	منظمة الأغذية والزراعة للأمم المتحدة	联合国粮食及农业组织	Food and Agriculture Organization of the United Nations	Organisation des Nations Unies pour l'alimentation et l'agriculture	Продовольственная и сельскохозяйственная организация Объединенных	Organización de las Naciones Unidas para la Agricultura y la Alimentación

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN SOUTHWEST ASIA

Twenty-seventh Session

Islamabad, 25-27 January 2011

DESERT LOCUST SITUATION (DECEMBER 2008-2010) AND FORECAST TO SPRING 2011

1. Overview

In 2009, the Desert Locust situation remained calm due to poor monsoon rains. In June, the region was threatened by a potential swarm invasion from the Horn of Africa that fortunately did not materialize. In I.R. Iran, ground teams treated 5,500 ha of hopper groups that arise from local breeding.

In 2010, heavy rains associated with Cyclone Phet fell in June from Baluchistan, Pakistan to the summer breeding areas along both sides of the Indo-Pakistan border. Local breeding during the summer caused locust populations to increase and gregarize. Ground control operations commenced in mid-September against a few swarms and adult groups in Pakistan. Operations continued until mid-December against hopper bands and adult groups, treating more than 14,000 ha in Pakistan and nearly 5,000 ha in India.

2. Locust situation from December 2008 to December 2010

Using the SWARMS geographic information system at FAO Rome, DLIS summarizes the locust situation based on an in-depth analysis of reports and data received from Member Countries, combined with remote sensing imagery of estimated rainfall and green vegetation, the use of egg and hopper development and trajectory models, and comparison with historical data. A diagrammatic view of the situation is presented in Figure 1. Control operation totals are provided in Figure 2.

<u>Spring 2009</u>

No locusts were reported in the Region from December 2008 to February 2009. In March, low numbers of mature solitarious adults appeared in coastal (Uthal) and interior (Kharan) areas of Baluchistan, Pakistan. During April, scattered immature adults were present in Baluchistan (Kharan, Panjgur) where small-scale breeding occurred and ground teams treated 10 ha. In Iran, mature adults were seen in the Jaz Murian Basin. During May, adults matured near Kharan and on the coast near Gwadar and Pasni, while small-scale breeding occurred in the western Jaz Murian that continued into June when hoppers formed a few small groups at densities of 15 hoppers/m^2. Ground teams treated 5,500 ha in I.R. Iran during June.

Summer 2009

In July, isolated mature solitarious adults appeared in the summer breeding areas of Pakistan from Tharparkar to Cholistan. The adults in Cholistan persisted until October. A few mature adults were seen in Rajasthan, India on the Pakistani border west of Barmer in August. No locusts were seen in the summer breeding areas after September due to poor monsoon rains.

Spring 2010

In February, isolated solitarious mature adults were seen in coastal areas of Baluchistan near Pasni and Uthal. The adults in Uthal persisted during March while other solitarious adults were found in the Shooli Valley. No locusts were seen in the spring breeding areas of Pakistan and Iran after March due to unusually dry conditions.

Summer 2010

During the last week of June, isolated mature solitarious adults were seen at two places in Cholistan near the Indian border. Detailed data was not received from Pakistan during June and July, which did not allow FAO DLIS to provide sufficient warning to India and Pakistan about an increase in locust activity that could lead to gregarization and the formation of hopper bands and swarms. Good monsoon rains fell during from July to mid-September along both sides of the border, causing ecological conditions to become favourable for breeding. Mature adults were present in Cholistan, Pakistan in July. During August, low numbers of solitarious adults were present along the Indian border in Cholistan and Khairpur and, to a lesser extent in Sukkur and Tharparkar. Small-scale breeding occurred in Cholistan in early August. In India, only isolated immature adults were seen near the border west of Barmer.

During September, locust numbers increased in Cholistan as more locusts were seen in a greater number of places. On 15-19 September, a few small groups of mature adults appeared just inside Pakistani territory and laid eggs in Ghotki district. Ground teams treated 900 ha. In India, small-scale breeding occurred in parts of Rajasthan. Although scattered solitarious hoppers and adults were reported from several places, most of the infestations were concentrated along the Pakistani border north of Jaisalmer where adults were laying eggs.

During October, locust numbers suddenly increased along both sides of the border as eggs hatched in Ghotki and, to a lesser extent, in Bahawalpur districts in Pakistan, and Jaisalmer and Bikaner districts in India (CHECK). As vegetation dried out, hoppers concentrated and formed small groups and bands, and adults formed groups. During the last decade of the month, there were several reports of medium to high-density immature swarms of 1-9 km^2 in size near Ghotki. Both countries mobilized ground teams, treating 8,544 ha in Pakistan and 4,330 ha in India.

During November, groups of late instar hoppers were present along the Indian border south of Rahimyar Khan, Pakistan. Groups of immature solitarious, transiens and gregarious adults were present near Ghotki, and low numbers of solitarious adults were seen in Bahawalpur district of Cholistan. In India, immature solitarious and transiens adults were present near the border north of Jaisalmer and late instar solitarious hoppers were seen at one place nearby. As a result of continuing ground control operations (4,160 ha in Pakistan, 370 ha in India) and drying conditions in both countries, locust numbers had declined by the end of the month.

In early December, control operations (600 ha) continued against a few groups of late instar hopper and maturing adults that persisted in Pakistan along the border south of Rahimyar Khan.

Figure 1. Desert Locust infestations and breeding from December 2009 to December 2010

	D	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
India																						h	h	h	
I.R. Iran						h	h																		
Pakistan					h																h	h			

shading: solitarious (light), groups (medium), gregarious (dark) adults
h = hoppers

Figure 2. Desert Locust control operations from December 2009 to December 2010

	Apr-09	**Jun-09**	**Sep-10**	**Oct-10**	**Nov-10**	**Dec-10**	**total**
India	0	0	0	4,330	370	0	**4,700**
I.R. Iran	0	5,500	0	0	0	0	**5,500**
Pakistan	10	0	900	8,544	4,160	600	**14,204**
total	**10**	**5,500**	**900**	**12,874**	**4,530**	**600**	**25,404**

3. Outlook until summer 2011

The locust situation during the next six months will depend on the timing, location and scale of rainfall in the spring breeding areas of western Pakistan and southeast I.R. Iran. Source populations this year are expected to be larger than in most years because of the extent of breeding that occurred along both sides of the Indo-Pakistan border during the summer of 2010. Despite good survey and control operations, there is always a possibility that some infestations were not detected or controlled. Consequently, there is a chance that adults, groups of adults and perhaps a few small swarms will have moved west to the spring breeding areas during December, appearing mainly in coastal areas. If the region is extremely dry, then the adults, especially if they are gregarious, are likely to continue further west and southwest to the Central Region.

The results of surveys conducted during January in the spring breeding areas should clarify the situation. If adults do indeed reach the spring breeding areas, then one generation of breeding can be expected if and when rains fall and temperatures warm up (usually about March). If summer-bred adults do not reach the spring breeding areas or if rains are unusually poor, then only low numbers of locusts are likely to persist and no significant developments are likely. The Iran/Pakistan joint survey should be able to confirm the actual situation in April from which plans can be drawn up for the scale and timing of operations in the summer breeding areas.

At this point, there is no risk of an invasion from the Central Region.

4. Discussion points

Survey results from Pakistan and India indicated that the situation was calm until mid-September when suddenly groups of locusts appeared near the border in Pakistan. Initially, it was difficult to believe that groups could form from the few scattered locusts seen by survey teams. Two weeks later, there was an even more dramatic shift as locust numbers suddenly increased when eggs began to hatch in Ghotki and Bahawalpur districts in Pakistan and Jaisalmer district in India. It was clear that the teams did not detect all of the areas of breeding and it was not evident from the survey results that locust populations were increasing. **The Session should examine reasons for the sudden and undetected increase in locusts and identify ways to reduce such occurrences in the future.**