2018

REGIONAL WORKSHOP ON DESERT LOCUST INFORMATION MANAGEMENT IN THE WESTERN REGION

FAO COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE WESTERN REGION (CLCPRO)

No. 8

1–4 July 2018
Algiers, Algeria

Food and Agriculture Organization
of the United Nations

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Rome, 2018

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1. Introduction

The FAO Commission for Controlling the Desert Locust in the Western Region (CLCPRO) sponsored a regional workshop for Desert Locust Information Officers (DLIOs) in the Western Region. The CLCPRO secretariat organized the workshop at the National Plant Protection Institute (Institut National de la Protection Végétaux, INPV) in Algiers, Algeria on 1–4 July 2018. The FAO Senior Locust Forecasting Officer, Keith Cressman, and the CLCPRO Programme Officer, Hichem Dridi, conducted the workshop in English and French, respectively.

DLIOs attended the workshop from nine countries in the Western Region and three countries in the Central Region as well as the Desert Locust Control Organization for Eastern Africa (DLCO-EA). A technical officer from the AGRHYMET Regional Centre and the Executive Secretaries from CLCPRO and CRC also participated (Annex 1).

This year's workshop was the ninth annual DLIO workshop since 2007.

2. Programme

Based on the advice of FAO's Desert Locust Information Service (DLIS), the three Desert Locust regional commissions – the FAO Commission for Controlling the Desert Locust in the Western Region (CLCPRO), in the Central Region (CRC) and in South-West Asia (SWAC) – took the decision to standardise on the Mac platform for national Desert Locust Information Officers (DLIOs) in order to improve the global Desert Locust reporting early warning system. DLIOs will use Macs for managing eLocust3 data, operating the RAMSES (Rv4.1) geographic information system and preparing locust bulletins. Apple hardware and software offer increased stability, security, less viruses, better performance, and a more enjoyable computing experience. Furthermore, less support is required from DLIS and the commissions than for PCs because multiple brands of computers and versions of operating systems with their associated nuances and bugs can be avoided.

The current migration from PC to Mac is nearly complete in all three regions after a successful pilot phase in 2016–2017 in Eritrea and Pakistan. Each commission has procured at least one MacBookPro laptop for DLIOs in frontline countries (Annex 2). Regional and interregional workshops to train users have been organised in SWAC (January 2018), CRC (July 2018), and CLCPRO – the workshop under report here. At the workshop, CLCPRO distributed one new 2017 MacBookPro to six countries: Algeria, Chad, Libya, Mauritania, Mali and Niger[1]. Each laptop was pre-configured and ready to use. As the Moroccan DLIO could not participate in the workshop, a MacBookPro laptop and training will be provided to him at CLCPRO in the coming months.

In view of the above, it was natural that this year's workshop focus on the MacBookPro laptop and the MacOS. The programme consisted of three full days of training on how to use the Mac, its operating system, applications and utilities by introducing and presenting each item followed by exercises and practicals (Annex 3). Ideally, four days are required to learn and practice using each of these aspects but this was not possible this year. In addition, DLIS

[1] 13-inch 2017, 2.3 GHz i5 128/16GB. MacOs 10.13

provided feedback on improvements to reporting, reviewing the use of Rv4.1 for summarising and analysing a locust situation, updating eLocust3 software and antennas was demonstrated, and there was a discussion on the use and future development of Rv4.1. The working hours of the four-day informal technical workshop were from 0830h to 1800h with a 30-minute coffee break in the morning and afternoon, and a one-hour lunch break. Within this time, there were two morning sessions of two hours each and two afternoon sessions (two hours and 1.5 hours).

2.1 MacBookPro

The participants were introduced to the MacBookPro laptop and taught how to use it through a progressive, step-by-step, systematic approach in order to maximise learning and retention. Each feature was presented and demonstrated, and then the participants practiced with hands on experience and by completing several exercises and practicals.

The workshop commenced with an official Apple video about the laptop. The new laptops were distributed and the participants familiarised themselves with the various hardware components. This was followed by an exploration of customising the MacOS look and feel by using the system and other preferences, how to easily change the language, efficiently manage files with the Finder, and how to use keyboard shortcuts and the versatile TrackPad.

During the next three days, participants learned the primary Mac applications (Pages, Numbers, Keynote, Safari, Preview, Photos, Mail) and utilities (Calendar, Contacts, Reminders, Notes, Search, Siri, Dictionary, disk format, screenshots) as well as additional applications (Slack, LastPass, Rv4.1). In all, nearly two dozen applications and utilities were presented.

The DLIOs learned quickly each application because of similarities in menus and function between the applications. It became evident that work productive applications such as Pages, Numbers and Keynote were far more powerful and easier to use than the Microsoft equivalents of Word, Excel and PowerPoint. Nevertheless, the Mac apps are fully compatible with the Microsoft counterparts they are using on their PCs because they can open and save those file formats. Furthermore, participants found that it was easier to customise and configure the laptop due to the intuitive approach utilised by Apple.

In addition to the afore-mentioned, the primary differences in using the Mac are the reliance on the TrackPad and its many gestures, the ability to have multiple desktops, the drag'n'drop approach of the MacOS, the use of the Command key rather than the Control key for keyboard shortcuts, the ease in changing languages and updating, and the lack of freezes and other problems due to improved memory management and hardware/software compatibility.

2.2 Reporting

It was noted that all countries in the Western Region continue to maintain a high standard of reporting that is the basis for the global Desert Locust early warning system. Nevertheless, there is always room for improvement to ensure high quality and timely information on a regular basis. Rather than presenting the status of reporting by locust-affected countries through the traditional evaluation of quality, timeliness and frequency of reports, the Senior Locust Forecasting Officer provided an overview of specific items that would improve reporting (Annex 4).

The main area for improvement in all countries is the inclusion of captions for maps that indicate the title and a brief explanation or interpretation of the map. While DLIOs are likely

to understand the map, most readers may not be able to do so easily or sensibly. Hence, a well-written concise caption describing the map would help to provide more understanding. It is also extremely important to include satellite-derived rainfall maps with survey results of soil moisture, greenness maps with survey results of vegetation, and locust situation maps. It is not necessary to include such maps in the absence of rainfall, green vegetation or locust surveys. It should be clearly written that surveys were not conducted and no locusts were reported. A brief summary of the Rv4.1 data should be included when sending the data file to DLIS. The data and the contents of reports and bulletins should always match.

2.3 RAMSESv4 (Rv4.1)

Rv4.1 is currently used in 18 frontline countries of the Desert Locust recession area where survey and control operations are carried out and data are collected that need to be managed and analysed[2]. The application may eventually be established in other countries such as Senegal, Somalia and Tunisia, depending on needs and capacities. RAMSESv4, became operational on 1 January 2015, having been extensively redesigned as open-source software and containing a single unified database. It was updated Rv4.1 in May 2016.

Refresher training was provided to the workshop participants on how to summarise and analyse a locust situation using Rv4.1. Summarising a locust situation describes what the situation consists of (e.g. ecological conditions and locusts) and where this situation is occurring while analysis looks into why and how a specific situation has developed. Rv4.1 can be used for both summary and analysis although its functionality remains limited and rudimentary. This is an area that requires further development, including training material and exercises. There was insufficient time during this year's workshop for participants to practice summarising and analysing a real Desert Locust situation; instead, the Senior Locust Forecasting Officer reviewed the essential components and methods of summary and analysis using the April 2016 situation in Yemen.

Rv4.1 has evolved into a mature custom application that is now very stable with few bugs. DLIOs continue to use it well to manage remote sensing imagery, survey data and control results. Ideally Rv4.1 should be used more for data summary and analysis, but this is not entirely possible at present because the required functionality is incomplete in the current version. During periods of low locust activity, there is very little data for analysis. Nevertheless, nearly all of the DLIOs are using most of the functionality offered by this present version of Rv4.1.

It was noted that a number of additional functions and improvements continue to be required so that Rv4.1 can be used to provide a more complete assessment of locust situations and to facilitate analysis (Annex 5). For example, it is not possible to summarise the types of locust populations that are treated and by what means over time. It is not possible to spatially select data in specific areas of a country for summary and analysis purposes. It is not possible to analyse changes in locust densities, sizes of infested areas and number of locations infested. Lastly, it remains difficult and tedious to load a large number of data and remote sensing layers and manage them.

There was thorough discussion during the workshop amongst the participants, the Executive Secretaries of the CLCPRO and CRC, and the Senior Locust Forecasting Officer concerning the idea to postpone Rv4.1 development for one year while DLIOs improved their knowledge and use of Rv4.1 functions. However, postponement will not be of benefit if the locust

[2] Algeria, Chad, Djibouti, Egypt, Eritrea, Ethiopia, India, Iran, Libya, Mali, Mauritania, Morocco, Niger, Oman, Pakistan, Saudi Arabia, Sudan, Yemen, and DLCO-EA

situation remains quiet and there are insufficient data for analysis. It was felt that software development is a dynamic process and it should not be postponed; instead, it should continue but priorities need to be established, for example to develop the much required summary and analysis functionality based on feedback and suggestions from users. Nevertheless, it was stressed that users must practice using all current functionality of Rv4.1 to properly summarise and analyse situations. This should be reflected in the national locust bulletins.

2.5 eLocust3

Countries were reminded that every survey and control team should use eLocust3 to record their observations in the field and transmit them in real-time via satellite to their National Locust Centre. During survey and control operations, DLIOs should use GeoFlex to monitor field activities on a daily basis[3].

Under contract to FAO, Novacom recently updated eLocust3 software to v2.6 and provided custom cables for upgrading the firmware of the IDP680 antenna used for eLocust. The software update improves data quality by requiring latitude and longitude coordinates before an eLocust3 report can be transmitted. It also allows the entry of treated areas of less than one hectare and pesticide concentrations of less than one litre. DLIS dispatched one cable directly to each of the summer breeding countries while cables for the remaining countries were sent to CRC and CLCPRO. DLIS also prepared a video showing how to update the tablet and the antenna, including the use of the custom cable, which was shown in the workshop. It is the responsibility of the DLIOs to update every tablet and antenna in their country, and to inform DLIS accordingly so that Novacom can make the necessary configuration changes on the platform to allow data transmission. So far, some countries have updated their tablets while others remain outstanding (Annex 6).

3. Conclusion

This workshop represented an important milestone in the migration from PC to Mac as a significant means of improving the global Desert Locust early warning system. The workshop can be considered successful because it achieved the goal of providing sufficient knowledge and practice in using the MacBookPro and the MacOS so that DLIOs can use the Mac in their daily work for locust reporting. It is expected that from now onwards the DLIOs will no longer rely on the PC and, instead, use the Mac for Rv4.1, email and to prepare reports and bulletins.

Again it was noted during the workshop the importance of a fast and reliable Internet connection in the National Locust Centres. This is critical because an increasing portion of a DLIO's work relies on such connectivity, for example, receipt of eLocust3 data from the field, monitoring survey and control activities in the field, access to remote sensing imagery of rainfall and green vegetation in order to prioritise surveys, guide teams and analyse situations, exchanging data with DLIS, CLCPRO and other countries, and timely reporting.

In general, the annual workshops continue to contribute directly to the strengthening of the global Desert Locust early warning system, which is the basis for preventive control in order to reduce the frequency, duration and intensity of Desert Locust plagues. The participants reaffirmed the importance of and the need to continue these workshops on an annual basis. The workshop is the only opportunity for DLIOs from locust-affected countries within the two regions to get together to exchange experiences and share knowledge face-to-face, and

[3] https://web-humanav.novacom-services.com/novacom-gwt-generic/index.jsp

to receive important training and feedback from DLIS. Therefore, it is critical that all frontline countries allow their nationally designated DLIO to take part in this activity, and that CRC continues to organize this activity every year with DLIS participation.

Ideally, Desert Locust Heads should be invited every few years to participate in the workshop with their DLIO so they can observe first hand the tools that had been developed by DLIS and the commissions, and how DLIOs use them in reporting and early warning. This would also help to strengthen the important collaborative link between locust directors and locust information officers. Desert Locust Heads participated at last year's workshop.

The participants expressed their desire that Rv4.1 continues to be updated so that it can provide the necessary functionality for summarising and analysing data, and to simplify tasks. However, DLIOs should improve their knowledge and use the full functions of Rv4.1. DLIS and the Commissions should continue to be responsible for providing the necessary training to DLIOs on Rv4.1 functionality and new technologies while users should make full use of the custom application for data management and analysis.

4. Acknowledgements

The participants expressed their appreciation to the CLCPRO for the good arrangements and coordination of the workshop's logistics that contributed greatly to its success and smooth running. They extended special thanks to the secretariats of the two commissions for their enormous efforts and hard work in arranging the participants' travel. The warm welcome of the Host Government and the support that was provided was much appreciated. Lastly, the participants were grateful for the tireless efforts of the Senior Locust Forecasting Officer and the CLCPRO Programme Officer in introducing and teaching the MacOS and its functionality in a systematic manner that was easily grasped and understood.

This report was prepared entirely on a Mac using Pages.

Annexes

Annex 1. Workshop participants

	CLCPRO participants
Algeria	Wissal Hadjzouggar
	Adimi Amine
	Lazar Mohammed
	Hamid Bensaad
	Bellatreche Mohamed
Burkina Faso	Abdel Wahab Sadago Sawadogo
Chad	Rassei Neldjibaye
Libya	Hussien Masoud Elbrike
Mali	Youssouf Diallo
Mauritania	Bocar Lemine Sakho
Niger	Idrissa Yacouba
Senegal	Tata Faye Fatou
Tunisia	Mouna Mhafdhi
CLCPRO	Mohamed Lemine Hamouny

	CRC participants
DLCO-EA	Mehari Tesfoyahannes
Egypt	Osama Rabie Moustafa
Saudi Arabia	Saeed Turkistani
Sudan	Hussein Abaker
CRC	Mamoon AlSarai Al-Alawi

	AGRHYMET participants
AGRHYMET	Idrissa Maiga

	Trainers
FAO	Keith Cressman
CLCPRO	Hichem Dridi

Annex 2. MacBookPros in CLCPRO

User	Model	Tech Specs	SN	User	Gmail	iCloud
DLIOALG	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z3HV2F	Billal / Wissal	dlioalg	dlioalg
DLIOCHD	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z2HV2F	Rassei	dliochd	dliochd
DLIOLIB	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z9HV2F	Hussein	dliolib	dliolib
DLIOMAU	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z4HV2F	Sakho	dliomau3	dliomau
DLIOMLI	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z0HV2F	Diallo	dliomli	dliomli
DLIOMOR	MBP 2017	2.3GHz i5 128/16GB	C02WD0Z1HV2F	Jamal	dliomor	dliomor
DLIOINER	MBP 2017	2.3GHz i5 128/16GB	C02WD0YZHV2F	Idrissa	dlioner	dlioner

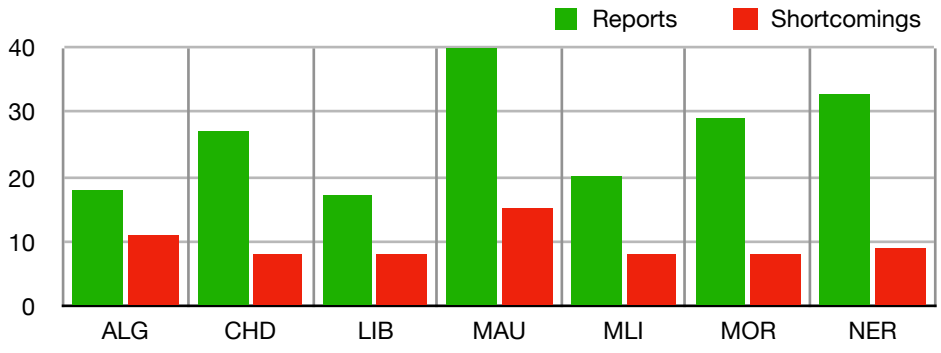
Annex 3. Workshop programme

SUN 1 JULY	9:30	Opening and introduction
	10:00	**Break**
	10:30	MacBookPro laptop & pre-installed apps
	12:30	**Lunch**
	13:30	Introduction: Finder, file management, trackpad
	15:30	**Break**
	16:00	Exercises: Finder, file management, trackpad
	18:00	**End of day**
MON 2 JULY	8:30	Introduction: Pages
	10:30	**Break**
	11:00	Exercise: Pages (bulletin)
	13:00	**Lunch**
	14:00	Introduction & exercises: Numbers (eL3 maintenance & usage)
	16:00	**Break**
	16:30	Introduction & exercise: Keynote (map making)
	18:00	**End of day**
TUE 3 JULY	8:30	Exercise: Keynote (map-making)
	10:30	**Break**
	11:00	Introduction: Mail
	13:00	**Lunch**
	14:00	Introduction: Contacts, Preview, Safari, Notes, Calendar
	16:00	**Break**
	16:30	Exercise: Reminders, Dictionary, Photos
	18:00	**End of day**
WED 4 JULY	8:30	Bulletin preparation and improvements
	10:30	**Break**
	11:00	Rv4.1 summary and analysis (Yemen, April 2016)
	13:00	**Lunch**
	14:00	Rv4.1 improvements
	16:00	**Break**
	16:30	Introduction & exercises: Disk format, Siri, cables; training videos; eL3 update
	18:00	**Closing of workshop**

Annex 4. Improvements to Desert Locust reporting

Two DLIS officers evaluated each report (bulletin, Rv4.1 data, reports) received from countries between April 2017 and May 2018. The results indicate that improvements are required in one primary area, that is, to make sure every map has a title and a brief sentence explaining the map in the its caption. There were other less-frequent shortcomings in six other areas. In some cases, shortcomings may exceed the number of reports as the latter may have more than one shortcoming.

	ALG	CHD	LIB	MAU	MLI	MOR	NER	TOTAL
No explanation for map / no caption	7	4	8	8	5	6	5	36
No maps from Rv4.1 or IRI	2	1		3	2		1	7
Different data and summary	2			1		1	2	4
No summary		2		1				3
Different summary and bulletin		1		1		1	1	4
Incorrect coordinates					1			1
Duplicate data				1				1
TOTAL SHORTCOMINGS	11	8	8	15	8	8	9	67
TOTAL NUMBER OF REPORTS (4/17–5/18)	18	27	17	40	20	29	33	184



Annex 5. RAMSES (Rv4.1) improvements

Reported by CLCPRO DLIO workshop (March 2017)

- turn off mandatory data field in the Scientific Editor (to allow unconfirmed secondary information to be entered into the database)
- tools to compare current situation with analogous historical situation(s)
- select plotted points on a map to run Min/Max (when there are locusts in more than one seasonal breeding area or in different biotopes within a country)
- add MeasureToolbox_11 distance plugin to the next Rv4.1 update and installer
- eL3 photo management (query database, plot, click on point to show photo)
- add query that does all (behaviour, presence, veg, soil) at the same time but keep their categories
- query & display changes over time (as a table and/or graph) for:
    - density, area infested (infestation size), no. locations infested
    - no. locations with adults, hoppers, bands, swarms that were treated

Reported by CRC/SWAC DLIO workshop (May 2017)

- Batch query of monthly data from/to to include data type (behaviour, soil, vegetation) and display by month or type
- Control methods – omit when values=0, daily as stacked bars not lines; decadal totals not displaying correctly (e.g. Sudan: Oct–Dec 2016)
- Locust activities – select type of comparison (years, months) (similar to Control Methods interface)
- Breeding calendar – Rv4.1 to generate from data

Reported during the current CLCPRO DLIO workshop (July 2018)

- General improvements to facilitate data summary and analysis, including those mentioned above for 2017
- Inclusion of sensitive areas
- Updating of national and subnational boundaries (Ivory Coast, Sudan, Oman)
- Training modules and exercises

Annex 6. Current status of eLocust3 updating

The updating of eLocust software and antennas to v 2.6 is in progress in some countries but many still have to complete this exercise as soon as possible, and inform DLIS.

eLocust3	cable sent	v2.5	v2.6	To update
ALG		20	12	8
CHD		16	16	0
MAU		27	0	27
MLI		15	0	15
MOR		20	0	20
NER		21	11	10
TUN		2	0	2

Sent to countries on 14/5/2018

Sent to CLCPRO on 13/6/2018