



FAO-EMPRES Desert Locust Component

Report on

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by

K. Cressman and C. Pantenius

Participants: Mr Mohamed M. Abdel Rahman (Director of the General Department for Locusts & Agro-Aviation Affairs), Egypt
Mr Ghebrehiwet Teame (Director of Technical Advisory Services), Eritrea
Mr Adnan Khan for Director General of the National Centre for Desert Locust Control, Kingdom of Saudi Arabia
Mr Rabie Khalil (Director of the Central Institution for Desert Locust Research and Control), Sudan
Mr Abdu Farea Al Romaih (Director of the Desert Locust Monitoring and Control Centre), Yemen
Mr Munir Butrous, Secretary of the Commission for Controlling the Desert Locust in Central Region (CRC), FAO
Mr Keith Cressman, Forecasting Officer, FAO Desert Locust Information Service
Mr Christian Pantenius, EMPRES Officer, FAO

Agenda: Assessment of the operations since early 2007 and obstacles faced
Possible locust developments and movements October 2007 – April 2008
Assessment of the response capacities
Immediate actions and recommendations

Introduction

The Horn of Africa and the Near East received unusually widespread and heavy rainfall mainly along the Red Sea coast and interior of Saudi Arabia and Yemen since January 2007. These rains led to the development of favourable ecological conditions to allow the Desert Locust to breed. Consequently, Desert Locust outbreaks occurred in Eritrea, northern Somalia, Saudi Arabia and Sudan that were eventually brought under control. However, another outbreak developed in the interior of Yemen in April 2007 where several generations of breeding occurred during the summer.

Despite national and international efforts in controlling the outbreak in Yemen, locust swarms have formed and are moving towards coastal areas along the Gulf of Aden and Red Sea where breeding normally occurs during the winter. So far this year, good rains have fallen along both sides of the southern Red Sea and ecological conditions are unusually favourable earlier than in most years. This is particularly true in Yemen. A few swarms have arrived near Aden but, thus far, only local infestations are present and breeding on the Red Sea coast in Sudan, Eritrea, Yemen and probably Saudi Arabia. Nevertheless, breeding has commenced about three months earlier than normal in these areas this year.

It cannot be excluded that some locust swarms could move from Yemen across the Red Sea and invade Sudan and Eritrea as well as across the Gulf of Aden to northern Somalia, supplementing local populations that are already present and breeding.

Against this background, a three-day workshop was conducted under the auspices of the Commission for Controlling the Desert Locust in the Central Region (CRC) to discuss the possible developments and the outline of a mitigation strategy with the Heads of the national Locust Control Units (LCU) from the countries at risk.

Assessment of the operations since early 2007

The CRC Secretary gave an overview of the operations conducted by the countries since the beginning of 2007 and highlighted some of the observed difficulties that affected the impact of the control operations. Several crucial issues were raised during the discussion that followed the presentation:

- In the onset of an outbreak many countries rely too heavily on assistance from FAO and CRC instead of searching actively for their own funds;
- The lack of national funding has had very negative effects on the assessment of the extent of locust infestation in Yemen and consequently on the timely preparation of the campaign;
- The ad-hoc search and destroy strategy followed by most LCUs made it impossible to develop a complete and accurate picture of where all the locust infestations were, to estimate the scale and nature of the actual problem, and to effectively direct and prioritize field operations;
- Due to the resistance of the beekeepers and the local governments against control operations in Yemen it is believed that a significant portion of the locust population was not found or treated;
- Decentralized survey and control operations made it extremely difficult for the national LCU to effectively coordinate the teams in the field and to keep full control over the resources;
- Unclear chains of command and insufficient delegation of routine tasks made it difficult to effectively steer and coordinate the operations;
- The Directors of the LCUs did not make appropriate use of the Locust Information Sections to get regular updates of the locust developments and the movements of the field teams; hence, campaign decisions and directing field teams were not entirely based on the analysis of field data;
- Lack of suitable communication equipment in some countries and the erratic use of the existing equipment did not allow effective field-to-field and field-to-LCU interaction and decision-making;
- The lack of avgas in Eritrea delayed aerial locust control by DLCO-EA in Eritrea;
- The national locust steering committees were not always effective because they did not meet regularly and, when they did, donors and senior government officials were not always present;
- In periods of increased locust activities, the Locust Information Sections cannot cope with the increased volume of data and additional reporting demands because of overburdening with other administrative matters and a lack of trained assistants;
- The Locust Centre in Saudi Arabia did not give sufficient attention to the development of their early warning capacity (RAMSES) and to training of seconded staff from the Agricultural Departments;
- Vehicles borrowed from other government departments for locust operations are often in poor condition and require overhauling;
- There is severe lack of awareness and understanding at the government level regarding the importance of regularly monitoring locust breeding areas;
- The administrative support provided by the FAO Representations in emergency operations does not always facilitate rapid action as required.

Possible locust developments and movements October 2007 – April 2008

The DLIS Forecasting Officer gave a presentation on the possible short and mid-term locust movements (see Fig. 1). He pointed out that the ecological conditions in the winter breeding areas along the Red Sea are extremely favourable for breeding some three months earlier than normal. During September and October, it is expected that locusts from the interior of Yemen and the summer areas in the interior of Sudan and Eritrea will move to the Red Sea coastal plains. Some swarms that arrived from the interior of Yemen onto the southwestern coastal plains near Aden coast could cross the sea to northern Somalia.

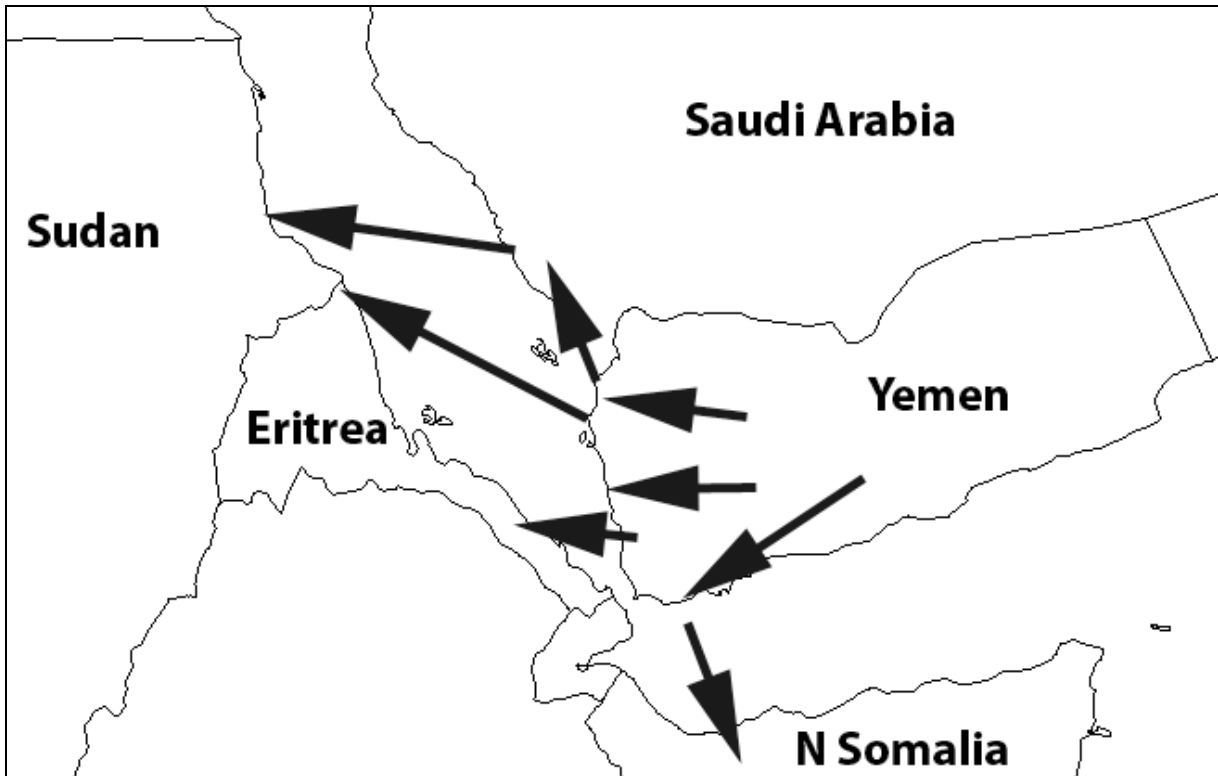


Fig.1: Imminent invasion of the Red Sea coast (September – October 2007)

The Forecasting Officer indicated that ecological conditions are already favourable for breeding along both sides of the southern Red Sea. Seasonal predictions suggest that rainfall during the upcoming winter may be slightly wetter than normal. Consequently, 2-3 generations of breeding by local populations and arriving swarms could take place between October 2007 and April 2008 (see Fig. 2).

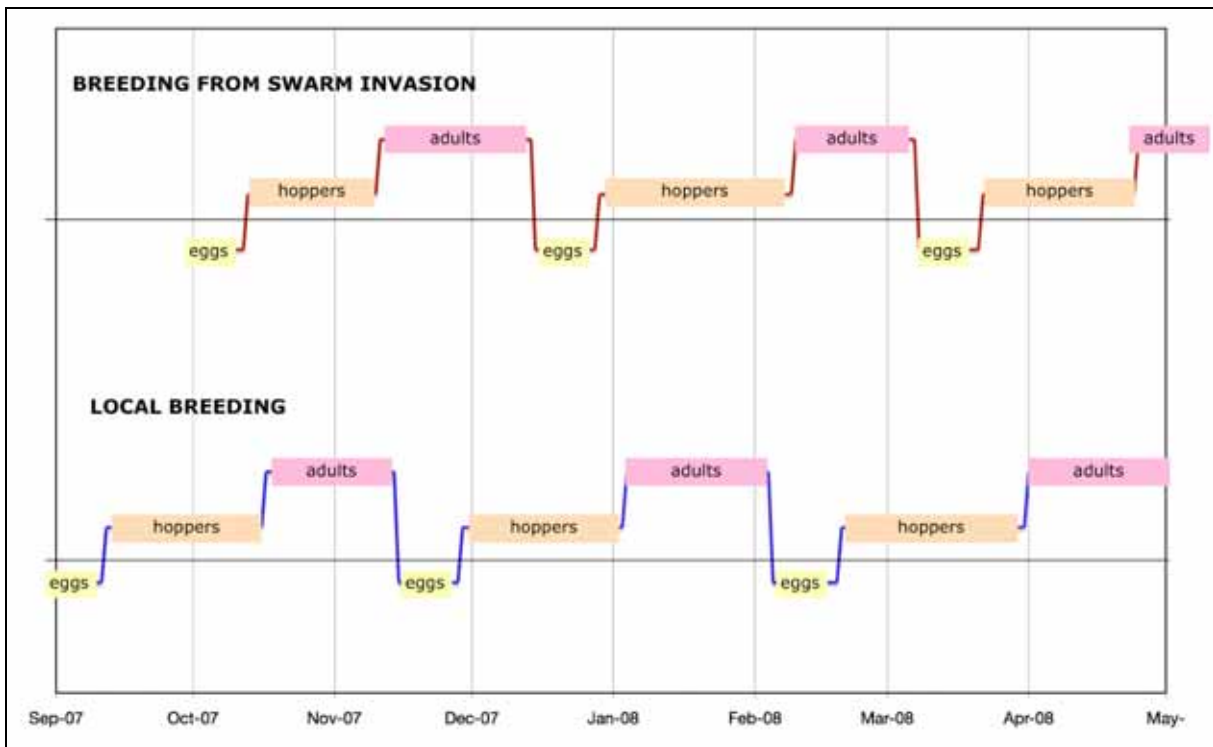


Fig. 2: Estimated locust breeding periods on the Red Sea coast, September 2007 to May 2008.

towards its national Locust Centre and the Region, and recommended that an official note be addressed by the FAO Director-General to the Government of Sudan raising the awareness of the risk to livelihoods if funds for locust operations are not made available immediately. A similar note should also be addressed to the Government of Yemen to encourage the Government to give its full support to the Locust Control Centre and fulfill its promises to provide the Centre with an annual budget that is autonomous from regular plant protection activities.

The situation in Saudi Arabia and Egypt is comparatively well funded and supported by the respective Governments. The Locust Centre in Saudi Arabia is granted full support by the Government and has a separate annual budget based on an order from King Faisal. The Locust Centre in Egypt has full autonomy and a separate budget that allows it to react quickly in case of an invasion or increased locust activity.

Immediate actions and recommendations

Egypt

- Set dates for joint cross border survey with Sudan this winter.

Eritrea:

- Deploy four survey and three control vehicles in Shieb-Mehimet for survey and control operations in September to be reinforced by three survey and five control vehicles from the western lowlands; one survey team should be based in Thio to cover the coast until Assab. The two aircraft available should meet the needs on the coast except in case of a major upsurge or plague.
- Monitor closely pesticide stocks during control operations and inform FAO in a timely manner the need for additional pesticide supplies.
- Investigate the use of communication equipment such as HF radios and satellite phones.
- Organize with the counterpart in Sudan regular border meetings of field teams on the Red Sea coast at Karora.
- Check and confirm specifications of the two spray aircraft, track guidance system, flow meter and spray equipment and whether the pilots are already trained.
- Take immediate action to dispose empty pesticide barrels rather than collecting and storing for eventual disposal.

Saudi Arabia:

- Five survey teams should be made available from the Locust Control Centre in Jeddah for surveying the Red Sea coast from September to at least December with one team in Qunfidah and three teams in Jizan. From November onwards, surveys should also be conducted on the coast north of Jeddah. If necessary, teams from the Agricultural Department could also be used. Spray vehicles and aircraft should be kept on standby for any control operations that may be required.
- Organize a joint cross border survey with teams from Yemen (by end of October).
- Inform CRC and DLIS as soon as possible of the proposed dates for a visit of the Locust Information Officer from Oman to provide assistance and training on the use of RAMSES.
- Indicate the number of teams and eLocust2 units needed to CRC/DLIS and return broken eLocust2 units to CRC for further pouching to DLIS.
- Equip all teams with HF radios and eLocust2 units.
- Conduct national survey and control training courses for staff from the Agricultural Departments (even during periods of infestation).
- Improve the readability of the monthly bulletins by shortening the text and providing a briefer synthesis of the locust situation (no need to mention coordinates), and by replacing the rainfall tables with IRI decadal rainfall maps.
- Provide the Locust Centre of Yemen with information on ICOM agent in Jizan.

Sudan:

- Dispatch one survey team to the western side of the Red Hills and two teams to the Red Sea coast between Suakin and Karora and two teams to cover the coast and subcoastal areas north of Suakin. The team west of the Red Sea Hills should join the Suakin-Karora teams in October or November. Two control teams should be deployed to the coast immediately. The 11 aircraft and the control teams from the Centre should be kept on standby from 1 October to 31 May 2008 (with a minimum guarantee of 25h/aircraft/season).
- Check and repair airstrips in the winter breeding area: Tokar, Suakin, Aiterba Gebeit, Eit/Mohamed Qol and Khor Baraka.
- Inquire about the immediate release of funds under the national budget for locust operations.
- Assign teams and conduct joint cross border survey with teams from Egypt.
- Organize with the counterpart in Eritrea regular border meetings of field teams at Karora.

Yemen:

- Survey, control and mixed search/destroy teams should be distributed to two bases on the Tihama (Midi, Hodeidah) and Gulf of Aden coast (Aden, Zinjibar).
- There is no obvious need to extend the current aircraft contract.
- Conduct training of supplemental staff to make effective use of the additional equipment.
- Organize joint cross border survey with teams from Saudi Arabia (by end of October).
- Actively pursue financial autonomy of the Locust Centre and request budget for regular operations in 2008.
- Purchase 17 HF radio antennas and power sources for mobile ICOM radios.
- Inform DLIS about the operational status of those eLocust2 units that have a potential problem with the touch-screen.
- Organize a publicity campaign, including the use of bio-pesticides, to regain confidence of the rural population in Desert Locust control.

CRC:

- Coordinate joint cross border surveys between Saudi Arabia and Yemen (late October to early November), and between Sudan and Egypt (winter 2007/08).
- Assist the countries in estimating more accurately the areas treated rather than calculating from the amount of pesticide remaining at the end of the operations.

FAO:

- Address the need for Governments to provide sufficient national funding (for regular and emergency operations) to the national Locust Control Units.
- Prepare a letter from FAO Director-General urging the Ministry of Agriculture (cc: MOF) in Sudan to provide a regular annual budget for Desert Locust operations for non-emergency periods. Remind the Government of its responsibilities to protect agriculture and safeguard food security.
- Organize a meeting at FAO HQ with FAORs and their Financial Officers from Eritrea, Sudan and Yemen to agree on support provided to emergency operations.
- Clarify with FAOR Yemen that the two EMPRES vehicles need be returned to the Locust Control Centre.
- Develop a rating system to assess the performance of locust management in each of the key countries.
- Organize a regional workshop for the Directors of the LCUs on the importance of the national Locust Information Sections and the use of forecasts to better organize a campaign.
- Develop a concept for the disposal of empty pesticide barrels in Eritrea, Sudan and Yemen.
- Document the summer campaign in Yemen and organize an independent evaluation.
- Look for better and new approaches to promote the importance of Desert Locust control.

- Provide additional eLocust2 equipment to Egypt (4), Eritrea (10) and Saudi Arabia and Sudan upon request.

General recommendations (all countries):

- Start immediately pre-positioning control resources and teams.
- At the beginning of an outbreak, strengthen the Locust Information Section by seconding additional staff.
- During campaigns, organize daily briefing with Locust Information Section to obtain an overview of the locust situation and the locations of the field teams (eLocust2).
- Insure daily contacts between the Locust Information Section and the campaign coordinator in the field in order to get a full picture of situation and make more sensible decisions.
- Define a clear chain-of-command so that everyone is informed of his/her task and responsibilities. The Locust Directors should delegate campaign tasks so they have more time for strategizing and maintaining an overview of the campaign.
- Insure that all field teams are equipped with communication and eLocust2 equipment.
- Train additional staff in advance who can be kept on standby and seconded to the field operations and insure that seconded staff have permission to move anywhere in the country as required.
- National contingency plans should include an estimated delivery time of 3-5 months for pesticides.
- During periods of increased locust activity, locust management should be strengthened by additional support staff (secretary, administrative officer, accountant etc.) on a temporary basis.
- Document the assistance provided by Governments for national operations and inform FAO of such contributions to the current outbreak.
- Lobby for full structural and financial autonomy of the Locust Centre and insure regular locust surveys and monitoring.
- Explore better ways and approaches to make the governments aware of the importance of the national Desert Locust programme such as *economic benefits of continuous survey operations, early detection, and rapid intervention; importance of food security, the absence of recession periods etc.* through monthly bulletins, flyers, mass media, etc.
- Organize a publicity campaign to raise national and public awareness at all levels at the beginning of an outbreak as well as during periods of lesser locust activities, including regions where local people and agencies do not have a history of working with Desert Locust teams.
- Keep a limited number of well-serviced vehicles under the Locust Control Centre and rely on loans from other national sources during outbreaks to avoid attraction and pillaging of parked vehicles.
- Develop national aerial survey and control capacities.
- Maintain assessment surveys and regular reporting at all times.
- Avoid using EC formulations in locust control; instead, ULV pesticides should be used because they are (1) stronger for killing locusts, (2) more economical with a higher work rate, (3) safer for pesticide operators since there is no mixing required, and (4) easier to apply since ULV sprayers is not as difficult to calibrate as EC ones.
- All requests for emergency control projects should include a provision and plan for pesticide disposal.

Table 1: Status of the available resources for locust control of Sudan, Eritrea and Yemen

Equipment	Sudan					Eritrea					Yemen				
	exist	short	order	def	ha	exist	short	order	def	ha	exist	short	order	def	ha
ULV sprayers															
vehicle	24	0	10	0	3,400	17	10	10	0	2,700	38	0	20	0	5,800
backpack	0	20	0	20	0	0	20		20	0	50	0	50	0	3,500
handheld	7	75	100	0	1,070	49	49	50	0	990	70	0	0	0	700
<i>ha/day</i>	2,470		2,000		4,470	2,190		1,500		3,690	6,250		3,750		10,000
Communications	exist	short	order	def	total	exist	short	order	def	total	exist	short	order	def	total
HF mobile	8	10	15	0	23	0					13	0	10	0	23
HF fix /1	4	4	5	0	9	0					1	0	0	0	1
VHF	0	8	20	0	20	0					20	0	0	0	20
satphone	0	4	10	0	10	0					6	0	0	0	6
eLocust2 /2	7	10	20	0	27	7	4	7	0	14	28	0	0	0	28
Pesticides	exist	short	order	def	ha	exist	short	order	def	ha	exist	short	order	def	ha
ULV (1000s litres)	300	0	0	0	400,000	30	50	0	50	30,000	50	0	10	0	60,000
GM (litres)	86	0	0	0	1,720	0	0	0	0	0	250	0	1,500	0	35,000
IGR (1000s litres)	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>total ha</i>					401,720	30,000	50,000			30,000					95,000
Vehicles /3	exist	short	order	def	total	exist	standby	order	def	total	exist	short	order	def	total
pickup	36	0	0	0		12	27	0	0	39	56	0	30	0	86
station wagon	2	1	0	1		0	0	0	0	0	1	0	10	0	11
trucks	4	3	0	3		1	0	0	0	1	1	0	0	0	1
Teams	exist	standby	train	def	total	exist	standby	train	def	total	exist	standby	train	def	total
survey /4	5	4	0	0	9	3	0	0	0	3	11	0	0	0	11
control /5	5	6	0	0	11	3	0	0	0	3	20	0	0	0	20
support staff	7	50	0	0	57	25	unltd	0	0		13	0	0	0	13
Survey equipment	exist	short	order	def	total	exist	short	order	def	total	exist	short	order	def	total
GPS	10	0	35	0	45	17	20	10	10	27	25	15	0	15	25
Other equipment	exist	short	order	def	total	exist	short	order	def	total	exist	short	order	def	total
camping sets /6	10	15	30	0	40	5	5	0	5	5	20	0	10	0	30
protective sets	0	75	200	0	200	15	200	0	200	15	100	0	100	0	200
pesticide pumps /7	0	40	7	33	7	5	0	2	0	7	20	15	0	15	20
avgas (1000s litres) /8	0	15	150	0	750	0	0	0	0	0	0	0	0	0	0
avoil (1000s litres)	0	1	11	0	11	0	0	0	0	0	0	0	0	0	0
generators	6	6	10	2	16	0	5	5	0	5	20	0	0	0	20
aircraft /9	11	0	0	0	16,500	2	0	0	0	2	2	0	0	0	2
drum crusher	0	1	1	0	1	0	1	1	0	1	0	1	1	0	1

Notes

- /1 - buy antennas and power source for 17 ICOM in YEM (Adnan provide info from Jizan agent)
- /2 - YEM: plus 1 on repair; 4/18 with some screen problems? SUD: 10 additional needed immediately
- /3 - up to 27 vehicles can be mobilized from Government vehicle pool (ERI); 2 EMPRES vehicles to be returned to campaign (YEM)
- /4 - Midi (3), Hodeidah (4), Aden (2), Zinjbar (2)
- /5 - control + mixed: Midi (2+2), Hodeidah (4+3), Aden (3+2), Zinjbar (2+2)
- /6 - existing is tents only (YEM)
- /7 - SUD: 1 pump/vehicle sprayer
- /8 - SUD: total is flying hours; JET-A1 used in ERI
- /9 - SUD: total is hectares of control/day (1500 ha/aircraft/day), available 1/10/07-31/5/08 to PPD; YEM: military helicopters for surv