were observed in low densities on 145 ha in Shinile Zone in Hare (1009N/04150E) locality. Ground control was carried out on hoppers that were grouped on 4 ha of bushes using 8 liters of Malathion 50% EC.

2.4 Somalia

Except for unconfirmed information of hopper infestation reported at Gerisa bordering Djibouti, the Desert Locust situation remained calm during November.

2.5 Sudan

During November, mature and immature swarms, hopper bands and late solitary instars were detected and controlled in the Northern, River Nile States and on the Red Sea summer breeding belt and Toker Delta. Consequently, control operation has been carried out on 20,709 ha using 12,065 liters of ULV and 48 liters of EC formulations and it was reported as follows:

**Khartoum State:** mature, immature solitarious and gregarious groups of adults, and gregarious hopper bands of medium densities and scattered solitary hoppers have been controlled on 5,290 ha in the northwestern parts of Khartoum (1533N/3235E). 2,620 liters of ULV insecticide at an application rate of 1 and 0.5 lit/ha was used.

**North Kordofan State:** 150 ha were found infested with DL mature and immature solitary adults at low densities.

**River Nile State:** mature and immature solitarious and gregarious adult groups and gregarious hopper bands of 2nd – 5th instars at medium densities, and scattered solitary hoppers near Merowe (1830N/3149E) and Berber (1801N/3400E) were treated on 3,650. 2,605 liters of ULV insecticide at an application rate of 1 and 0.5 lit/ha was used.

**Northern State:** mature and immature solitary and gregarious adult groups, and gregarious hopper bands of 2nd, late instars and fledglings at medium densities and scattered solitary hoppers were treated on 6,080 ha using 3,040 liters of ULV insecticide at an application rate of 0.5 lit/ha.

**Kassala State:** mature solitary and immature gregarious adults, hopper bands and groups of medium density were treated on 824 ha using 726 liters of ULV and 48 liters of EC insecticide at application rate of 1 liter/ha and 2 lit/ha respectively.

**Red Sea State:** mature and immature solitary and gregarious adult groups and gregarious hopper bands of 2nd instar up to fledglings at medium densities, and scattered solitary hoppers on 4,485 ha were controlled at Toker Delta (1827N/3741E). 3,074 liters of ULV at an application rate 0.5 and 1 lit/ha was used to control the infestation.

**Situation in Other countries & Regions**

(Extracted from FAO DL Bulletin No. 422)

**Central Region:** The situation worsened in the winter breeding areas along both sides of the Red Sea, particularly in Yemen and Eritrea, in November. Ground teams treated more than 9,000 ha of hopper groups, bands and an increasing number of adult groups that formed on the northern Red Sea coast of Yemen. An outbreak unexpectedly developed on the central Red Sea coast in Eritrea from undetected breeding. Ground control operation treated more than 10,000 ha of hopper groups and bands. Breeding increased on the Red Sea coast in Saudi Arabia where limited control operations were carried out against hopper and adult groups. In Sudan, ground and aerial control operations treated nearly 21,000 ha of hopper bands and groups of hoppers and adults that persisted in the summer breeding areas of the interior. A few swarms formed in Sudan and Yemen. Breeding was under and sub-coastal area.
were concentrating and gregarizing. A second generation of breeding started in Yemen and Saudi Arabia, and is expected to occur in Eritrea during January. This will cause locust numbers to increase further and, unless controlled, hopper bands and swarms will form that will threaten the Region. Local breeding was also reported in eastern Ethiopia.

**Western Region:** An outbreak continued in northwest Mauritania where ground control operations intensified and treated some 32,000 ha of hopper groups and bands and an increasing number of adult groups. A second generation of breeding will commence in December with egg-laying hatching and band formation. Consequently, locust numbers will increase further and infestations could expand and extend into adjacent areas of Western Sahara, northern Mauritania and southern Morocco. Locust numbers declined in the summer breeding areas of the northern Sahel in Mali, Niger and Chad where significant developments are expected during the forecast period. Limited control operations were carried out against hopper groups and adults in irrigated cropping areas of central Algeria.

**Eastern Region:** The situation remained calm during November. Isolated adults were present in Rajasthan, India. Good rains fell in spring breeding areas along the coast of southeast Iran and southwest Pakistan where low numbers of adults may appear by the end of the forecast period.

### 3.0 Forecast until mid-January, 2013

#### 3.1 Djibouti

No significant developments are likely.

#### 3.2 Eritrea

Hoppers will fledge from the second week of December onwards, causing an increasing number of adult groups and perhaps a few small swarms to form near Shelshela and Emberemi. Locust numbers are also expected to increase on the coast between Shelshela and the Sudanese border from breeding in areas of recent rain and runoff. Intensive survey and control are required.

#### 3.3 Ethiopia

Small-scale breeding is expected to continue in areas of recent rainfall near Dire Dawa and Jijiga.

#### 3.4 Somalia

Low numbers of adults may appear on the northwest coastal plains and breed in areas of recent rainfall.

#### 3.5 Sudan

Locust numbers will continue to decline in the summer breeding areas in the interior where a few adult groups and perhaps small swarmlets may form and move into cropping areas along the Nile or continue to the Red Sea coast. In the winter breeding areas, small-scale breeding will cause locusts to increase in the northeast and along the Red Sea coast. Hatching in Wadi Oko/Diib and Tokar will increase and small hopper and adult groups may form.

#### 3.6 Kenya, Tanzania and Uganda

The countries are expected to remain free of Desert Locust infestations.

### 4.0 OTHER MIGRATORY PESTS

#### 4.1 Red-billed Quelea birds (*Quelea quelea* sp.)

#### 4.1.1 Tanzania

Infestation not reported.

#### 4.1.2 Kenya

Infestation not reported.

#### 4.1.3 Eritrea

Infestation not reported.

#### 4.1.4 Ethiopia
During November, Quelea infestations have been reported in different localities in the Amhara and Oromiya regions of the country. Consequently, a DLCO-EA aircraft has been deployed and continued controlling the infestations between 1\textsuperscript{st} and 22\textsuperscript{nd} of November and it has been reported as follows:

- **Oromiya/East Shewa (Region/Zone):** on 1\textsuperscript{st}, 11\textsuperscript{th}, 13\textsuperscript{th} and 15\textsuperscript{th} of November, an estimated of 9.0 million birds in roosts and colonies, which were spread on 200 ha of Typha grasses have been controlled with 400 liters of Bathion 60\% ULV.

- **Amhara/South Shewa (Region/Zone):** on 3\textsuperscript{rd} of November, an estimated of 0.2 million birds in roosts and colonies, which were spread on 50 ha of Typha grasses have been controlled with 100 liters of Bathion 60\% ULV.

- **Amhara/North Shewa (Region/Zone):** on 5\textsuperscript{th}, 8\textsuperscript{th}, 17\textsuperscript{th}, and 18\textsuperscript{th} of November, an estimated of 4.8 million birds in roosts and colonies, which were spread on 190 ha of Sorghum, Typha grasses, Bamboo and Acacia trees have been controlled with 378 liters of Bathion 60\% ULV.

- **Amhara/Oromiya Zone:** on 6\textsuperscript{th}, 7\textsuperscript{th}, 9\textsuperscript{th}, 19\textsuperscript{th}, 20\textsuperscript{th} and 21\textsuperscript{st} of November, an estimated of 5.9 million birds in roosts and colonies, which were spread on 222 ha of Sorghum and Typha grasses have been controlled with 444 liters of Bathion 60\% ULV.

### 4.1.5 Republic of South Sudan

During the 4\textsuperscript{th} week of October, a DLCO-EA aircraft has been deployed in the country to control Quelea birds infestation that were reported threatening Sorghum crops. Details of the operation conducted were submitted as follows:

- 400 liters of Queletox has been sprayed on 800 ha of Quelea roosting sites in Alek, Boilet, Adong and Nagier counties on 26\textsuperscript{th} to 31\textsuperscript{st} of October.

- 580 liters of Queletox has been sprayed on 1,150 ha of Quelea roosting sites in Akoko, Rom, Molut, and Paloch Counties and, Khor Adal and Youn localities on 1\textsuperscript{st} to 11\textsuperscript{th} of November.

### 4.2 African Armyworm (*Spodoptera exempta*)

Infestation not reported in the region.

### 4.3 Tsetse fly

Infestation not reported.

CIFO

For Director,

05 December, 2013

For more information about the Organization, please visit DLCO-EA’s Website: [www.dlcoea.org.et](http://www.dlcoea.org.et)