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DESERT LOCUST CONTROL COMMITTEE

Thirty-eighth Session

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THE DESERT LOCUST SITUATION (DECEMBER 2004 TO AUGUST 2006) AND FORECAST TO DECEMBER 2006

(Agenda Item 4)

NB. This paper contains information reported to FAO DLIS up to 30 June 2006. The situation and forecast will be updated during the DLCC.

1. OVERVIEW

The Desert Locust upsurge in the Western Region began to decline in late 2004 due to intensive control operations and unfavourable weather and ecological conditions in Northwest Africa. Consequently, swarms did not form during the spring of 2005 in Morocco or Algeria nor did they invade the Sahel in the summer. Several Southern Circuit swarms moved east across the southern Sahel in the spring of 2005 and bred along both sides of the Chad-Sudan border during the summer. In the Central Region, control operations were carried out against swarms that invaded northwest Egypt and reached the Red Sea coastal plains in late 2004 and early 2005. Operations were also carried out against Southern Circuit swarms and their progeny in western Sudan and Ethiopia during the summer of 2005. By autumn, the upsurge had ended in both regions. More than one million ha were treated in December 2004 and, thereafter, less than 800,000 were treated in 2005 compared to more than 11 million ha from October 2003 to Novemmber 2004. In South-West Asia, a small outbreak developed during the summer of 2005 along the Indo-Pakistan border. About 18,000 ha were treated by ground teams in India and Pakistan and the situation returned to normal by the end of the year. So far in 2006, the situation has remained calm in all regions, and only limited control operations have been carried out in Algeria.

2. WESTERN REGION

2.1. Northwest Africa spring breeding

Unusually cold temperatures during the winter of 2004/05 in the Maghreb did not allow the immature swarms that arrived from the Sahel during the autumn to mature nor to migrate to other areas. This gave control teams in Morocco and Algeria nearly six months to carry out spray operations before the temperatures began to warm up in March. From December 2004 to March 2005, Morocco treated 459,888 ha and Algeria treated 1,013,153 ha. Operations were also

conducted in Mauritania (59,987 ha), Libya (5,560 ha), Niger (2,535 ha), Tunisia (990 ha) and Cape Verde (530 ha) mainly against residual populations. Consequently, very few infestations remained at the beginning of spring 2005 and subsequent breeding in Morocco and Algeria was extremely limited due to poor rainfall along the southern side of the Atlas Mountains. As a result, locust numbers did not increase significantly during the spring and the Sahel was not invaded in the summer of 2005. By now it was clear that the upsurge had collapsed.

2.2. Southern Circuit migration

Late-forming first generation swarms mixed with a smaller second generation of swarms moved west in the Sahel during December 2004. These swarms subsequently reinvaded northern Senegal and moved south through Gambia to Guinea Bissau and Guinea by January 2005. The immature swarms over-wintered in the central highlands of Guinea. Control operations were carried out against swarms in Senegal (62,815 ha), Gambia (14,422 ha), Guinea Bissau (7,368 ha) and Guinea (24,350 ha) from December 2004 to March 2005. During April and May 2005, the remaining immature swarms moved east in the southern Sahel from southern Mali to Burkina Faso to southern Niger, northern Nigeria, northern Cameroon, central Chad and eventually reached eastern Chad and western Sudan where they matured and laid eggs in late May and early June. As the swarms were moving quickly through these areas, it was not possible to conduct control operations against them.

2.3. Summer 2005 breeding in the Sahel

As a result of early rainfall, solitarious and *transiens* adults bred on a small-scale in the Tanout region in central Niger and 1,471 ha were treated in May and June. Southern Circuit swarms laid eggs in Chad, giving rise to a limited number of small hopper bands in June and July, mainly in the centre and east of the country where 5,592 ha were treated. Despite unusually good rains during the summer in the Sahel, solitarious locust numbers remained low and only increased slightly as a result of limited breeding in west and northwest Mauritania, northern Niger and in the Algeria Sahara from September to November. Control operations were only required in Algeria where 8,510 ha were treated from June to November.

2.4. Autumn – winter 2005 breeding

Small-scale breeding continued in western Mauritania and southern Algeria as ecological conditions remained favourable longer than in most years. Ground control operations were conducted in both countries (1,001 ha in Mauritania and 425 ha in Algeria) against solitarious and a few *transiens* hoppers and adults in December.

2.5. Situation in 2006

Locust numbers have remained low and insignificant in the region during 2006 with small infestations of solitarious adults in the north of Mauritania, Mali and Niger as well as in the Algerian Sahara. Although limited breeding occurred in some of these areas, locust numbers did not increase significantly.

3. CENTRAL REGION

3.1. Winter 2004/05 breeding

The immature swarms that invaded Egypt and were not controlled in November eventually reached the Egyptian/Sudanese border near the Red Sea coast where they concentrated, matured and laid eggs in December. Ground teams treated small hopper bands and swarms that formed in February and March 2005 in Sudan (7,461 ha) and Egypt (1,795 ha). A few swarms crossed the Red Sea in April to the central coastal plains of Saudi Arabia where they laid eggs. The small hopper bands that developed were controlled in May and June 2005 (5,755 ha).

3.2. Invasion from West Africa

Several immature swarms associated with the Southern Circuit migration arrived in the Darfur province of western Sudan from eastern Chad in late May and early June 2005. These swarms

had formed the previous autumn in the western Sahel and over-wintered in the Guinea highlands. Most of the swarms remained in Darfur where they quickly matured and laid eggs, but a few swarms continued east across central Sudan and reached the Ethiopian highlands in Tigray and Amhara provinces in mid June. Hoppers bands started to form at the end of June in Darfur where survey and control operations could only be undertaken in the relatively secure Government-controlled zones during the summer. Sudan was able to treat 14,174 ha from July to September, and Ethiopia treated 264 ha from June to August. Despite the limited areas that were accessible to survey and control teams in western Sudan, there was only one report in November of a swarm forming in Darfur. This suggests that the invasion of the Southern Circuit swarms and the subsequent breeding was relatively small and confined to a limited area. Very little breeding occurred elsewhere in the summer breeding areas in Sudan in 2005. In Eritrea, ground control operations treated 20,135 ha of hopper groups and bands on the northern Red Sea coast resulting from local breeding from July to September that was probably not related to the upsurge.

3.3. Winter 2005 / spring 2006 breeding

Only small-scale and very limited breeding occurred during this past winter on the Red Sea coast in Sudan, mainly in the Tokar Delta, and on the northern Red Sea coast in Yemen. Consequently, locust numbers did not increase significantly during the winter or in the spring of 2006. By April, locust numbers declined on the Sudanese coast. Since then, there have been no reports of locusts in the region.

4. EASTERN REGION

South-West Asia was not affected by the 2003-05 upsurge and the situation remained calm until the summer of 2005 when good monsoon rains fell along the Indo-Pakistan border. Laying occurred in July, hatching and gregarization took place in August and swarms started to form in September. A second generation of breeding took place with hatching and band formation in October and new swarms forming in mid-November. By then ecological conditions had dried out and the few adults and swarms that were not controlled moved east towards New Delhi while others moved west towards the Indus Valley in Pakistan. Some adults reached the spring breeding areas in Baluchistan, western Pakistan in mid-December. By the end of the year, the situation was once again calm along the Indo-Pakistan border. During the campaign, India treated 13,922 ha and Pakistan treated 4,847 ha from September to December. During the spring of 2006, no significant developments occurred in western Pakistan or in eastern Iran, the traditional spring breeding areas, due to poor rainfall. This was confirmation that the control operations along the Indo-Pakistan border in late 2005 were successful.

5. Forecast to December 2006

The forecast is based on initial levels of Desert Locust populations in the summer breeding areas in the Sahel in West Africa and Sudan, in the interior of Yemen and along the Indo-Pakistan border and the expected distribution and timing of rainfall in these areas. Experimental seasonal forecasts of rainfall probabilities and anomalies are used to help predict rainfall in the next six months.

5.1. Summer breeeding

Several scenarios are possible: (a) rainfall is patchy and ends in September or October, allowing only one generation of breeding and locust numbers do not increase significantly, (b) good rains fall over a widespread area, lasting until October or November that allows two generations of locust breeding so that there is a significant increase in locust numbers, or (c) unusually heavy rainfall occurs in one or more limited areas, causing conditions to remain favourable for several months to allow at least two generations of intensive breeding, causing an outbreak to develop in the autumn. Seasonal forecasts indicate that summer rains should be normal in most areas except during October in the central northern Sahel near the Mali – Niger – Algeria border and in

western Mauritania where there is a chance of slightly higher than normal rainfall. Below normal rainfall associated with this year's monsoon is consistently predicted along the Indo-Pakistan border during the summer. As of late June, only low numbers of locusts have been reported in parts of Niger and central Algeria. Consequently, only small-scale breeding is expected to occur during the summer and the likelihood of significant infestations developing in any region is assessed to be low.

5.2. Autumn – winter breeding

The forecast for breeding during the autumn and winter depends on the situation in the summer breeding areas. If two generations of breeding occur and locust numbers increase significantly, then more locusts would be available to take advantage of any rains that fall in the traditional winter breeding areas, that is, northwest and northern Mauritania, and the coastal plains along both sides of the Red Sea. So far it is too early to indicate with any precision the scale and timing of breeding during the last three months of 2006.