

# 2014



## CLCPRO/CRC/SWAC INTER-REGIONAL WORKSHOP FOR DESERT LOCUST INFORMATION OFFICERS

No. 1

19-23 May 2014

Inzegane, Morocco

Commission for Controlling the Desert Locust in the Western Region (CLCPRO)  
Commission for Controlling the Desert Locust in the Central Region (CRC)  
Commission for Controlling the Desert Locust in South-West Asia (SWAC)  
Desert Locust Information Service (DLIS)



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**CLCPRO/CRC/SWAC Inter-regional Workshop  
for Desert Locust Information Officers**

**19-23 May 2014 (Agadir, Morocco)**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**

**Rome, 2014**

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## **CLCPRO/CRC/SWAC Inter-regional Workshop for Desert Locust Information Officers**

**19-23 May 2014 (Agadir, Morocco)**

### **Introduction**

For the first time, FAO organized an inter-regional workshop for all Desert Locust Information Officers (DLIOs) from the frontline countries in the Desert Locust recession area. The workshop followed annual CRC/SWAC inter-regional workshops and CLCPRO regional workshops since 2008. A total of 17 nationally designated DLIOs from six countries in the Western Region, seven countries in the Central Region and three countries in the Eastern Region, and from the Desert Locust Control Organization for Eastern Africa (DLCO-EA) attended the workshop (Annex 1). The Executive Secretary of CLCPRO also attended the workshop. There were three workshop trainers; a fourth trainer could not participate at the last minute. The workshop was held at the National Locust Centre (CNLAA) in Inzegane, Morocco because of good facilities, availability of meeting rooms and transport, reliable electricity and Internet connection, good accommodation, and ease of visa entry requirements for all participants.

### **Workshop objectives**

The overall objective of having an inter-regional workshop was to create links between the information officers of the three regions in addition to the existing intra-regional links. The specific objectives of the current workshop were:

- (a) Review, provide feedback and suggestions for improvements on locust reporting;
- (b) Train participants in the use of eLocust3;
- (c) Train participants to be eLocust3 Master Trainers so they can train locust survey and control officers in their country;
- (d) Review the current status of RAMSESV4 and provide supplementary training.

### **Preparation**

Preparations for the workshop started several months in advance:

- The Executive Secretaries of the three regions and the trainers had numerous email exchanges to assess the benefit of conducting a single inter-regional workshop and how to organize this compared to separate workshops that were done in the past;
- During March and April, 15 self-training videos on eLocust3 were prepared and uploaded to YouTube <sup>1</sup>;
- On 1 April, Novacom provided DLIS with the final version of the eLocust3 software;
- 18 eLocust3 units were configured and dispatched to Morocco by FAO pouch;
- More than 750 files (103GB) of remote sensing imagery for 2013 were assembled during April in order to update 52 external portable hard disk drives (HDDs) at the workshop;
- External memory cards were updated with several eLocust3 files to replace the memory cards already shipped in the tablets to Morocco;
- Workshop material such as the pre- and post- evaluations, reporting analysis, training topics and presentations were prepared; CLCPRO and CRC reviewed and translated the material into French and Arabic;
- The eLocust3 units dispatched to Morocco were activated and the Novacom Geoflex platform was configured to allow participants to transmit data and upload photos during the workshop;

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<sup>1</sup> [https://www.youtube.com/playlist?list=PLjxRk5CAwwG\\_0iFxfZ5C2fLByF3jvhvHOx](https://www.youtube.com/playlist?list=PLjxRk5CAwwG_0iFxfZ5C2fLByF3jvhvHOx)

- The developer of eLocust3 3D prepared a data package for the Agadir area to be used during the field practice;
- Two special adaptors were procured to connect the Panasonic ToughPad to the LCD projectors for displaying the tablet's screen during the workshop. Although Panasonic recommended the adaptors, they did not work with the projectors at CNLAA;
- Participants were sent a Registration Form in advance and reminded to bring their laptop with RAMSESV4 and SOPHOS anti-virus pre-installed, and the HDDs for updating.

Considerable efforts were made by CNLAA Morocco and CLCPRO for all of the logistical aspects and organizational arrangements of the workshop. The trainers met the day before the workshop to review the venue, programme and material. An alternative method of projecting the tablet by connecting it to a laptop PC and using Android SDK and Android Screencast software was tested and found to be satisfactory although less ideal than direct connection of the tablet to the projector.

## **Programme**

This year's workshop concentrated on training participants in the use of eLocust3 and to prepare them as Master Trainers so they can provide training and the necessary support to locust officers in their country who will be using eLocust3. During the workshop, FAO provided feedback to participants on reporting. The status of RAMSESV4 developments and refresher training on existing functionality as well as a demonstration of the eLocust3Importer were also presented.

The FAO Representative of Morocco, the Director of CNLAA Morocco, and the Executive Secretaries of CLCPRO and SWAC opened the workshop. Most of the sessions were presented to the entire group in English and translated into French and Arabic when needed by two of the trainers, except for an afternoon session in which participants were divided into two groups: English/Arabic and French. There was also a morning session in the field to practice using eLocust3. Participants brought their own laptops and the HDDs provided by FAO last year. Each participant was given a fully functioning and activated eLocust3 kit. The working hours of the workshop were from 0830h to 1800-1900h (Annex 2).

## **1. Reporting**

Feedback was provided on the quality, timeliness and frequency (regularity) of reporting (Annex 3). During the past 16 months, quality declined slightly in Eritrea, Oman, Saudi Arabia, Sudan and Yemen while timeliness declined slightly in those countries as well as in Eritrea, Niger and Pakistan. Nevertheless both quality and timeliness remained very high.

A number of important issues were raised during the discussion:

- Increased locust activity and insufficient staff, especially during outbreaks, as well as poor organization and insufficient, infrequent training (or retraining) of locust officers affected the quality and timeliness of reporting;
- A decentralized organizational structure in countries tends to hamper effective decision-making and sufficient authority to organize and implement field operations and training, whereas an autonomous centralized structure is more effective;
- It is becoming increasingly important to manage the impacts of social media such as Facebook and Twitter on reporting;
- There has been reluctance for people to work in some locust information offices and in the field because of language difficulties. It is hoped that multilingual versions of eLocust3 and RAMSESV4 will overcome this issue;

The following points were suggested for improving national reporting:

- Do not send duplicate RAMSES data
- Always send a summary with RAMSES data
- Do not include data tables in locust bulletins
- Accurate control records should be kept to ensure that control totals match both RAMSES data and bulletin text
- Bulletin text should reflect the field data in order to provide a complete and accurate view of the situation
- Write the correct date on the bulletin and in the email message
- Distribute locust bulletins as PDF not MS Word files
- Use BCC instead of TO for long email distribution lists
- During calm periods, send a report at least once per month, every month of the year to DLIS and the appropriate FAO regional locust commission
- During periods of increased locust activity, control operations and outbreaks, send RAMSES data every three days with a brief summary to DLIS, and send a decadal locust bulletin every ten days, supplemented by a Flash update if necessary to DLIS and the appropriate FAO regional locust commission as well as other stakeholders
- All countries should have at least two locust information officers
- All survey and control teams should be equipped with eLocust3 and use it during field operations

Participants were shown how to use a new tool, NASA Worldview, to estimate the time, duration and extent of rains that have fallen in the Desert Locust recession area<sup>2</sup>. This can be a useful means to supplement existing rainfall estimate imagery.

## **2. eLocust3**

eLocust3 is the latest update to the handheld system used by national survey and control officers in nearly twenty frontline Desert Locust countries in Africa, the Near East and Southwest Asia to record field observations on habitat, ecology, weather, locusts, control and safety. The first version was introduced in 2000, followed by eLocust2 in 2006 (Annex 4). The eLocust3 project was just recently completed after nearly two years of work, which is about one year longer than originally anticipated (Annex 5). This is often the case in the development of custom software. The demonstration version of eLocust3 was presented last year at the CRC/SWAC workshop (April 2013) and CLCPRO workshop (May 2013). The final version of eLocust3 (v2.5) was distributed in English, French and Arabic at this year's workshop.

eLocust3 addresses the shortcomings of eLocust2: hardware and software obsolescence, inadequate cables, lack of Arabic, a limited ability to record all the required data collected during survey and control operations in the field, and inability to upgrade. eLocust3 allows about 50% more data to be recorded and transmitted, including additional data on ecology, control, and safety. It relies on a commercially available robust 10-inch Android-based Panasonic ToughPad tablet computer with built-in GPS, Bluetooth, camera, video, and USB memory. eLocust3 includes a digital library of references and user manuals in three languages and a 3D mapping app that shows the user's position in the field relative to topography and green vegetation. Its cutting-edge technology should allow it to meet the needs of locust-affected countries for at least the next decade or more.

Participants completed a pre-evaluation to establish their baseline knowledge about eLocust3. As a means of becoming familiar with eLocust3, each participant was given a complete kit and allowed one hour to explore and discover on his own.

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<sup>2</sup> [http://iridl.ideo.columbia.edu/maproom/Food\\_Security/Locusts/](http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/)

Basic training was provided, consisting of presentations, demonstrations and practice on:

- Software and hardware components
- Using the tablet and its key features
- Connecting and using the antenna
- Charging the tablet
- Taking photos
- Using specialized apps (eLocust3, eLocust3 3D, GPS, dashboard, Adobe reader, VLC video, File Manager)
- Explanation of each page in eLocust3 in the three languages
- Uploading photos to Novacom platform
- Using the Novacom platform to view data and photos
- File management
- Installing updates
- Unpacking and packing eLocust3

The training included the complete flow of data from the field to the Information Officer and to DLIS.

One morning was spent practicing the use of eLocust3 in the field. The English-speaking participants were divided into two groups, the French into two groups and one group for Arabic-speaking participants. Each group had a trainer. Participants spent several hours entering data, marking treatment areas with the GPS, treatment evaluation, connecting the tablet to the antenna and transmitting the data. This repeated many times until participants become comfortable and familiar with using eLocust3. They were also shown how to use one antenna for sending data from multiple tablets. During the drive to and from the field, participants practiced using eLocust3 3D to see their updated location on a Landsat image relative to the latest dynamic map of green vegetation.

After the field data was transmitted, Novacom automatically sent all the data received during the day to the participant by email the following morning as a single CSV file. Participants were shown how to process the data by saving the CSV file, and using a demo version of RAMSESv4 eLocust3importer to open the file, view its contents, check and correct the data, and save it for importing into RAMSESv3 as a temporary solution until RAMSESv4 is ready.

Participants also practiced uploading the photos they took in the field to the Novacom platform and using the platform to query and display eLocust3 data. All aspects and functionality of the platform were thoroughly explained.

Advanced training was provided on configuration, settings, troubleshooting and solving problems associated with software and hardware. Participants were shown how to install and uninstall apps, change common settings on the tablet, change the time and time zone, modify the desktop, activate the Basic User (Kid's Place) mode, transfer files to and from the PC. The trainers presented a list of problems for participants to practice solving (Annex 6).

After two days of training, participants completed a post-evaluation to measure their progress.

The trainers setup a specific Gmail account for each country to be used only for receiving eLocust3 data from Novacom. This will facilitate the reception of data rather than mixing it up with other work and private related messages. It will also allow easier support by DLIS and the Commissions to ensure the smooth operation of eLocust3.

The costs associated with eLocust3 data transmission will be borne by the three regional locust commissions under the same annual contract with NOVACOM for eLocust2. NOVACOM agreed to maintain the same data cost (ca. €1/stop) and monthly subscription rates (€18.50/unit) even though eLocust3 transmits 50% more data and more reliably.

### **3. Training skills**

One full day was spent on teaching participants how to train their staff on using eLocust3. The trainers provided an exhaustive list of tips and techniques for effective and meaningful participatory training that was explained and discussed in detail (Annex 7). Participants were assigned a topic and given sufficient time to prepare a 10-minute session in front of the entire group as a means to practice their delivery and training techniques. Every session was video taped and the trainers provided feedback to each participant (Annex 8).

### **4. RAMSESV4**

Nearly an entire day was devoted to RAMSESV4. An overview was presented regarding the progress made so far, noting that work had been slower than expected due to contract gaps, delays by Novacom in finalizing eLocust3, and funding issues (Annex 9). A beta release of RAMSESV4 was presented last year at the CRC/SWAC and CLCPRO workshops. Since then, substantial efforts were made to harmonize the variety of national RAMSESV3 databases so that all data could be imported into a single standardized database. Work has been completed on the system design, raster and vector layers, data query and display, and languages. Work is ongoing in finalizing the eLocust3importer to allow automatic and manual data entry and export for both RAMSESV3 and RAMSESV4, completion of the RAMSESV4 database, and validation. Once these items are complete, then the current RAMSESV3 data in each country will need to be imported into the RAMSESV4 database and the system can start to be used on an operational basis. From this point onwards, it will be possible for eLocust3 data to be imported into RAMSESV4. Given adequate funding, it is hoped that the first operational version of RAMSESV4 will be ready by the end of 2014. There will be a need for the subsequent development of plug-ins that were requested by countries at the 2013 workshops, including data summary and analysis, the Desert Locust egg and hopper development model, incorporation of new remote sensing products (e.g. Dynamic Dryness Map, high resolution Soils Map, Soil Moisture Map, etc.), and new PROBA-V and Sentinel 3 satellite imagery in 2015-16. This will be reviewed in 2015 once the first operational version has been released and is in use.

Participants were reminded how to use the current beta release of RAMSESV4, specifically how to query locust data, display static and dynamic background maps including vector data, raster layers such as TPC maps, satellite-based rainfall estimates, and greenness maps, and how to incorporate RAMSESV4-derived maps into national locust bulletins. As each HDD was updated with 2013 rainfall and vegetation imagery, participants practiced re-indexing their HDD. Participants were also shown how to update RAMSESV4 by practicing the downloading and installation of new plug-ins.

### **Conclusion**

Participants confirmed the importance of the CLCPRO/CRC/SWAC inter-regional workshop for Desert Locust Information Officers and the need to continue to organize the workshop on an annual basis in order to strengthen Desert Locust data management and analysis, maintain a high level of reporting on timely and regular basis, and to sustain an effective early warning system. This system is the basis for the preventive control strategy as a means to reduce the frequency, duration and intensity of Desert Locust plagues.

This workshop was the first time all information officers from the three regions came together at the same venue. The benefits of sharing mutual experiences and exchanging ideas outweighed any difficulties of interpretation in English, French and Arabic that may have impacted the smooth delivery of training and slowed down discussions. This was partially overcome by two multilingual trainers and simple, clear presentations and training videos.

During the workshop, participants rapidly gained familiarity and confidence in the use of the new eLocust3 system. By the end of the week, there were 18 well-trained eLocust3 Master

Trainers who now have the capacity to provide effective and meaningful training to locust survey and control officers who will be using eLocust3 in their own country. This was confirmed by the results of the pre- and post-evaluations that indicated up to a 32% improvement in participant skills and knowledge (Annex 10).

Although the eLocust3 project is completed, a mechanism to ingest eLocust3 data into RAMSESV4 is currently in development. Once this is completed, countries can start to use eLocust3 operationally.

The participants were generally satisfied with workshop according to the results of an evaluation that they completed (Annex 11).

### **Follow up**

Based on the discussions during the workshop, several follow up actions should be considered:

- (a) Participants, as Master Trainers, should immediately begin the preparation for training all locust survey and control officers in their country on the use of eLocust3;
- (b) CLCPRO, CRC and SWAC Executive Secretaries should follow progress on eLocust3 training and usage closely;
- (c) DLIS should continue configuration and dispatch of all remaining eLocust3 kits to countries;
- (d) Participants should continue to practice using the beta release of RAMSESV4;
- (e) It is hoped that the first operational version of RAMSESV4 will be ready for use by the end of 2014, followed by development of summary and analytical functions as determined by users;
- (f) A workshop for locust information officers on RAMSESV4 and eLocust3 should be organized in 2015.

## Annex 1. Workshop participants



**CLCPRO:** Algeria (Hamid Bensaad), Chad (Rassei Neljibaye), Mali (Bouraima Kone), Mauritania (Elhadj Bocar Lemine Sakho), Morocco (Jamal Chihrane), Niger (Idrissa Yacouba)

**CRC:** DLCO-EA (Mehari Tesfayohannes), Egypt (Khaled Ibrahim Kilany), Eritrea (Tedros Siam), Ethiopia (Zebdewos Salato), Oman (Nassor Al-Harthy), Saudi Arabia (Saeed Turkistani, Yahya), Sudan (Hussien Abaker), Yemen (Saeed Al-Mamaari)

**SWAC:** India (Pramod Gour), Iran (Mahmoud Chalaki), Pakistan (Shahbaz)

**Trainers:** Keith Cressman (DLIS), Hichem Dridi (CLCPRO), Nassor Al-Harthy (Oman)

**Other attendees:** Mohamed Lemine Hamouny (CLCPRO), Said Ghaout (CNLAA, Morocco), Moheim (CNLAA), Michael Hage (FAOR, Morocco), Cyril Piou (CIRAD), Thami Benhalima

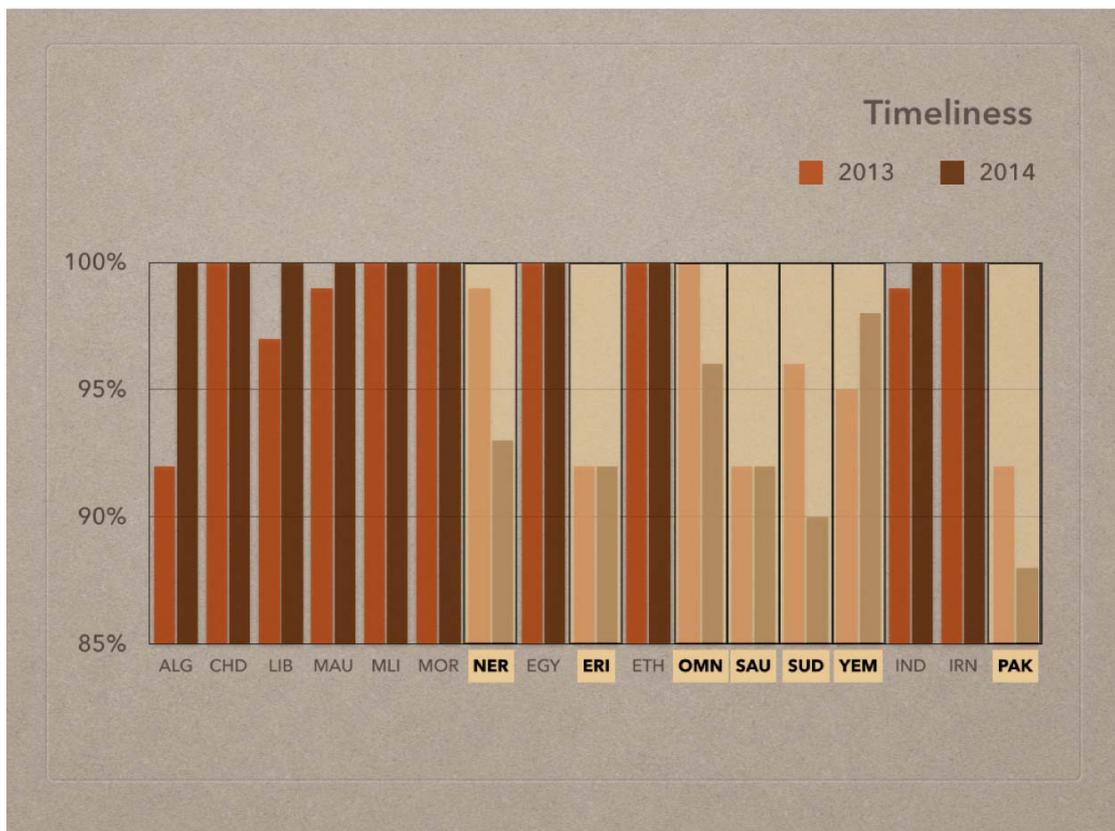
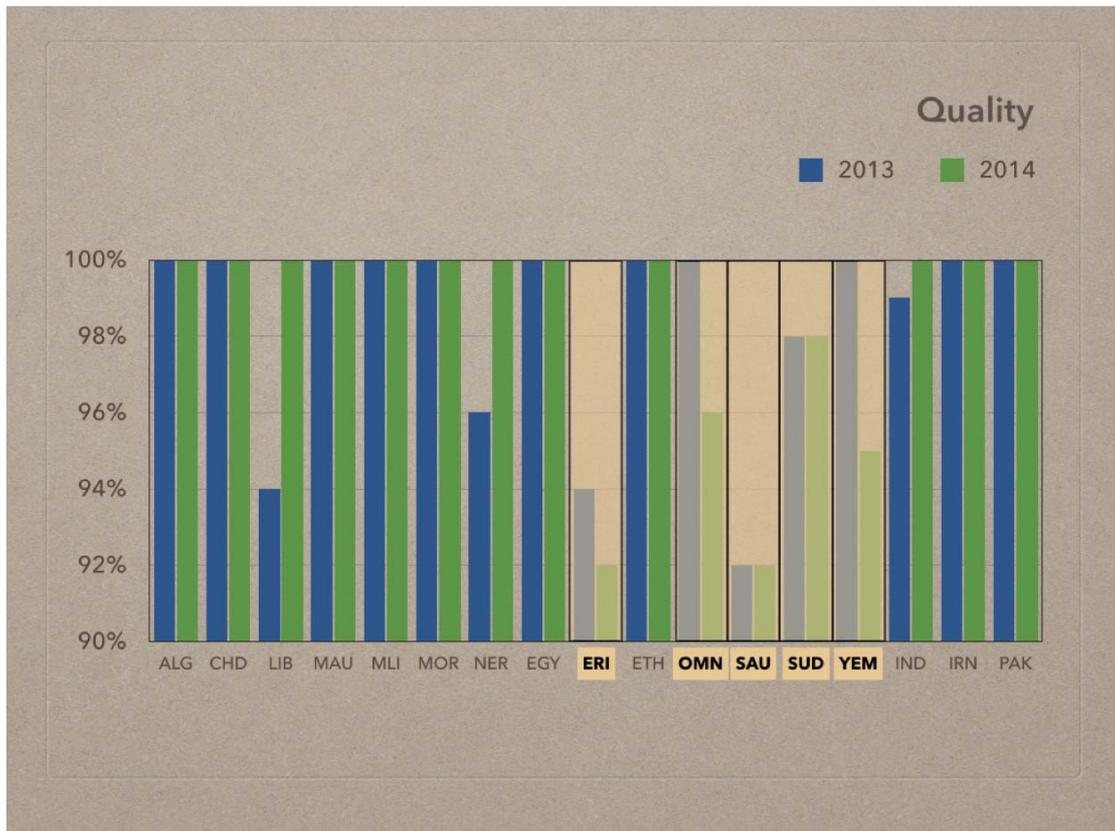
## Annex 2. Workshop programme

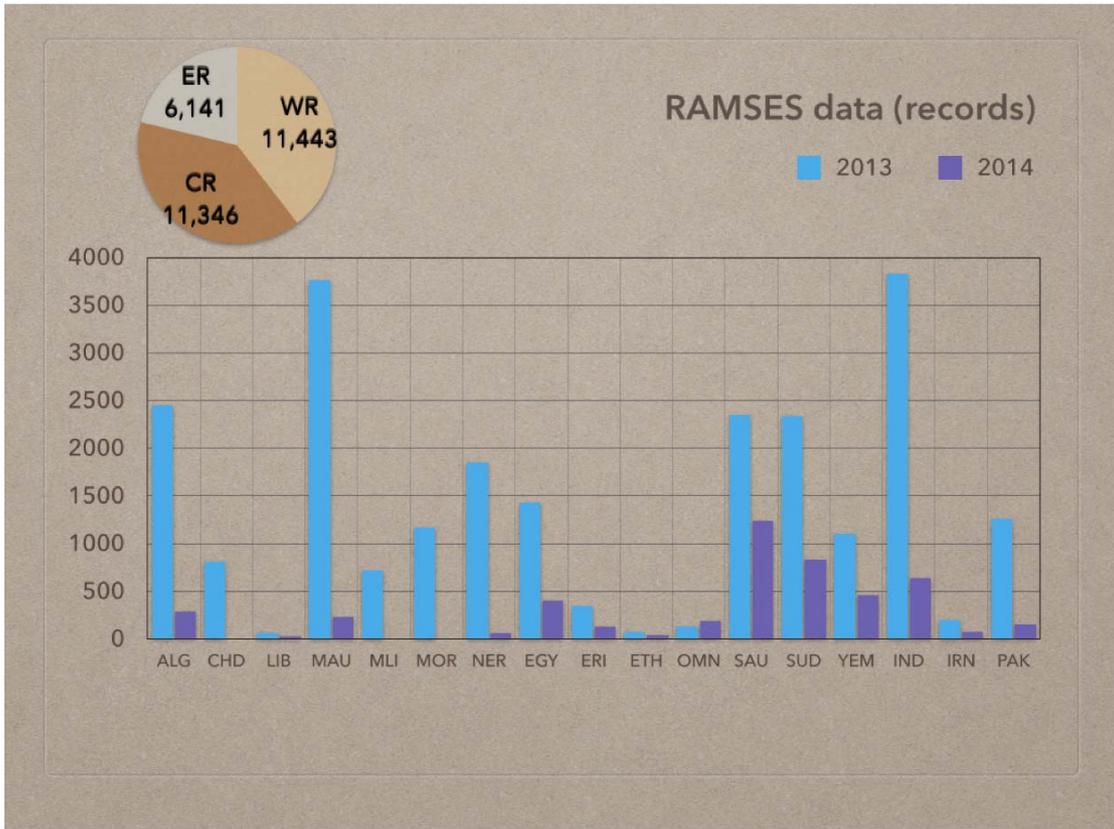
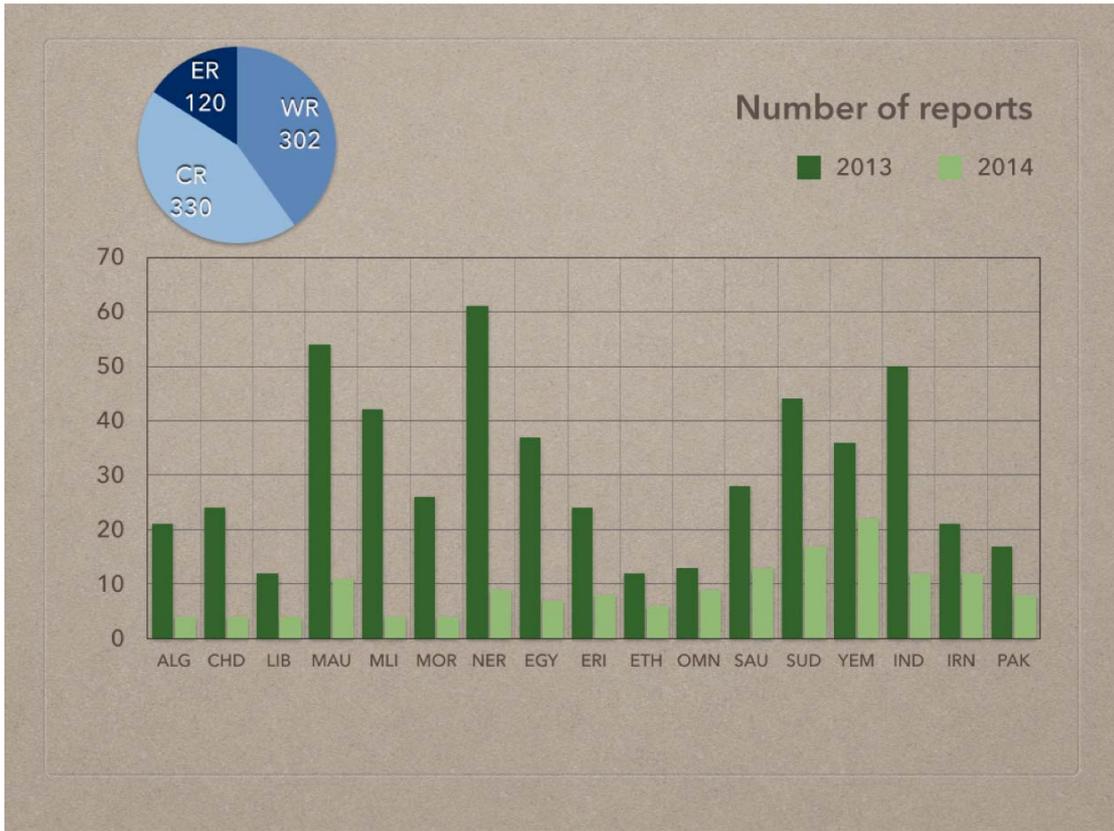
Date and time	Session	Notes
<b>19 May 2014 (Mon)</b>	<b>Morning</b>	
0945-1015h	Official opening	CNLAA, FAO, CLCPRO, DLIS
1015-1045h	Break	Group photo
1045-1115h	Workshop introduction	<ul style="list-style-type: none"> <li>workshop objectives: unified workshop, new tools, upgrade knowledge, Master Trainer</li> <li>participants indicate what they want to get from the workshop</li> <li>review workshop programme</li> </ul>
1115-1230h	Reporting	<ul style="list-style-type: none"> <li>quality, timeliness, frequency 2013-14</li> <li>problems and improvements in data and bulletins</li> </ul>
1230-1300h	eLocust3 pre-evaluation	<ul style="list-style-type: none"> <li>multilingual true/false test</li> </ul>
1300-1430h	Lunch	
	<b>Afternoon</b>	
1430-1515h	eLocust3 introduction	<ul style="list-style-type: none"> <li>self-familiarization/discovery</li> </ul>
1515-1630h	eLocust3 usage	<ul style="list-style-type: none"> <li>basic tablet use</li> <li>how to connect antenna, charger</li> <li>useful practices</li> </ul>
1630-1645h	Break	
1645-1800h	(cont.)	(cont.)
<b>20 May 2014 (Tue)</b>	<b>Morning</b>	
0800-0900h	eLocust3 3D	<ul style="list-style-type: none"> <li>video, demo, practice</li> </ul>
0900-0915h	Break	
0915-1230h	eLocust3 in the field	<ul style="list-style-type: none"> <li>5 vehicles: 2-English, 2-French, 1-Arabic</li> <li>field site just east of airport (20 mins)</li> <li>each participant practices entering data, transmit, connect antenna and charger, GPS marking of area to treat, eLocust3 3D navigation, supervised by Group Trainer</li> </ul>
1230-1300h	eLocust3 review	<ul style="list-style-type: none"> <li>discussion, clarifications</li> </ul>
1300-1430h	Lunch	
	<b>Afternoon</b>	
1430-1630h	eLocust3 functions	<ul style="list-style-type: none"> <li>New report, Reports list, Photos, Map (eLocust3 3D), Data (references), Settings</li> <li>transfer photos to PC</li> <li>change time</li> <li>update and add apps</li> <li>Kid's Place settings</li> <li>desktop shortcuts</li> </ul>
1630-1645h	Break	
1645-1900h	(cont.)	(cont.)

general
  reporting
  eLocust3
  training
  RAMSESV4

<b>21 May 2014 (Wed)</b>	<b>Morning</b>	
0830-0900h	Review	• review previous day
0900-1045h	eLocust3 functions	• split into English/Arabic and French groups • review Main page, how to use tablet, settings, install apps
1045-1115h	Break	
1115-1300h	(cont.)	(cont.)
1300-1430h	Lunch	
	<b>Afternoon</b>	
1430-1500h	eLocust3 data	• setup country Gmail accounts
1500-1645h	Troubleshooting	• list of common problems, troubleshoot and resolve (participants provide suggestions, trainers provide answers)
1645-1700h	Break	
1700-1730h	eLocust3 project	• slide of eLocust3 development • video of eLocust3 configuration
1730-1800h	eLocust3 post-evaluation	• multilingual true/false test
2000h	CNLAA dinner	
<b>22 May 2014 (Thr)</b>	<b>Morning</b>	
0830-0900h	Review	• review previous day
0900-1045h	Training techniques	• training organization, visuals, tips, styles
1045-1100h	Break	
1100-1145	(cont.)	(cont.)
1145-1300	Practice training	• assign individual session topics • participants prepare their session
1300-1430h	Lunch	
	<b>Afternoon</b>	
1430-1615h	Practice training sessions	• 10 min sessions video taped
1615-1645h	Break	
1645-1830h	(cont.)	(cont.)
1830-1930h	Session feedback	• show video while trainers provide on strengths and areas for improvement for each session
<b>22 May 2014 (Fri)</b>	<b>Morning</b>	
0830-0900h	Review	• review previous day
0900-1030h	Geoflex platform	• review and practice functionality • view field data (Oman example) • downloading Novacom CSV file
1030-1045h	Break	
1045-1300h	RAMSESV4	• project status presentation • review how to use RAMSESV4 • updating the HDD index with 2013 files • adding new plugins • eLocust3importer demo
1300-1430h	Lunch	
	<b>Afternoon</b>	
1430-1600h	RAMSESV4 (cont.)	(cont.)
1615-1630h	Break	
1630-1800h	General discussion	• pre/post-evaluations • workshop overview and feedback • workshop followup
1800-1830h	Closing	• certificates
2000h	FAO dinner	

### Annex 3. Reporting





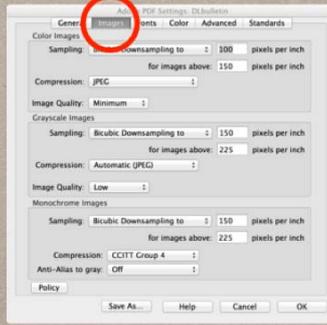
The following settings can be used when preparing a PDF file for national bulletins. This will result in a small-sized file that maintains its format on every computer platform.

## PDF settings for DL Bulletins

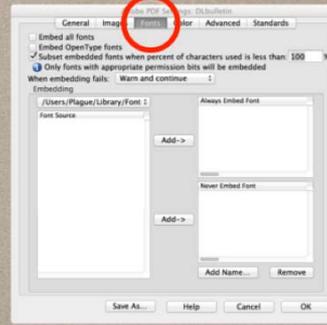
Adobe Acrobat - SETTINGS Menu - Edit Adobe PDF Settings...



1



2



3

always send DL Bulletins in PDF format (not MS Word)

IRI has introduced a new tool that may be useful to supplement rainfall estimates.



Maproom | Food Security  
**Food Security**  
**Locusts**

### Locusts

The Desert Locust (*Schistocerca gregaria*) is an insect whose distribution area extends from West Africa to India.

During invasion periods, adults form swarms that can fly or be carried by wind over great distances. These swarms can wipe out crops located hundreds of kilometers from their places of origin and create starvation conditions in regions that are already financially challenged. The Desert Locust Information Service (DLIS) from the UN Food and Agriculture Organization (FAO) collaborates with the National Locust Units to collate, summarize and analyze field data (e.g., vegetation, rainfall, locust and control information) in order to assess the current situation and forecast the scale, timing and location of locust breeding and migration ([more information](#)). The warnings, assessments and forecasts produced by DLIS are used by affected countries to plan survey and control operations and by the international donor community to target assistance, especially during emergencies.

In collaboration with DLIS, IRI is developing products to estimate ecological conditions and rainfall events in the Desert Locust recession area. The maps and analysis products below illustrate recent climate conditions, such as rainfall and vegetation, which provide ideal breeding conditions for the locusts. Additional information may be included in the future and we welcome the opportunity to work with others on the further development of these products.

### Rainfall Analysis Tool

A rainfall monitoring product based on daily rainfall estimates from the Climate Prediction Center.



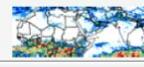
### Monthly Rainfall Estimates

Accumulated rainfall during the most recent month based on estimates from the Climate Prediction Center Morphing technique.



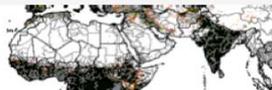
### Dekadal Rainfall Estimates

Accumulated rainfall during the most recent dekad based on estimates from the Climate Prediction Center Morphing technique.



### Greenness Estimates

A critical factor in Locust control is areas which have recently transitioned from desert to vegetation. Greenness is the number of dekads (approximately ten days) passed since vegetation onset. Thus greenness is a measure which highlights this critical transition.



### MODIS Analysis Tool

The images on this page are derived from The Moderate Resolution Imaging Spectroradiometer (MODIS) sensor at 250m spatial resolution provided every 16 days. This interface facilitates access to estimates of vegetation from MODIS images provided by the United States Geological Survey. Images are available for West Africa, East Africa, and Southwest Asia.



### NASA Worldview

Satellite Imagery for Vegetation, Dust Storms, Fires, Drought, Smoke Plumes, Ash Plumes, Air Quality, Severe Storms, and Floods





[http://iridl.ideo.columbia.edu/maproom/Food\\_Security/Locusts/](http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/) 

## HOW TO MANAGE INFO

during periods of increased locust activity?

- ✓ always have at least 2 Locust Information Officers
- ✓ all survey & control teams use eLocust
- ✓ use RAMSES to manage field data
- ✓ send RAMSES data & brief summary to DLIS every 3-4 days
- ✓ keep accurate control records

## 10 TIPS TO BETTER REPORTING

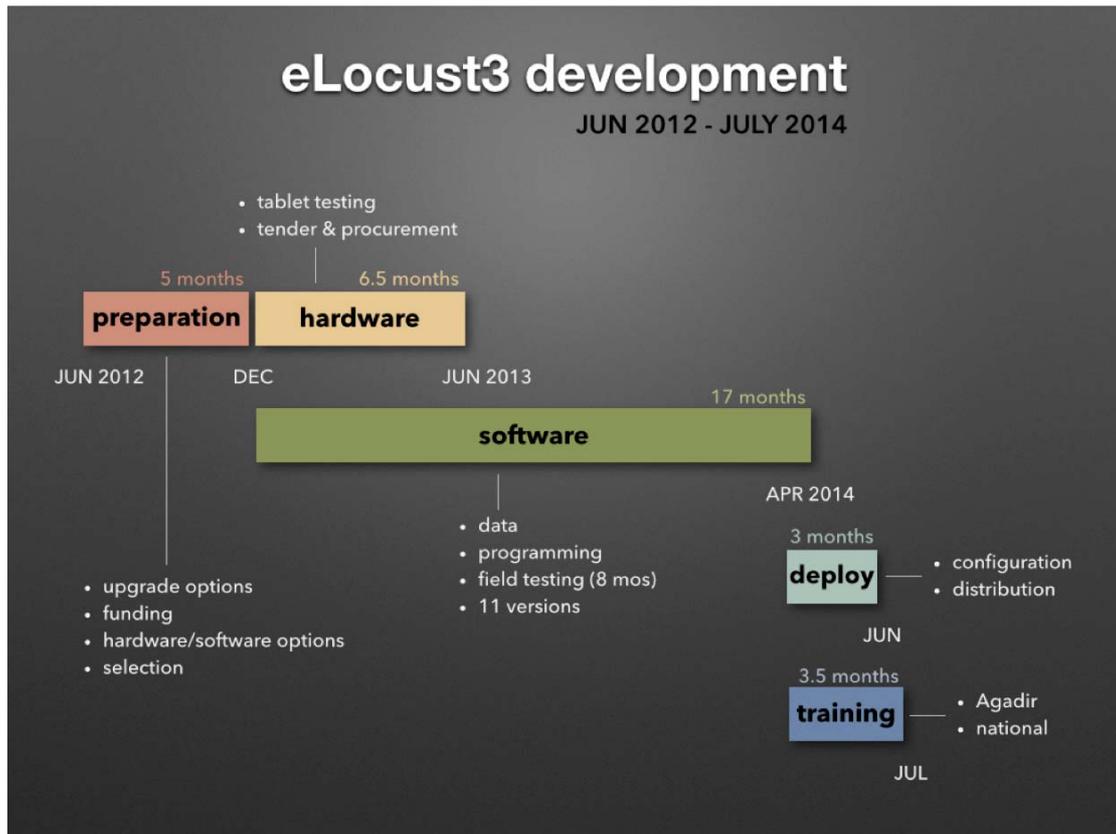
1. Do not send **duplicate** data
2. Always send a **summary** with the data
3. Do not include **data tables** in bulletins
4. **Control totals** should match both RAMSES data and bulletin text
5. Bulletin text should reflect the field data (accurate, complete)
6. Write the **correct date** on the bulletin and in the email
7. Distribute **PDF** instead of MS Word
8. Use **BCC** for long email distribution lists
9. Send data and reports within **5 days** of survey end
10. Send a report at least **once per month, every month**

## Annex 4. eLocust evolution



<b>eLocust (2000)</b>	<b>eLocust2 (2006)</b>	<b>eLocust3 (2014)</b>
<p>Psion 5mx for data recording and map reading, connected to a GPS but without data transmission and photo capabilities</p>	<p>Wescor 600 for data recording, connected to a DMR200 antenna for GPS coordinates and data transmission by satellite, but without mapping, photo, memory and battery capabilities</p>	<p>Panasonic Toughpad 10-inch full colour tablet with built-in GPS, battery, camera, memory, and mapping capacities, connected via bluetooth to a Skywave IDP680 antenna for data transmission by satellite</p>

## Annex 5. eLocust3 development



## **Annex 6. eLocust3 troubleshooting and problem-solving issues**

1. The time on the tablet is different from the time in eLocust3.
2. The current time and date are incorrect.
3. The tablet freezes and there is no response.
4. The screen is dark.
5. The tablet does not start.
6. The tablet does not shut down.
7. The battery indicator is red, blinking red or blinking orange.
8. The tablet is operating slowly.
9. An application suddenly quits.
10. The keyboard becomes a different language.
11. I cannot find the French or Arabic keyboard.
12. I can see the screen but when I touch it, nothing happens.
13. eLocust3 reports remain in the queue and are not being sent.
14. eLocust3 data are sent but are not received by Novacom.
15. There is no connection to the antenna.
16. GPS coordinates do not appear.
17. The tablet is not charging.
18. eLocust3 quits when trying to see previous photos.
19. I cannot take a photo with eLocust3.
20. I cannot upload photos to the Geoflex platform.
21. I am not receiving eLocust3 data from Novacom.
22. I cannot import eLocust3 data into RAMSESv3.

## Annex 7. Training tips and techniques

### Organization

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1. on 1st day, ask trainees *"what are your expectations, what do you want to get out of (learn) from this course?"*
2. explain participatory approach
3. pre / post evaluation
4. start each morning with a review
5. stay focused on topic – do not get sidetracked (*"let's leave that for now and come back to it later"*)
6. at end of day, spend a few minutes to recall what was presented
7. say the programme for tomorrow
8. tell trainees they have done very well and thank them

### Style & Delivery

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1. Stand up – be visible
2. Go slow, talk clearly
3. Use body language
4. Look at everyone – walk around
5. Ask question to 1 trainee, then ask others if they agree or want to add something more
6. If somebody is dozing, tell a joke, start asking questions (but not to him 1st), or go stand next to him
7. Watch posture of the trainees to understand their feelings:  
*folded arms = defensive, uncomfortable*
8. Demonstrate slowly – do not lose your audience
9. After explaining a concept, ask everyone if they are OK
10. Mix training techniques
11. Breaks & pauses – to rest & absorb new information

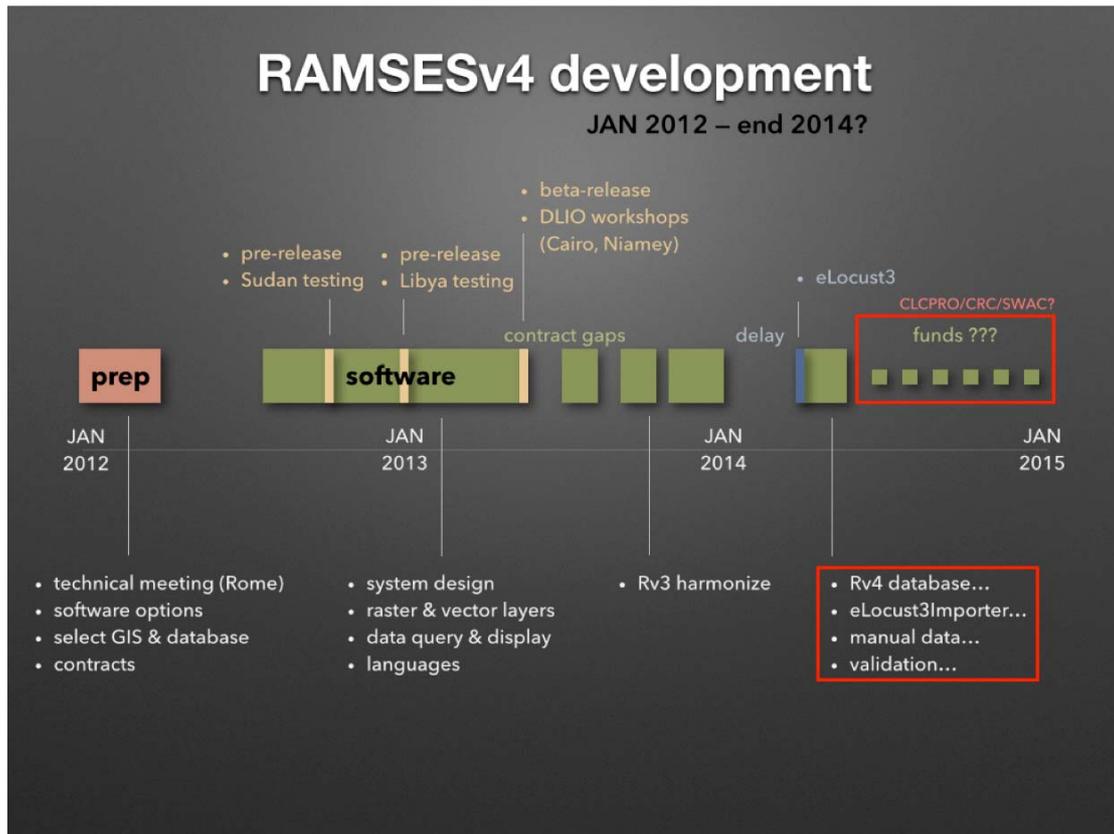
## Annex 8. Practice training sessions

GOOD	SUGGESTED IMPROVEMENTS
<b>ALG: How to use eLocust3 in the field (talk)</b>	
<ul style="list-style-type: none"> <li>• Very good movement</li> <li>• Very good question &amp; answers</li> <li>• Good participatory approach</li> <li>• Good review</li> </ul>	<ul style="list-style-type: none"> <li>• Do not hold the micro too close</li> </ul>
<b>DLCO-EA: How to enter habitat, ecology and weather data (projector)</b>	
<ul style="list-style-type: none"> <li>• Clear and slow</li> </ul>	<ul style="list-style-type: none"> <li>• Watch terminology (screen-&gt;page)</li> <li>• Reduce lecture &amp; involve trainees</li> <li>• Focus - do not ask irrelevant questions (lose track): teaching how to use eLocust3, not importance of soil moisture</li> <li>• Ask if any questions</li> </ul>
<b>EGY: How to enter locust data (talk with tablet in hand)</b>	
<ul style="list-style-type: none"> <li>• Good position in front of class</li> </ul>	<ul style="list-style-type: none"> <li>• Test equipment first and make sure laptop connects to projector</li> <li>• Reduce lecture &amp; involve trainees</li> <li>• Walk around and move</li> <li>• Look at all trainees</li> <li>• Turn tablet around so trainees can see (or ask everybody to turn on tablets and go to locust page, then explain each field with them)</li> <li>• Ask if any questions</li> </ul>
<b>ERI: How to enter control and safety data (projector)</b>	
<ul style="list-style-type: none"> <li>• Good intro on what will do</li> <li>• Good movement &amp; body language</li> <li>• Slow and clear voice</li> <li>• Good question &amp; answer to check if clear (full cover vs. barrier)</li> <li>• Good instructions to trainees to use their eLocust3 to follow</li> </ul>	<ul style="list-style-type: none"> <li>• Test equipment first and make sure laptop connects to projector</li> <li>• Walk around more!</li> <li>• As trainees are using eLocust3, walk around to trainees while explaining (this helps you to know if they are with you)</li> </ul>
<b>ETH: How to estimate area to be treated (projector)</b>	
<ul style="list-style-type: none"> <li>• Good, clear voice</li> </ul>	<ul style="list-style-type: none"> <li>• Start with involving the trainees</li> <li>• Do not lose time on long intro – get to the point quickly</li> <li>• Reduce lecture &amp; involve trainees</li> <li>• Do not talk too loud in the micro</li> <li>• Ask clear questions (formulate it in your mind first)</li> <li>• Use Numbers for Steps</li> <li>• Ask if any questions</li> </ul>
<b>IND: How to enter post-treatment data (projector)</b>	
<ul style="list-style-type: none"> <li>• Good, clear voice</li> <li>• Asked if any questions at end</li> </ul>	<ul style="list-style-type: none"> <li>• Intro: say clearly what you will teach</li> <li>• Show eLocust3 pages, not bullet points on PowerPoint</li> <li>• Look at trainees when explaining, not at laptop</li> <li>• Move your body and walk around</li> <li>• Focus on your topic only – do not add other topics because this will confuse trainees</li> <li>• Ask if any questions</li> </ul>

<b>IRN: How to take several photos (projector with tablet)</b>	
<ul style="list-style-type: none"> <li>• Good, clear introduction</li> <li>• Good movement</li> </ul>	<ul style="list-style-type: none"> <li>• Show trainees tablet – ask them to follow with you using their tablets</li> <li>• Organize position of laptop so you stand in front and walk in front of trainees to show tablet</li> <li>• When trainee is demonstrating, tell other trainees what he is doing (Hussien taking photo)</li> <li>• Do not concentrate on one person with demo because this leaves everybody else alone</li> <li>• Ask questions</li> </ul>
<b>MLI: How to see previous data and photos (talk with tablet)</b>	
<ul style="list-style-type: none"> <li>• Good, clear introduction</li> <li>• Very good movement</li> <li>• Good questions &amp; answers</li> <li>• Good trainee participation and attention</li> </ul>	<ul style="list-style-type: none"> <li>• Always hold tablet up so trainees can see</li> <li>• Don't interrupt answers</li> <li>• Watch terminology (click-&gt;tap)</li> </ul>
<b>MOR: How to use eLocust3 3D (projector, video)</b>	
<ul style="list-style-type: none"> <li>• Good use of video media</li> <li>• Good clear explanations</li> </ul>	<ul style="list-style-type: none"> <li>• Position yourself at front of classroom</li> <li>• Involve trainees earlier</li> <li>• Walk around when explaining</li> <li>• Look at all trainees, not just at person answering question</li> <li>• Ask if any questions</li> </ul>
<b>MAU: How to use references (talk with tablet)</b>	
<ul style="list-style-type: none"> <li>• Good movement</li> <li>• Good position in front of class</li> <li>• Good voice level</li> </ul>	<ul style="list-style-type: none"> <li>• Hold up and show trainees the tablet</li> <li>• Involve the trainees: ask them to go to References and follow your explanations</li> <li>• Ask if any questions</li> </ul>
<b>NER: How to use the GPS app (talk with tablet)</b>	
<ul style="list-style-type: none"> <li>• Good position in front of class</li> <li>• Good initial involvement of trainees</li> <li>• Good question and answer</li> </ul>	<ul style="list-style-type: none"> <li>• Move and walk around</li> <li>• Hold up tablet more to trainees</li> <li>• Ask if any questions</li> <li>• Conclusion: review main points</li> </ul>
<b>YEM: How to use the Dashboard app (projector)</b>	
<ul style="list-style-type: none"> <li>• Good clear voice</li> </ul>	<ul style="list-style-type: none"> <li>• Position in front of class</li> <li>• Move and walk around</li> <li>• Involve trainees</li> <li>• Look at trainees, not at laptop</li> <li>• Show tablet or use projector – do not just read from laptop</li> </ul>
<b>SAU: How to use the VLC app (projector and pointer)</b>	
<ul style="list-style-type: none"> <li>• Good position in front of class</li> <li>• Good clear voice</li> <li>• Good use of assistant to control slideshow</li> </ul>	<ul style="list-style-type: none"> <li>• Test equipment first to make sure it works (laser pointer)</li> <li>• Make sure no virus on USB flash!</li> <li>• Move and walk around more</li> <li>• Involve trainees</li> <li>• Ask if any questions</li> </ul>
<b>SAU: How to connect the antenna (talk with antenna and cable)</b>	
<ul style="list-style-type: none"> <li>• Good clear voice</li> </ul>	<ul style="list-style-type: none"> <li>• Position in front of class</li> <li>• When doing something (connecting cable), talk and explain at same time what you are doing</li> <li>• Show clearly what you are doing</li> <li>• Ask if any questions</li> </ul>

<b>CHD: How to charge the tablet in the car and in the office (talk with equipment)</b>	
<ul style="list-style-type: none"> <li>• Good position in front of class</li> <li>• Good movement</li> <li>• Good body language</li> <li>• Good use of voice</li> <li>• Good clear introduction</li> </ul>	<ul style="list-style-type: none"> <li>• Move and walk around</li> <li>• Have the correct equipment ready</li> <li>• Walk around with equipment when showing plug so all trainees can see – do not stand far away from trainees</li> <li>• Hold equipment high so all trainees can see</li> <li>• When doing something (plugging in cable), talk and explain at same time what you are doing</li> <li>• Involve trainees</li> <li>• Ask if any questions</li> </ul>
<b>PAK: How to pack and store eLocust3 (projector)</b>	
<ul style="list-style-type: none"> <li>• Introduction – good message</li> <li>• Good display of equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Be more clear in your introduction message</li> <li>• Position laptop so you are in front of class</li> <li>• Use visuals rather than words to teach trainees</li> <li>• If steps, number them</li> <li>• Involve trainees</li> <li>• Ask if any questions</li> </ul>
<b>SUD: How to uninstall/reinstall an app (projector)</b>	
<ul style="list-style-type: none"> <li>• Good slow clear voice</li> <li>• Good clear simple visuals (slides)</li> <li>• Good body language</li> </ul>	<ul style="list-style-type: none"> <li>• Position laptop so you are in front of class</li> <li>• Involve trainees</li> <li>• Walk around</li> <li>• Focus – do not confuse with useless info (App Store)</li> <li>• If steps, number them</li> <li>• Ask if any questions</li> </ul>

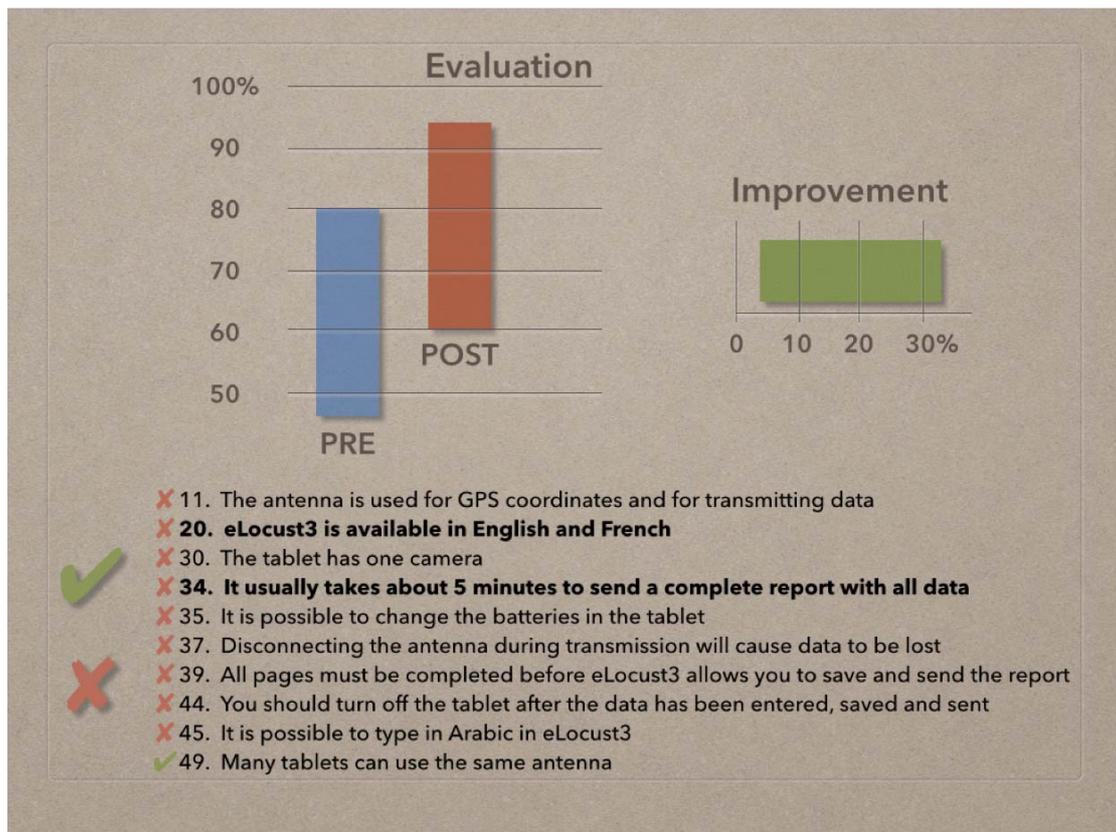
## Annex 9. RAMSESV4 development



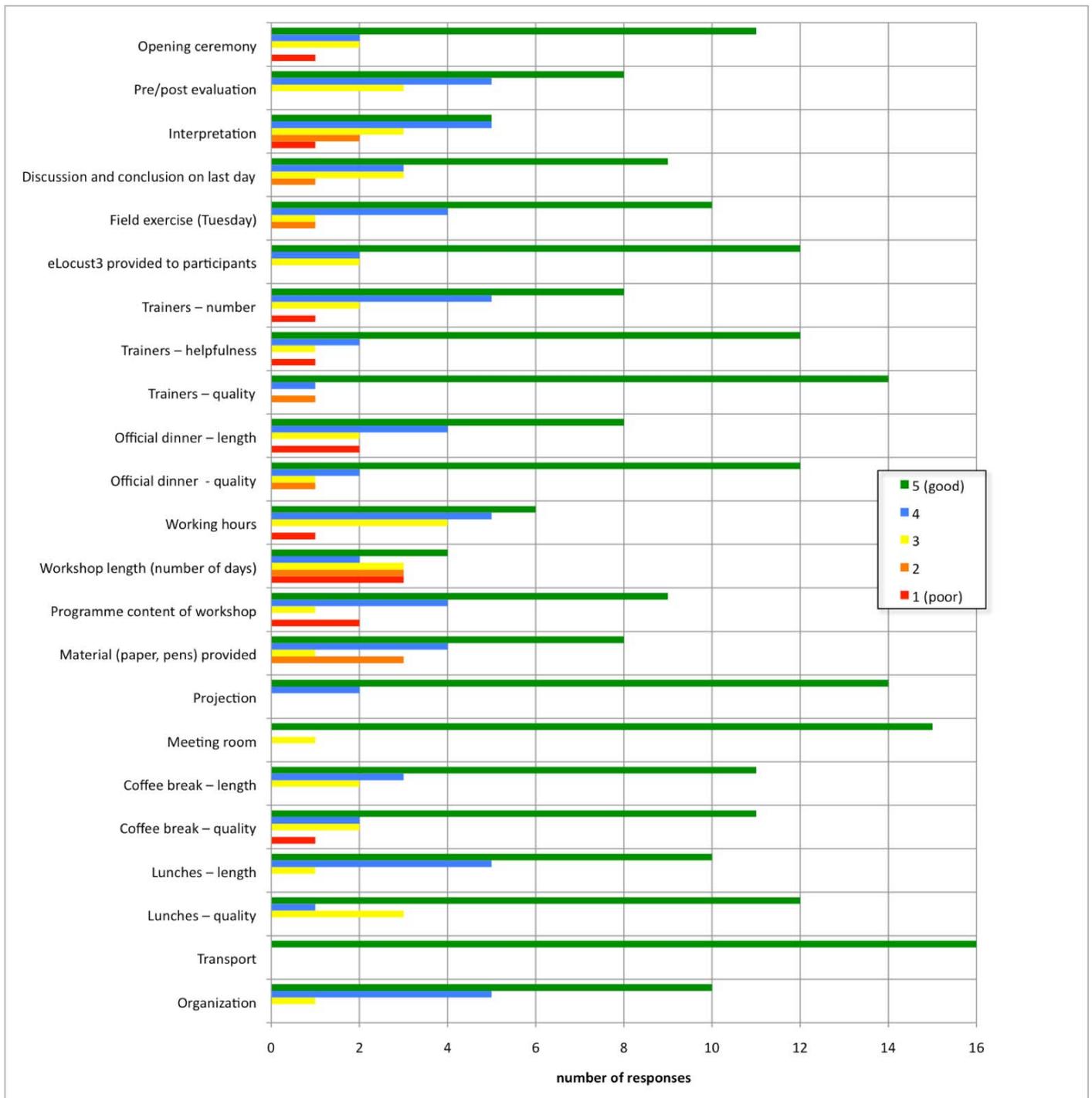
## Annex 10. Pre/post evaluations

1.	TRUE	FALSE	The tablet uses AA batteries that can be replaced
2.	TRUE	FALSE	The tablet connects to the antenna with a cable
3.	TRUE	FALSE	The tablet has a colour display
4.	TRUE	FALSE	You cannot type on the tablet because there is no keyboard
5.	TRUE	FALSE	You can use a SIM card with the tablet
6.	TRUE	FALSE	FAO will give everybody a SIM card for the tablet
7.	TRUE	FALSE	The tablet is a computer
8.	TRUE	FALSE	Bluetooth is used to connect the tablet to the antenna
9.	TRUE	FALSE	The tablet can take photos but not video
10.	TRUE	FALSE	The tablet has an external memory card
11.	TRUE	FALSE	The antenna is used for GPS coordinates and for transmitting data
12.	TRUE	FALSE	The tablet does not have a built-in GPS
13.	TRUE	FALSE	The coordinates, date and time are saved when a new report is created not when it is sent
14.	TRUE	FALSE	Mandatory data must be completed before a report can be sent
15.	TRUE	FALSE	A USB cable is used to connect the tablet to a PC
16.	TRUE	FALSE	The tablet does not have WIFI
17.	TRUE	FALSE	Photos taken with eLocust3 do not have coordinates
18.	TRUE	FALSE	Only one photo can be taken at a survey stop
19.	TRUE	FALSE	eLocust3 includes references like the DL Guidelines
20.	TRUE	FALSE	eLocust3 is available in English and French
21.	TRUE	FALSE	It is possible to view greenness maps in eLocust3
22.	TRUE	FALSE	There are less detailed data in eLocust3 compared to eLocust2
23.	TRUE	FALSE	eLocust3 does not contain health and safety data
24.	TRUE	FALSE	eLocust3 can be used to estimate the area to be treated with the GPS
25.	TRUE	FALSE	You must have your own GPS in order to use eLocust3
26.	TRUE	FALSE	You cannot enter comments in eLocust3
27.	TRUE	FALSE	The battery of the tablet lasts for less than one day
28.	TRUE	FALSE	The antenna cable does not fit in the eLocust3 carrying case
29.	TRUE	FALSE	The tablet cannot be used for preparing Word documents
30.	TRUE	FALSE	The tablet has one camera
31.	TRUE	FALSE	The tablet should only be used in the vehicle
32.	TRUE	FALSE	Dust and rain will damage the tablet
33.	TRUE	FALSE	Pesticide and strong sunlight will not damage the tablet
34.	TRUE	FALSE	It usually takes about 5 minutes to send a complete report with all data
35.	TRUE	FALSE	It is possible to change the batteries in the tablet
36.	TRUE	FALSE	You should only use the special pen to enter data on the touch display of the tablet
37.	TRUE	FALSE	Disconnecting the antenna during transmission will cause data to be lost

38.	TRUE	FALSE	Data are not saved to the tablet
39.	TRUE	FALSE	All pages must be completed before eLocust3 allows you to save and send the report
40.	TRUE	FALSE	If Locust = Absent, you cannot access the Locust pages
41.	TRUE	FALSE	Mandatory data are indicated by a star (*)
42.	TRUE	FALSE	Mandatory data on a page must be completed before you can go to the next page
43.	TRUE	FALSE	Photos are stored on the external memory card
44.	TRUE	FALSE	You should turn off the tablet after the data has been entered, saved and sent
45.	TRUE	FALSE	It is possible to type in Arabic in eLocust3
46.	TRUE	FALSE	When evaluating treatment after 48 hours, it is not necessary to enter all the mandatory data
47.	TRUE	FALSE	The tablet can be connected directly to a LCD projector
48.	TRUE	FALSE	The tablet can be recharged while driving in the vehicle
49.	TRUE	FALSE	Many tablets can use the same antenna
50.	TRUE	FALSE	The tablet has two user modes: basic and advanced



## Annex 11. Participant evaluation of the workshop



The participants were asked to rate various aspects of the workshop on a scale of 1 (poor) to 5 (good). The results of the evaluation indicate general satisfaction but with some mixed feelings about the workshop length and interpretation.

## Annex 12. Useful links

Description	URL
FAO Locust Watch	<a href="http://www.fao.org/ag/locusts/en/info/info/index.html">http://www.fao.org/ag/locusts/en/info/info/index.html</a>
FAO DLIS Facebook	<a href="http://www.facebook.com/faolocust">http://www.facebook.com/faolocust</a>
FAO DLIS Twitter	<a href="http://www.twitter.com/faolocust">http://www.twitter.com/faolocust</a>
FAO CLCPRO	<a href="http://www.clcpro-empres.org">http://www.clcpro-empres.org</a>
FAO CRC	<a href="http://crc-empres.org/Pages/Index.aspx?CMSId=8">http://crc-empres.org/Pages/Index.aspx?CMSId=8</a>
FAO SWAC	<a href="http://www.fao.org/ag/locusts/SWAC/en/">http://www.fao.org/ag/locusts/SWAC/en/</a>
eLocust3 YouTube videos	<a href="https://www.youtube.com/playlist?list=PLjxRk5CAwvG_0iFvjZ5C2fLByF3jvhHOx">https://www.youtube.com/playlist?list=PLjxRk5CAwvG_0iFvjZ5C2fLByF3jvhHOx</a>
eLocust3 3D	<a href="http://www.trilogis.it/eLocust3D/">http://www.trilogis.it/eLocust3D/</a>
IRI rainfall estimates, MODIS, Greenness maps, NASA Worldview	<a href="http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/">http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/</a>
DevCoCast greenness maps	<a href="http://www.devcoCast.eu">http://www.devcoCast.eu</a>
RAMSESv4 project	<a href="https://bitbucket.org/faodlis/fao_openjump/wiki/Home">https://bitbucket.org/faodlis/fao_openjump/wiki/Home</a>
Wind finder maps	<a href="http://www.windfinder.com/weather-maps/forecast#5/51.399/9.668">http://www.windfinder.com/weather-maps/forecast#5/51.399/9.668</a>
Workshop presentation	<a href="http://www.slideshare.net/FAOLocust/2014-clcprocrswac-desert-locust-information-officer-workshop">http://www.slideshare.net/FAOLocust/2014-clcprocrswac-desert-locust-information-officer-workshop</a>