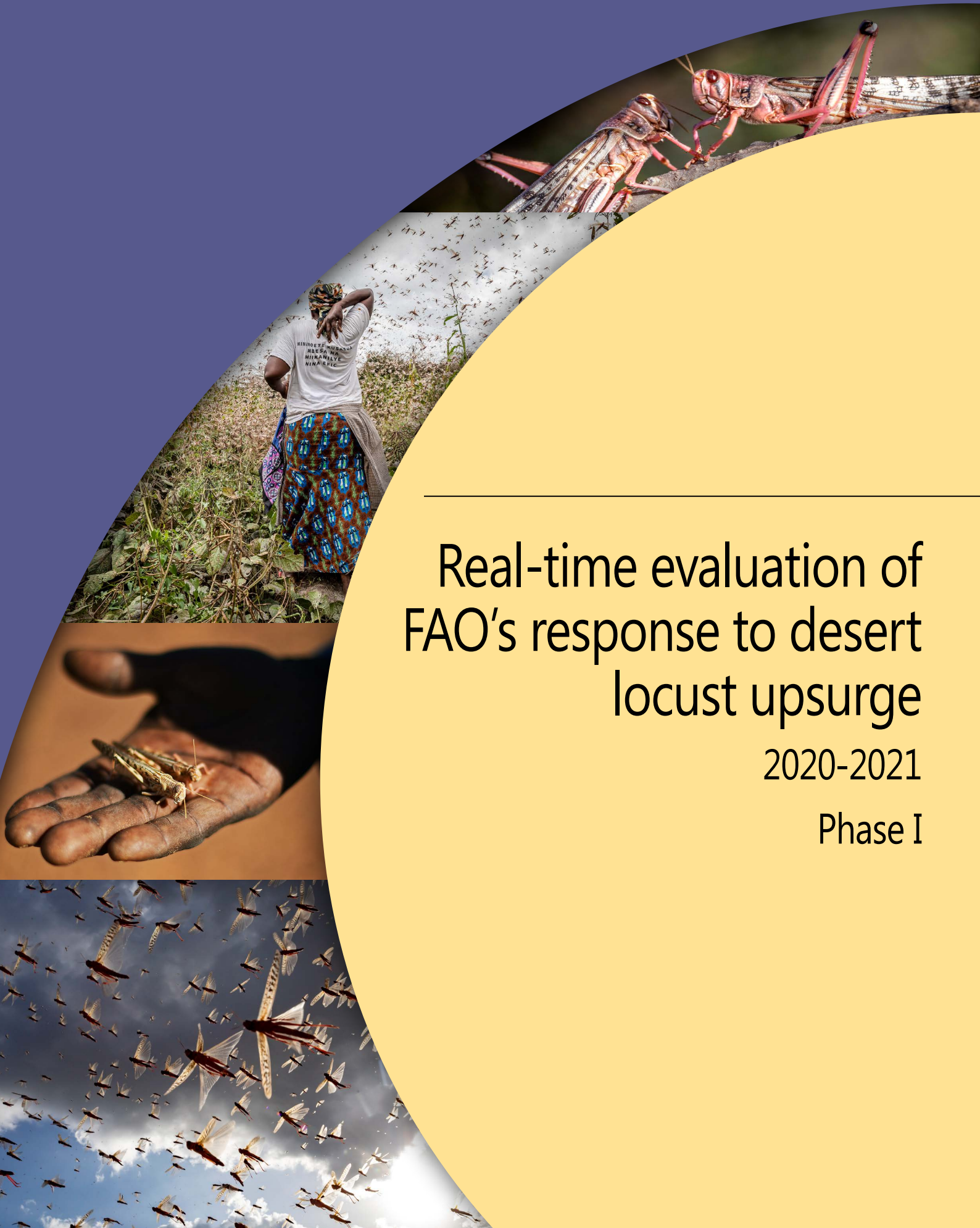




Food and Agriculture
Organization of the
United Nations

Programme Evaluation Series
12/2020



Real-time evaluation of FAO's response to desert locust upsurge

2020-2021

Phase I

**Programme Evaluation Series
12/2020**

**Real-time evaluation of
FAO's response to desert locust upsurge
2020-2021
Phase I**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2020**

Required citation:

FAO. 2020. *Real-time evaluation of FAO's response to desert locust upsurge (2020-2021) – Phase 1*. Evaluation Series, 12/2020. Rome.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2020

ISBN 978-92-5-133727-1



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode>).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons licence. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original English edition shall be the authoritative edition."

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules> and any arbitration will be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Cover photo credits (top to bottom): 1. 2. & 4. ©FAO/Sven Torfinn, 3. ©FAO/Carl de Souza.

Contents

Acronyms and abbreviations	v
1. Introduction	1
2. Phase I: Purpose and scope	3
2.1 Evaluation purpose.....	3
2.2 Evaluation scope	3
2.3 Evaluation methodology.....	4
2.4 Limitations	5
3. Findings	7
3.1 Leadership and coordination	7
3.2 Timeliness of the Appeal	9
3.3 Funding sufficiency and appropriateness.....	11
3.4 National capacity development.....	12
3.5 Surveillance operations	14
3.6 Control operations	18
3.7 Livelihood protection	21
4. Conclusions and recommendations.....	25
References.....	28
Appendix 1. Evaluation questions	29

Figures

Figure 1: Real-time evaluation (RTE) phases.....	1
Figure 2: Households (HH) targeted by FAO livelihood interventions under the desert locust response.....	22
Figure 3: Percentage HH targeted reported as reached by end August 2020.....	23

Acronyms and abbreviations

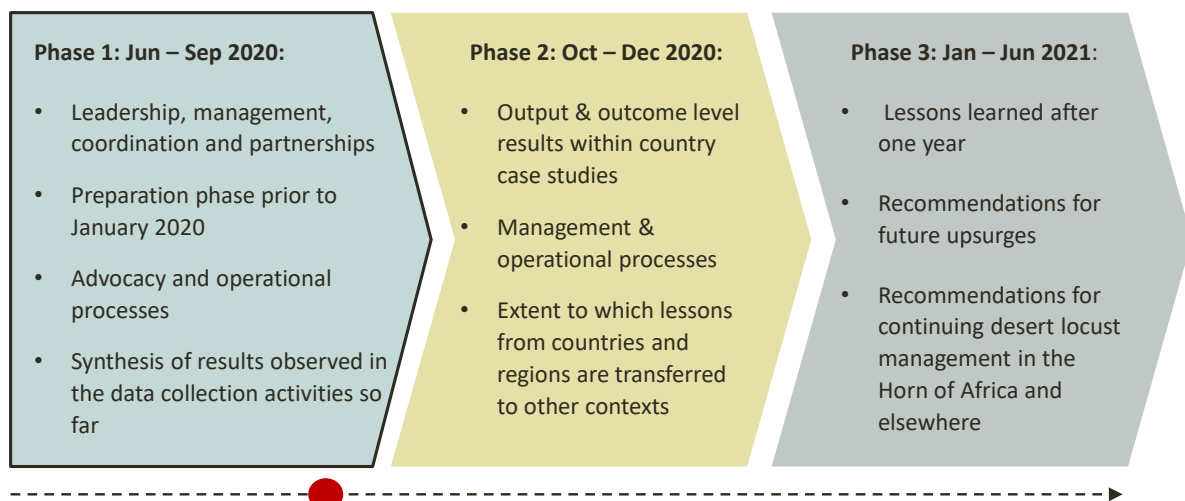
CERF	Central Emergency Response Fund
CLCPRO	Commission for controlling the Desert Locust in the Western Region
CRC	Commission for controlling the Desert Locust in the central region
DLCO-EA	Desert Locust Control Organization for Eastern Africa
DLIS	Desert Locust Information Service (FAO)
FAO	Food and Agriculture Organization of the United Nations
FSNWG	Food Security and Nutrition Working Group
GRP	Global Resilience Partnership
NGO	Non-governmental organization
PPD	Plant protection department
RTE	Real-time evaluation
SFERA	Special Fund for Emergency and Rehabilitation Activities
SWAC	FAO Commission for Controlling the Desert Locust in South-West Asia

1. Introduction

1. Over the course of 2020, the most devastating desert locust upsurge of the past 25 years has spread across parts of the Near East, the greater Horn of Africa, and southwest Asia. The upsurge poses an unprecedented risk to livelihoods and food security in some of the most food insecure countries in the world. Over the past few years, consecutive shocks including low rainfall, flooding, macroeconomic crises and armed conflict have contributed to a significant level of vulnerability across the countries most affected by the desert locusts. In 2020, this has been exacerbated by the impacts of the COVID-19 pandemic, and the global response to it. As of October 2020, an estimated 32.7 million people are facing severe acute food insecurity (as defined by Integrated Food Security Phase Classification [IPC] Phase 3+) in desert locust affected countries.
2. With a new generation of desert locusts breeding in northeast Africa and Yemen in October 2020, the situation could worsen through October to November in the Horn of Africa. This is a rapidly changing situation and one where the Food and Agriculture Organization of the United Nations (FAO) has a unique mandate and technical capacity to respond.
3. FAO and its partners have mobilized more than USD 163 million since January 2020. The response includes three key pillars: (1) curbing the spread of desert locusts (including surveillance) (2) safeguarding livelihoods and promoting recovery and (3) coordination and preparedness of the rapid surge support.
4. In this context, the FAO Office of Evaluation (OED) has been requested to conduct a real-time evaluation (RTE), conducted across three phases spread over one year. Each phase will cover specific aspects of the response, as follows:

Figure 1: Real-time evaluation (RTE) phases

EVALUATION PHASES: KEY ISSUES INVESTIGATED



Source: FAO Office of Evaluation (OED)

2. Phase I: Purpose and scope

2.1 Evaluation purpose

This real-time evaluation (RTE) has two dimensions:

- i. **Mutual accountability:** providing an independent assessment of what FAO and its partner organizations have achieved since January 2020, including timeliness and sufficiency of resourcing, efficacy of the operations and the environmental impacts of control operations.
 - ii. **Learning for FAO and all partners and stakeholders** on what has worked and what has not worked, and what should be done to adjust current and future operations.
5. Both of these objectives concern the activities not just of FAO, but also of FAO's partners in the desert locust response. Indeed, a wide range of actors contribute vital parts of the locust response, including donors, regional locust commissions, national governments, United Nations (UN) agencies, non-governmental organizations (NGOs) and research institutes. For this reason, the evaluation is taking a system-wide lens when assessing the response. But it should be noted that evaluation scope is limited to partner activities **to the extent that they are part and parcel of FAO's activities in response to the desert locust upsurge**. This principle has guided methodological design and the selection and focus of evaluation questions.
 6. The aim of Phase I of the RTE is to provide accountability and share learning on the initial scale-up response over the period from January to October 2020, specifically on the timing of and response to the appeal, leadership and coordination of the response, national capacity development, surveillance and control operations, and livelihood protection activities undertaken during that timeframe.
 7. On the basis of findings gathered, the RTE will be able to make recommendations for operational adjustments in real-time. It will therefore complement and add to ongoing communication activities organized at the regional levels, specifically aiming to encourage cross-regional learning on issues including, for example, innovation in the surveillance, control and response to the upsurge.

2.2 Evaluation scope

8. In line with the purpose of the RTE concept note, data collection activities have been designed to collect evidence relating to the five main questions of this RTE:
 - EQ1:** To what extent did FAO's leadership, management and technical capacity support a relevant, timely and effective system-wide response to the desert locust upsurge?
 - EQ2:** To what extent was the response coherent with FAO's other operations and those of other actors?
 - EQ3:** What were the positive and negative, intended and unintended results of FAO's actions in terms of food security, livelihoods and resilience of affected households and communities?
 - EQ4:** What have been the enabling factors and limiting constraints on the effectiveness of FAO's response?

- EQ5:** To what extent did FAO's processes support innovation and learning across the affected regions?
9. Appendix 1 to this document presents the full evaluation matrix, which includes evaluation questions, sub-questions, data collection tools and the phases of the RTE process in which each question is addressed.
 10. Phase I activities have specifically focused on the key issues arising from the first phase of the response. The RTE team assessed FAO's strategic role in donor advocacy, operational leadership and coordination of the scaled-up desert locust response from January to September 2020. These issues were assessed across the following thematic areas:
 - i. Leadership and coordination of the response.
 - ii. Timing of and response to the appeal.
 - iii. National capacity development.
 - iv. Surveillance and control operations.
 - v. Livelihood protection activities undertaken.
 11. The evaluation methods outlined below focus primarily on data collection from FAO staff members and representatives of donor and multilateral partner organisations. Importantly, the Phase I **analysis did not look at results achieved at country and field levels and the evaluation team did not collect primary data about the results of surveillance and control operations or livelihood protection activities**. These issues will be followed up during Phase II of the RTE, through case studies in a selection of the most severely affected countries.

2.3 Evaluation methodology

2.3.1 Data collection activities

12. The methodology has been designed to fit the information needs outlined in the evaluation questions and key issues for investigation during Phase I, as well as the need for real-time feedback for FAO teams and partner organizations. Given the focus on leadership, management and coordination of the response during Phase I, the evaluation team focused their activities on key informant interviews (KIIs) with the major stakeholders involved in the management of the scale-up appeal and its response. In addition, the team reviewed project documentation and a purposive sample of background literature.
13. **Key informant interviews:** the RTE team conducted 52 semi-structured remote interviews with key stakeholders from FAO Headquarters, FAO Country Representatives and country office staff involved in the response, regional locust commissions and donors. In addition, the team observed the weekly coordination meetings held by FAO with country offices in the Horn of Africa, west Africa and southwest Asia.
14. **Literature review:** the team reviewed project documentation for 50 projects funded under the Global Resilience Partnership (GRP) 2020, including Technical Cooperation Programme (TCP), Government Cooperative Programme (GCP) and Office for Special Relief Operations (OSRO) project codes. They also reviewed the GRP 2020 and subsequent revisions, the FAO Desert Locust Watch website and communications page, the FAO Desert Locust Guidelines and external sites including the IPC, Intergovernmental Authority on Development (IGAD),

Commission for controlling the Desert Locust in the central region (CRC) and Commission for controlling the Desert Locust in the Western Region (CLCPRO).

2.4 Limitations

15. The major limitations faced during the Phase I activities are linked to the remote data collection approach deployed. Travel restrictions arising from the COVID-19 pandemic meant that all key informant interviews had to be conducted through online Voice over Internet Protocol (VoIP) technology. This limited the methodological options open to the RTE team during interview design.
16. In addition, by focusing on key informant interviews and secondary data collection, Phase I of the RTE was unable to independently verify claims about the results achieved on surveillance, control or livelihoods protection. The RTE team sought to mitigate the verification risk by triangulating data collected from different stakeholder and organizations involved in the response. Nevertheless, with no field teams deployed to collect primary data on results in-country, the Phase I findings cannot provide independent verification of effectiveness in terms of area controlled or livelihoods protected.

3. Findings

17. The following section presents the findings of the evaluation team during Phase I of the RTE. Findings are presented across each of the key themes of the Phase I data collection activities, in the following order of discussion. Firstly, findings associated with the leadership role played by FAO in the desert locust response, including coordination of the surveillance and control operations, communication and information share between key stakeholders, and the relationship between regional and country-level coordination mechanisms in this multi-region response. Secondly, findings related to the timing of the appeal launch and the sufficiency, timeliness and flexibility of the donor response to it; including the degree to which donors were aware of the threat posed by the desert locust upsurge in 2019. Thirdly, findings are presented on the progress, enabling factors and limiting constraints observed in terms of (i) developing national capacities for locust surveillance and control, (ii) preparation and conduct of surveillance and control operations, and (iii) livelihoods protection activities undertaken prior to 30 September 2020.
18. Each finding is provided a confidence rating, reflecting the evaluation team's confidence on the finding based on the evidence underlying it. The rating system has been adapted from the GRADE system of evidential strength assessments, as follows:¹
- VERY HIGH:** the evaluation team is very confident in the evidence supporting the finding. Further research is considered very unlikely to change the finding or its importance. **HIGH:** the evaluation team is confident in the evidence supporting the finding. Further research could potentially add nuance to the finding or its interpretation, but is unlikely to change the finding itself.
- MODERATE:** the evaluation team has only moderate confidence in the evidence supporting the finding. Further research is likely to improve the evaluation team's understanding of this issue.
- LOW:** the finding is very uncertain and requires more research.
19. The assignment of confidence ratings has been made by the evaluation team's own judgement, and is therefore subject to author bias. It nevertheless provides a consistent basis on which to interpret the findings and direct further research during phases II and III of the RTE.

3.1 Leadership and coordination

20. FAO took a visible strategic leadership role in the 2020 desert locust response, which was recognised as a contributory factor to results achieved thus far. External partners identified FAO as being uniquely positioned in this response as the only agency with the technical capacity and mandate to lead the locust surveillance and control operations. Internally, this was supported by the clear and visible engagement of the Director General during the initial appeal phase in January/February 2020; ongoing engagement and significant time investment from senior managers and technical officers within FAO's Rome HQ and

¹ The GRADE approach is a system developed by healthcare researchers for rating the quality of a body of evidence in systematic reviews and other evidence syntheses:
<http://help.magicapp.org/knowledgebase/articles/371159-the-grade-handbook>

regional offices; and a continued investment in, and prioritisation of, the locust response on the part of both technical and emergency teams within FAO. Representatives of both FAO and partner organisations recognised the organisation-wide leadership effort played by FAO in this response, and several stakeholders noted it as a contributory factor to the timely mobilisation of resources and successes observed in surveillance and control operations during the first half of 2020.

CONFIDENCE RATING: VERY HIGH

21. **FAO's coordination of the surveillance and control operation was broadly successful throughout January to October 2020.** Internal coordination within FAO was spear-headed by weekly coordination meetings on a regional basis, which brought together HQ, regional and country-office staff, and stretched across surveillance, situation analysis, forecasting, control, livelihood protection, procurement and communications. External coordination was anchored in monthly meetings with key partners including donors, regional commissions and national governments; where information was shared in a transparent manner regarding the progress of operations and obstacles being faced. Coordination efforts on the surveillance and control operations were widely praised by external actors, including donors and implementation partners alike. The regional coordination function, in particular, was singled out as successful by partner organisations. This included both the Horn of Africa coordination through the resilience hub in Nairobi, and the example of the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) enhancing technical-level country coordination between Iran, Afghanistan, Pakistan and India. Some questions were raised about FAO's coordination of the livelihood response during the early stages of the upsurge, where it was felt that FAO did not engage partner organisations sufficiently in the planning and initial information sharing stages. Nevertheless, these issues were addressed by FAO by May 2020, with increased information sharing on livelihoods being appreciated by external actors interviewed during Phase I of the RTE.

CONFIDENCE RATING: HIGH

22. **Communication and information sharing between FAO, donors and affected countries was highly appreciated.** The major strengths cited by interviewees included: (i) the regularity of information flows concerning the current situation, response and outlook, from FAO to donor and implementation partner organisations including, but not limited to, the monthly coordination meetings; (ii) the granularity of the information shared by FAO with partners on issues such as coverage of surveillance, situation analysis, forecasts and control operations, locust numbers, locations and breeding patterns, challenges and decisions-made around pesticide and equipment procurement, storage, use, national capacity-building results achieved and monitoring data collection. Moreover, the Desert Locust Watch website was well regarded and referenced by several donors as providing real-time updates on the upsurge of use to their own monitoring and decision-making processes.

CONFIDENCE RATING: HIGH

23. **The only significant criticism of coordination efforts regarded the transfer of messages between regional and country levels.** In several cases, FAO partner organisations operating in the Horn of Africa noted that dialogue held with FAO regional offices did not appear to be filtering through to country level: including both FAO country

offices and national government ministries. This being said, no significant negative impacts on operations were recorded during the January to October 2020 period as a result of this dislocation.

CONFIDENCE RATING: MODERATE

3.1. Issues for follow-up in Phase II:

- i. Country-level data on FAO's coordination role in the livelihood response.
- ii. More data on how FAO engaged a broad-based partnership group across multilateral agencies, resource partners, regional agencies, national governments and NGO partners.
- iii. Examples of strengths and weaknesses of regional-country level communication exchange from country case studies.

3.2 Timeliness of the Appeal

24. **The 2020 Appeal was generally viewed to be well-timed; delaying the appeal date would have carried risks to the response effectiveness, whilst bringing the response forward would have risked the effectiveness of the funding appeal.** The evaluation team spoke to a range of donors and FAO headquarter stakeholders regarding the timeliness of the initial appeal.² The majority of stakeholders felt that the appeal was well timed, and that the timing of the appeal and the donor response to it was a contributory factor to the effectiveness of the control operations. All stakeholders agreed that delaying the appeal any further would have significantly challenged control efforts in the Horn of Africa, and could therefore have increased the risk of the upsurge spreading beyond the affected countries. In southwest Asia it was felt that launching the appeal earlier in 2019 could have helped the pre-existing surveillance and control activities being conducted by member countries in that region throughout that year, notwithstanding the contributions FAO made in that period through, inter alia, the immediate approval of a TCP program worth USD 500 000. But the majority of the stakeholders interviewed – both within FAO and donor organisations – felt that an effective global appeal could not have been launched more than two to three weeks earlier than the final launch date. The primary reason being donor and press attention: prior to mid-December 2019, there was very limited donor awareness of the desert locust threat nor press attention to it, despite a number of alerts and meetings including the Food Security and Nutrition Working Group (FSNWG) monthly regional statements and the FAO Resilience Team of East Africa (RTEA) semi-annual meeting with partners on 10 December where the threat of desert locusts was mentioned.³ Launching in this phase, before the effects of Cyclone Pawan were observed on the locust populations in east Africa, may have risked a significantly reduced donor reaction compared to that which was seen in January.⁴ This being said, bringing forward the appeal by a matter of weeks would probably not have made a significant difference to

² Including FAO donor liaison and advocacy teams, technical experts and emergency managers, as well as representatives of seven major donors to the desert locust response.

³ As witnessed by, for example, the 2019 Humanitarian Response Plans for Yemen and the Horn of Africa, or published global funding priorities of major bilateral donors in 2019.

⁴ This reflects a fundamental challenge faced by all early action, in that releasing funds prior to a crisis relies on forecasting models rather than observed data, and can ultimately be difficult to justify to donor stakeholders. This is not to say it is impossible, however, and the desert locust upsurge is one example of how agencies and donors have a common interest in agreeing forecasting standards and response procedures ahead of time.

the timeliness of the donor response given that it would have overlapped with the winter holidays.

CONFIDENCE RATING: HIGH

25. **Prior to the Appeal launch, the wider donor community was not fully aware of the urgency of the desert locust threat.** Despite numerous alerts and meetings led by FAO, and a significant effort to increase media attention and advocacy around the desert locust threat, including discussion of the threat at the FAO RTEA semi-annual meeting with donor partners on 10 December, several donors interviewed during Phase I noted that they found the size of the appeal and the urgency of the upsurge to be surprising when it came. This is in line with the finding above that donor priorities did not include significant consideration of the desert locust threat in the Near East or the Horn of Africa, as evidenced by humanitarian response plans published by bilateral and multilateral agencies up to December 2019. Some donors indicated during interview that they felt FAO could have done more to prepare them for an imminent appeal of this size, by placing greater emphasis on external messaging around anticipatory action and the potential return-on-investment during the second-half of 2019. This may potentially have helped mitigate the short period of limited fund availability noted in finding 3.3.2 below.

CONFIDENCE RATING: HIGH

26. **FAO put significant effort into communicating the desert locust threat to donors from 2018 onwards.** FAO's own desert locust forecasting service was tracking the heightened risk posed by desert locust breeding from 2018. In December 2018, FAO elevated the threat level for the Central Region to "Threat" (on the scale Calm, Caution, Threat, Danger). In October 2019, it followed suit for the Horn of Africa. Data was shared with the wider community through several avenues, including the Desert Locust Watch website, regular donor updates through FAO's e-card system, and the Early Warning Early Action quarterly reports. Nevertheless, as evidenced in finding 3.2.1 and 3.2.2. above, this information was not effective in impressing the potential severity of the upsurge on donor minds prior to December 2019. Questions therefore remain regarding the degree to which FAO's forecast data and threat warnings are understood and prioritized by donor organizations – prior to a serious emergency developing.

CONFIDENCE RATING: HIGH

27. **There is evidence to suggest that FAO's forecast data could have been used to greater advocacy effect during 2019.** Some donors noted that, whilst the forecast data is considered high quality and objective, it isn't currently shared in a manner that can raise locust threats above other ongoing concerns in the affected regions, most notably the ongoing humanitarian crisis in Yemen. Moreover, some FAO stakeholders also noted that internal communications between technical and emergency units could be strengthened, with greater accountability placed on technical units for alerting emergency teams to locust threats in future. For this reason, and notwithstanding the importance of maintaining trust in the objectivity of FAO's forecast data, some stakeholders felt that the FAO-donor dialogue around locust forecasts could be reviewed in order to ensure that the potential implications of locust data is better understood by the wider humanitarian and development community ahead of time.

CONFIDENCE RATING: MODERATE

3.2. Issues for follow-up in Phase II:

- i. Evidence of an evolving dialogue between FAO and donors regarding understanding implications of locust risks and forecasts.

3.3 Funding sufficiency and appropriateness

28. **The appeal led to a rapid and timely scale-up of funding. All FAO stakeholders consulted felt funding was sufficient for needs, with none citing significant funding gaps.** As of October 2020, FAO's appeal has been 80 percent funded, with USD 186 million being received out of a total requirement of USD 230 million. At country-level, this ranges from 65 percent in Ethiopia to 111 percent in Yemen (FAO, 2020a). All FAO stakeholders consulted during Phase I considered that the funding made available was significantly higher than for other recent and ongoing crises. Notably, no FAO Country Representatives cited funding gaps as a significant obstacle for their operations on surveillance and control of the desert locust upsurge. On the contrary, the majority made specific reference to the timely availability of funds for their surveillance, control and livelihood activities, whether from donor organisations or through FAO's Special Fund for Emergency and Rehabilitation Activities (SFERA) desert locust pool. Regarding timeliness of the wider donor response, both FAO and donor stakeholders noted the rapidity of commitments made following the initial scale-up appeal, with some donors in particular responding significantly faster than in previous appeals.

CONFIDENCE RATING: VERY HIGH

29. **Nevertheless, there remained a short period of limited donor fund availability in the first quarter of calendar 2020, which FAO was able to fill using Central Emergency Response Fund (CERF) and SFERA funding.** FAO stakeholders did report a short funding gap at the start of the appeal, in the period up to April 2020, i.e. before the majority of donor funds had been received but during the scaling-up of surveillance and control operations with their associated costs. However, whilst this gap was felt at headquarters level, it was not felt at country office level. This was due to the use of alternative funding mechanisms during that period: (i) pre-financing USD 29 million for projects between 28 February and 6 April 2020, using FAO's SFERA fund, with advances made against funding commitments not yet received, (ii) contributions from Canada (USD 1.4 million) and the United Kingdom of Great Britain and Northern Ireland (USD 2.0 million) to FAO's new SFERA desert locust fund, which allowed for rapid and highly flexible funding in the early stages of the response; and (iii) the initial contribution made through the CERF mechanism in early 2020. In particular, the "no-regrets" clause applying to SFERA contributions made under corporate surge and L3 emergency responses allowed FAO to access funds in a rapid and flexible manner, prior to detailed needs assessment.

CONFIDENCE RATING: HIGH

30. **Funding was suitably flexible for FAO purposes. Restrictions imposed by some donors, notably around pesticides, were balanced by other contributions to ensure funding could be channelled according to need.** FAO Country Offices did not, on the whole, experience significant restrictions in the use of funds for specific purposes. But there were some notable counter-examples in this regard. Some donors place specific restrictions on the purchase of certain types of pesticide for the response. Others chose to

specifically support livelihood operations instead of survey and control, or had specific geographic areas of focus. FAO overcame these obstacles through the balancing of different donor contributions and the use of its SFERA fund which allowed greater flexibility on, among other things, geographical distribution.

CONFIDENCE RATING: MODERATE

31. **Contributory factors behind the sufficiency and timelines of the funding response include factors both internal and external to FAO's own actions.** External factors cited during interviews included (i) the global press attention placed on the swarms witnessed in the Horn of Africa at the start of 2020 and southwest Asia thereafter; and (ii) the wider funding landscape in 2020, with new donors engaging, such as the Bill and Melinda Gates Foundation, and rapid funding mechanisms, such as CERF, which were not available during the last upsurge of comparable scale in 2003-2005 in west Africa. Internal factors cited by interviewees included (i) the close engagement of the FAO Director General in the early-stage advocacy around the upsurge; (ii) the advocacy activities undertaken by other senior FAO staff including visits to the region and donor capitals during the first quarter of 2020; (iii) the ongoing communications activity conducted throughout January to October, including the media strategy and web content which built on the global press attention referenced above; (iv) the reputation of FAO among the donor community for both technical response capacity and objective forecasts, situation analyses and data collection.

CONFIDENCE RATING: HIGH

3.3. Issues for follow-up in Phase II:

- i. Evidence of funding sufficiency as the desert locust upsurge develops in November/December.
- ii. Evidence of funding allocations allowing or hampering flexibility to respond as the locusts move across countries in November/December.
- iii. Drivers of funding response at country-level.

3.4 National capacity development

3.4.1 Clear divergences existed between frontline and invasion country capacities in January, with significant work going into building invasion country capacities over 2020.

32. As could be expected with a desert locust upsurge of this scale, frontline countries like Saudi Arabia and Sudan, with long experience of this problem, had pre-existing survey and control capability that they could leverage to gear up their response in a timely manner. In contrast, invasion countries like Kenya or Uganda had not seen a comparable desert locust upsurge since the 1950's, and therefore took longer to scale-up their response. Initial financial support using CERF, SFERA, United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and Department for International Development (DFID) funds allowed FAO to assist Somalia, Ethiopia, Kenya and South Sudan with the purchase of pesticide, survey and control equipment as well as provide international locust experts to rapidly train local agricultural officers and co-ordinate control activities.

CONFIDENCE RATING: HIGH

3.4.2 Results of capacity building efforts appear mixed. Clear successes in Kenya and Somalia, which started with minimal capacity but has drastically improved. Ethiopia, by contrast, faced a number of constraints despite longstanding desert locust experience.

33. In Kenya the locust response had to start from a very low capacity but the reaction was rapid. In January/February 2020, FAO Kenya put in place a command center platform to provide technical support to the Government. The Kenyan Government recognized the leadership role that FAO had and its mandate to provide the capacity to control the desert locusts. In this way, the partnership between FAO and the Kenyan Government allowed FAO to build the country's capacity, with the Government leading the desert locust surveillance and control activities.
34. In Somalia it took time for the Government to respond given their limited resources and understanding of desert locusts, it being approximately 25 years since the last major invasion. However, good progress was made following the development of a country plan by FAO to inform donors of the requirements needed for an adequate response. Prior to the current desert locust crisis only a very small ten-person team existed in Somalia with the training to monitor populations, and there was no official structure possessing the control equipment or vehicles to manage desert locusts. By August 2020, with FAO assistance, a national desert locust unit, with over 40 trained staff, had been established with support for field operations. The unit is now equipped with vehicles for survey and control, application equipment, pesticide and contracted helicopters for surveillance and control activities.
35. In Ethiopia, the initial influx of swarms late in 2019 proved difficult to control due to a decline in surveillance and response capability in the form of an autonomous locust unit within the Plant Protection Department. Notably, FAO had trained a desert locust information officer shortly before the upsurge. On returning to Ethiopia, the officer resigned his position taking critical knowledge gained from 11 months of training with him. This situation was further worsened by poor communication and road infrastructure, the effects of flooding in late 2019 and the location of infested areas in remote and inaccessible terrain. FAO and its partners provided significant funding and technical assistance to help rebuild the desert locust surveillance network in the country, although gaps still remain in October 2020. Aircraft contracted by FAO were used to conduct aerial survey and control, with two of these spray aircraft accounting for the majority of the area treated by air in the country. Notably, the two Desert Locust Control Organization for Eastern Africa (DLCO-EA) spray aircraft based in Ethiopia not been operational throughout the course of the current control campaign due mainly to continuing maintenance issues.

CONFIDENCE RATING: HIGH

3.4.3 Questions remain around the functionality of the regional commission system to support varying national capacities in the Horn of Africa.

36. The CRC's role is to assist member countries to manage and prevent desert locust and to prepare for and respond to emergencies caused by it. The CRC concentrates on integrated approaches that support the development, sharing and adaptation of surveillance and preventive control strategies. It is self-funded by member countries and, like the CLCPRO in West Africa, has an emergency fund established to allow voluntary contributions from members. Unlike the CLCPRO, however, the CRC emergency fund is not fully-funded in

advance of a desert locust threat, instead relying on the Commission to make requests to member countries as and when the desert locust threat increases. In mid-2019, the CRC requested USD 3 million to support the situation on the ground mainly in Yemen, Ethiopia, Somalia and Eritrea. However, it did not succeed in raising the necessary funds to support operations at this stage. In this context, several stakeholders questioned whether the timeliness and effectiveness of the current arrangements could be improved.

37. Following the FAO appeal to donors in January 2020 and the subsequent availability of funding the response from member countries was good (with the exception of Ethiopia) because they had benefited from training provided by the CRC – they were in a position to carry out surveillance and proceed with ground control operations.

CONFIDENCE RATING: HIGH

3.4. Issues for follow-up in Phase II:

- i. Primary-data collection regarding human resource capacity gains at country level.
- ii. Explanatory factors behind successes in some countries and problems encountered in others.
- iii. Evidence regarding sustainability of capacity gains across the region, and comparative advantages of country-specific versus regional support mechanisms.

3.5 Surveillance operations

3.5.1 Broadly successful across the breadth of the desert locust upsurge, but significant data gaps still exist in Ethiopia, Eritrea and Yemen.

38. All frontline countries affected by desert locust swarms have a centralised national locust control centre (NLCC) within their plant protection department (PPD) in the Ministry of Agriculture and a desert locust unit that is responsible for monitoring their territory through regular field surveys and undertaking control operations when required. elocust3 is the *de facto* system used by national survey and control officers in all locust-affected countries for recording field observations during survey and control operations and transmitting data by satellite in real time to NLCCs and the Desert Locust Information Service (DLIS) at FAO Headquarters. DLIS maintains a global perspective and is responsible for monitoring habitat conditions and locust infestations on a 24/7 basis from west Africa to India. DLIS keeps countries informed by issuing monthly bulletins that summarise the current situation and forecasts developments six weeks in advance. The bulletins are supplemented by updates, alerts and warnings so that affected countries and international donors have time to respond in an effective manner in order to prevent desert locust upsurges developing into plagues. (K. Cressman, 2014)
39. Prior to and throughout the current desert locust upsurge, breeding countries such as Saudi Arabia, Sudan, Oman, Iran, Pakistan and India have had operated locust units that had been maintained with adequate resources (government funding and trained staff with access to survey equipment such as field vehicles). Regular surveillance information from these countries continues to be forthcoming to the DLIS. However, in Ethiopia, Somalia and Yemen, prior to 2019, this surveillance capacity had been allowed to degrade due to changes in government priorities, financial constraints or internal insecurity and as a

consequence regular surveys were not carried out and regular data and updates on the locust situation within these countries were not available regularly to DLIS. The CRC attempted to address this situation mid-2019 during the build-up of the current upsurge with an appeal to regional donors and FAO to help rebuild surveillance capacity in these countries but this did not occur in time to be of any assistance. Large scale donor assistance was forthcoming from early 2020 onwards and locust units were rapidly rebuilt with field staff trained by FAO with help from CRC and CLCPRO. At the same time in Kenya, Uganda and South Sudan where no dedicated desert locust surveillance capacity existed within government PPDs prior to the current upsurge (as desert locust had not posed a threat for decades) efforts by FAO to rapidly scale-up survey were successful. Currently, effective locust surveillance is occurring in Kenya and to a lesser extent in South Sudan. Surveillance in Uganda remains problematic with few improvements occurring and at a much slower pace.

40. The major challenges reported were due to access constraints in locust-infested areas, which were exacerbated by insecurity, lack of transportation and damage to road infrastructure caused by flooding in the Horn of Africa. Some countries also suffered from a lack of internet or mobile phone coverage, with Eritrea and Ethiopia presenting the most significant risks in this respect. This remains an important issue since up-to-date surveillance and control information is central to forecasting, early warning alerts, situation analysis, planning of field operations and logistical inputs, as well as reporting to donors. The increased wide spread use of the eLocust3 technologies throughout all regions has provided DLIS with field data that has improved the quality of forecasting, but only when the data is high quality and provided by trained field staff. Locally-led solutions have also been deployed in contexts where data challenges occurred, including the use of WhatsApp groups, 51 Degrees data, dual-purpose use of helicopter assets and direct exchanges between pilots. The use of aerial surveillance has greatly enhanced the speed, effectiveness and efficiency of control planning and spraying operations (e.g. in Kenya, Ethiopia and Somalia).

CONFIDENCE RATING: MODERATE

3.5.2 Challenges all centre around national context, including the engagement of national actors in Somalia, internet outages in Ethiopia and conflict in Yemen.

41. In Somalia, a range of pre-existing constraints meant it took longer to engage the government. At the start of the upsurge's invasion of the country, it had a depleted locust surveillance and control capacity (only 10 PPD staff trained in monitoring and no structure to manage a control response). The issue of Somaliland setting up their own locust capability in response to the upsurge also caused problems with the central government.
42. In Yemen, the conflict and security issues as well as the sheer size of the breeding areas made it difficult to operate. This affected neighbouring countries, as the desert locust migrated from these breeding areas. Therefore, the situation in Yemen has had a significant effect on the Arabian Peninsula countries, whole greater Horn of Africa and east Africa region.
43. Prior to the current upsurge, Ethiopia had no autonomous locust unit within the PPD. As a result of this Ethiopia did not get the maximum benefit from the training workshops and other support provided from the CRC. When desert locust swarms appeared in late 2019, the PPD had no contingency plan, and at this point the government asked for donor

support. CRC then approached the government with a plan to re-establish a locust unit and the government agreed. Whilst the situation has improved, a lack of co-ordination between states remains a major issue. In Eritrea, the government had a good capacity for desert locust control, due mainly to good support from the Ministry of Agriculture. This has allowed the country to contain smaller outbreaks with extremely limited resources, although the lack of internet in the country has hampered transfer of locust information to assist forecasting efforts of the FAO DLIS.

CONFIDENCE RATING: MODERATE

3.5.3 Uptake and use of eLocust3 technology has been broadly successful, in particular elocust3g the GPS version which, whilst taking time to roll out, has produced high quality data. The eLocust3m and elocust3w versions which use smartphone technology presented significant problems of data quality which have not been overcome.

44. eLocust3 was introduced by FAO in 2015 as a data collection tool that enabled trained locust officers to collect high-quality surveillance data in the field (locust density, stage and condition of habitat, linked to GPS position). This information is transmitted via satellite in real time to their national locust control centers and the FAO DLIS to assist with forecasting desert locust situations at national, regional and global levels with greater accuracy. The benefits of these technologies come at a price, the regional commissions pay for eLocust3 data transmission. In early 2020 during the current desert locust upsurge FAO expanded elocust3 technology to offer broader alternatives for collecting basic locust data required for control operations and forecasting by a wider group of people at a national level with varying levels of training in or understanding of, locust surveillance. All data collected by these new elocust3 technologies pass through specific cloud platforms for collation and are forwarded to the respective country where data are imported into the country's national GIS. From here data have to be validated and analysed for national planning purposes and to keep the country informed of the current national locust situation.
45. The new elocust3g unit uses Garmin GPS technology and is currently being rolled-out to selected government locust surveillance and control teams in affected countries. These teams have received suitable levels of training in the type of relevant data required to map locust infestations. The elocust3m (app) and elocust3w (web) use smart phone technology and are being used widely by control teams, NGOs and the general public (crowdsourcing of locust information).
46. The main problem observed appears to be the number of elocust3g units working with Government surveillance and control teams in each region. eLocust3m and 3w have provided very basic information and required significant levels of scrutiny to verify and clean the data provided. Examples of problems observed include photos of locusts with no link to location, density or environmental data, or data being provided concerning non-locust pests. Some stakeholders questioned whether or not eLocust3m and 3w have proved more of a hinderance than a useful operational tool for this upsurge.

CONFIDENCE RATING: MODERATE

3.5.4 Use of 51 degrees data has improved surveillance data coverage in Kenya and will be used in Somalia and Ethiopia.

47. Use of the 51 Degrees "EarthRanger" data system has assisted with management of aerial and ground surveillance and control data in Kenya. This is the first time FAO has used a system such as this to manage aerial survey and control operations. It is integrated with the RAMSES GIS used by the Kenyan national locust unit and has assisted with the planning of daily surveillance and control activities. It is proposed to extend the use of this system to include surveillance and control operations in Ethiopia and Somalia.⁵

CONFIDENCE RATING: HIGH

3.5.5 Surveillance techniques had to be developed/modified in Kenya to suit a new situation/location and observers trained. This resulted in an effective tool for the control program in Kenya.

48. Kenyan teams had no prior experience of aerial surveillance methods for desert locusts, either for nymphs or adults. Staff had to be trained in these techniques and this was provided by FAO assistance from the international locust technical expert. Suitable techniques had to be developed and modified to suit the specific situation in Kenya (landforms and environmental constraints, best time of day and temperature for aerial surveys for optimal results). Helicopter pilots had to be trained as well as locust staff in how to carry out surveys and how to guide spray aircraft onto target areas. Ground surveillance operations were supported by the training and deployment of over 600 National Youth Service staff for scouting and treatment. Results of control indicate that an effective method was developed and applied to operations (approximately 130 000 ha treated from March to August).

CONFIDENCE RATING: MODERATE

3.5.6 Some country offices, but by no means all, noted that the surveillance data was not always being used to direct country control operations, due to the time lag created by the centralised data verification process.

49. Ideally, locust survey and control data are collected by national field teams using the various eLocust3 tools and imported into the country's national GIS where the data is validated. This procedure was not being carried out in Ethiopia, Kenya, Somalia, South Sudan and Uganda due to a lack of capacity. FAO DLIS was forced to step in to take over the function of these countries; hence, the lag time. There remains a pressing need for each country to manage its own information and use the surveillance data gathered by its locust teams to direct control activities (with input as required from FAO DLIS).

CONFIDENCE RATING: MODERATE

⁵ Earth Ranger is a Geographic Information System (GIS) mapping tool that provides a framework for gathering, managing and analysing data collected in the field. Data from a number of mobile field devices (elocust3g, eLocust3m, and aircraft GPS) can be viewed collectively in real time, showing a complete picture of all relevant activity within an operational area.

3.5. Issues for follow-up in Phase II:

- i. Secondary data from country desert locust teams on hectares treated and estimate of area surveyed by ground and air at country level.
- ii. Primary data on surveillance equipment procured and available at country level.
- iii. Evidence of effectiveness of data gathering and information management systems.

3.6 Control operations

3.6.1 Challenges were observed around procurement, stock management, and training capacity, particularly during the first half of calendar 2020.

50. There are three groups of pesticides, which are currently being used in the east Africa, the greater Horn of Africa area and other countries to control desert locust:
 - i. **Conventional pesticides.** These are organophosphates (chlorpyrifos, fenitrothion and malathion) and pyrethroid (deltamethrin).
 - ii. **Insect Growth Regulator** (teflubenzuron).
 - iii. **Bio-pesticide** (metarhizium acridum, commercial names: Green Muscle and Novacrid) are highly specific as they kill only locusts and are practically harmless to other beneficial arthropods, such as pollinators (honeybees). They are also harmless for humans, birds, and fish. Biopesticides fit very well into the preventive strategy. The biopesticides are applied mainly to banding (dense groups) of nymphs but are also effective against adults.
51. Some of the CRC and SWAC member countries were better prepared for the current upsurge in terms of having functional locust units within country PPD, including staff trained in the basics of desert locust biology, surveillance, ground control techniques and safe-handling and storage of pesticides. This was largely the case in Egypt, Saudi Arabia, Sudan, Eritrea, Oman, Iran, Pakistan and India; whilst Ethiopia, Somalia and Yemen had lost much of this capacity and this needed to be rebuilt quickly during the first half of 2020 to cope with the upsurge. Even those countries with some response capacity had to increase this capacity to cope with the forecast scale of the upsurge. Kenya, Uganda and South Sudan had little or no prior recent experience of desert locust and so had to build capacity from a base level. Several countries suffered from a complete lack or degradation of resources (lack of vehicles, survey equipment – GPS, spray equipment, personal protective equipment (PPE) - chemical resistant gloves, masks and aprons, locust pesticides). Procurement of these resources required time and funding. Most spray equipment and PPE came from a very limited number of suppliers who could not fulfil all requirements within the same time frame. A similar situation was seen with respect to supply of large quantities of pesticides when orders were made by several countries at a similar time. The implementation of restrictions due to COVID-19 imposed at an international level also had a significant effect in impeding the procurement and supply of equipment and pesticides.

CONFIDENCE RATING: HIGH

3.6.2 Some issues with procurement of survey and control aircraft from companies without a proven track record of locust control operations (suitable aircraft, pilots, correct ultra-low volume [ULV] spray equipment, target data logging capability).

52. While most aerial contractors used during the current control operation were highly professional and worked effectively, several countries (Kenya, Ethiopia and Somalia) reported issues with some government contracted aircraft (survey and control) and DLCO-EA spray aircraft that did not meet requirements and could not effectively carry out survey tasks or spray locust targets. A combination of problems were observed, including poorly maintained or ageing aircraft, pilots lacking the necessary survey or agricultural flying (spray application) experience and lack of knowledge of the local terrain, absence of correct ULV spray equipment that could be calibrated to produce the correct area dose, problems with target data logging capability impeding the recording of spray target information such as accurate location and quantity of pesticide used. These shortcomings, combined with unforeseen hinderances due to COVID-19 restrictions, delayed aerial activities at critical times when locusts were causing damage or breeding.⁶

CONFIDENCE RATING: HIGH

3.6.3 Notable successes were seen in Pakistan, Iran, Ethiopia and Kenya (effective control operations) as well as Somalia (extensive use of bio-pesticide), associated with higher levels government engagement and ownership in these countries.

53. Pakistan, with strong support from FAO Pakistan, was able to rapidly mobilise sufficient trained staff and resources to mount an effective control response following the invasion of locusts into the country in early 2019. This was due in part to Pakistan's long experience with desert locust outbreaks and maintenance of a surveillance capacity and ground and aerial control resources. In the same way Iran, despite the restrictions imposed on imports, was also able to mount an effective survey and ground control campaign, using a locust capacity that has been maintained over the past 40 years. In both these cases continuing Government support was critical to the success of these campaigns. Effective communication and co-operation between the SWAC countries (Iran, Pakistan, India and Afghanistan) was also key part of this process.
54. Kenya, which had not experienced an invasion of desert locust since the early 1950s was able to quickly build capacity and mount an effective control response between March to September 2020. Engagement with the Kenyan Government by FAO was critical to the success of this rapid response. For FAO the priority was to ensure that the Government took the lead in the desert locust response and supported it with guidance, knowledge and information systems.
55. Ethiopia was able to gear up an effective control response despite initial problems with a reduced surveillance capacity. Once this was overcome with support from FAO Ethiopia as

⁶ These shortcomings were observed despite CRC having established an aerial control training course in cooperation with DLCO-EA which can be used to train more technical officers and pilots for locust survey and control operations.

well as the deployment of aerial assets (survey and control aircraft), control operations were able to proceed rapidly in affected areas.

56. In Somalia the use of bio-pesticide applied by air showed positive results and use of this novel control agent has been the mainstay of the control response in that country. It has been used solely in pastoral areas, where use of chemical pesticides might have impacted on stock grazing in marginal arid areas. Further investigation of the results will be made during the Phase II of this RTE. It should be noted, however that the choice of bio-pesticide was made in response to the request of the Government of Somalia, and was fully supported by both FAO and the CRC. It is therefore a good example of FAO adapting its approach to fit the specificities of individual country contexts, and working hand-in-hand with regional stakeholders in the response.

CONFIDENCE RATING: MODERATE

3.6.4 Triangulation of existing pesticide stocks from northwest Africa to east Africa and the greater Horn of Africa region was not required as initially planned.

57. Planned movement of stocks of desert locust pesticide held in northwest Africa by CLCPRO countries to assist with initial control of the desert locust upsurge in east Africa and the Horn of Africa region were not necessary. This was due to adequate supplies of locally procured pesticides becoming available in Kenya and Ethiopia that were able to meet demands until stocks of newly manufactured pesticides procured by FAO, arrived from suppliers. Early in 2020, steps had been taken by FAO to activate the triangulation of pesticide held in northwest Africa if necessary and the costs associated with these movements were investigated. The high cost and timing of certification testing was flagged as a potential issue with pesticide held in Algeria and it was determined that delays of several months in transportation and delivery could result. The high cost of transportation by air due to restrictions caused by the onset of COVID-19 became another potential issue. However, there was a good example of the triangulation process working successfully for spray equipment, with 20 vehicle-mounted ULV sprayers from Morocco being quickly distributed, with CLCPRO facilitation, to Kenya (10), Somalia (6) and Uganda (4). Likewise, 10 sprayers were shipped by WFP from Mali to Eritrea (4), Somalia (4), Sudan (1) and South Sudan (1). This helped kick-start the ground control operations while waiting for further deliveries through commercial procurement. With regard to the movement of 20 vehicle-mounted ULV sprayers from Western region (Morocco and Mali) facilitated by CLCPRO to east Africa to timely fill an urgent requirement for this equipment at a very critical time in Kenya when initial ground control operations were gearing up.
58. While the requirement for triangulation of pesticide from did not eventuate during the first half of 2020, this option should remain an option if the current upsurge in east Africa continues into 2021 or beyond. Examples of this regional pooling of resources include 15 000 litres of surplus pesticide currently being shipped from Kenya to assist Yemen and 45 000 litres of pesticide intended for use in Uganda that was diverted to Ethiopia to fill a requirement there. However, there are still additional pesticide orders in the pipeline (FAO bought pesticides and various Governments have also ordered additional stocks). There remains a potential risk of having unused pesticides sitting in stores especially in Kenya.

CONFIDENCE RATING: MODERATE

3.6.5 Purchase and transport of newly manufactured pesticides were delayed by difficulties due to onset of COVID-19 in China and India, from where many of the active ingredients are sourced.

59. Most desert locust pesticides are manufactured with active ingredients sourced from chemical production facilities in China and India. When COVID-19 impacted these countries some of these facilities closed or reduced production. This in turn delayed the production of pesticides ordered for control operations in the Horn of Africa and east Africa. COVID -19 also affected the timing of planned transportation of pesticide to the region by sea and air. To mitigate the procurement challenges presented by COVID-19, FAO pursued a multiple sourcing procurement strategy, using a batch approach. This strategy proved largely successful, with the only country facing significant problems being Somalia, which had chosen to use only bio-pesticides which can only be sourced from Morocco.

CONFIDENCE RATING: HIGH

3.6. Issues for follow-up in Phase II:

- i. Secondary data from country desert locust teams on hectares sprayed and effects on locust populations at country level.
- ii. Primary data on control equipment procured and available at country level.
- iii. Evidence of integration of environmental risks being integrated into the control operations.

3.7 Livelihood protection

3.7.1 The GRP 2020 includes a range of support packages for farmers affected by the desert locust upsurge, with scope for tailoring according to country-level needs assessments.

60. The GRP planned for a mixture of cash distributions for affected farmers alongside seeds and re-engagement packages for agrarian farmers and feed packages for livestock keepers. Total requests for the greater Horn of Africa, Yemen and southwest Asia equalled USD 104.7 million.⁷ Approximately 63 percent of this had been funded by the end of August 2020, with a remaining gap of USD 36.9 million.⁸

CONFIDENCE RATING: VERY HIGH

3.7.2 FAO adjusted the livelihood packages on the basis of independent assessments of the damage cause by locusts in the Horn of Africa over the first half of 2020.

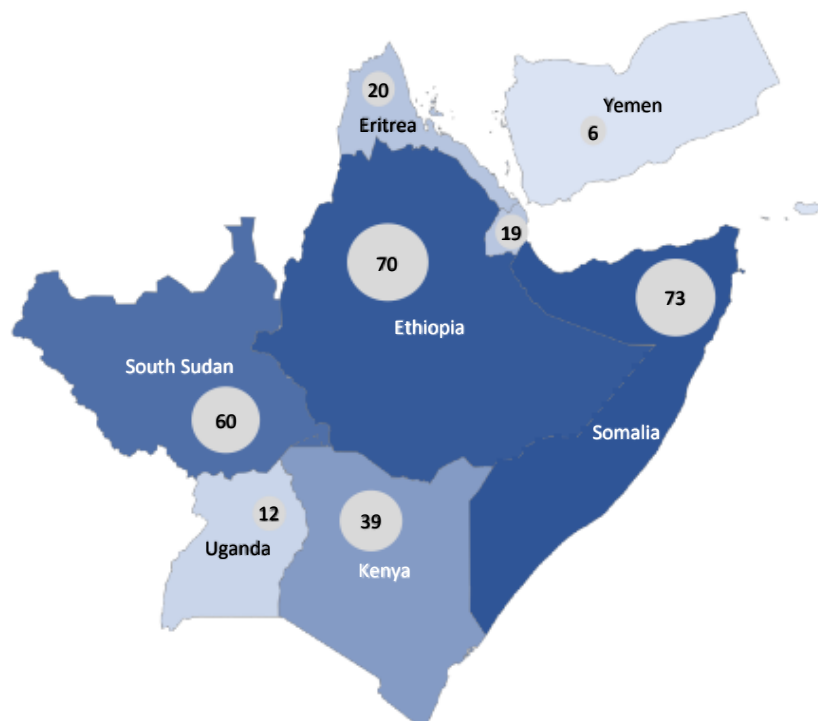
61. The FSNWG assessed the locust-related crop and pasture losses in the Horn of Africa in the first half of calendar 2020 (FSNWG, 2020). The assessment showed that roughly one third of the 10 831 agricultural survey respondents who had crops or owned livestock were affected by losses due to the desert locust upsurge; roughly half of whom experienced high or very losses. Based on these findings, FAO increased the number of targeted households

⁷ FAO (2020) The Desert Locust Upsurge Global Response Plan January-December 2020.

⁸ FAO (2020) The Desert Locust Upsurge: Progress Report May – August 2020.

for its livelihood protection activities from 153 000 to 298 000 FAO, 2020b). Targeted households per country ranged from 6 000 in Yemen to 73 000 in Somalia:

Figure 2: Households (HH) targeted by FAO livelihood interventions under the desert locust response

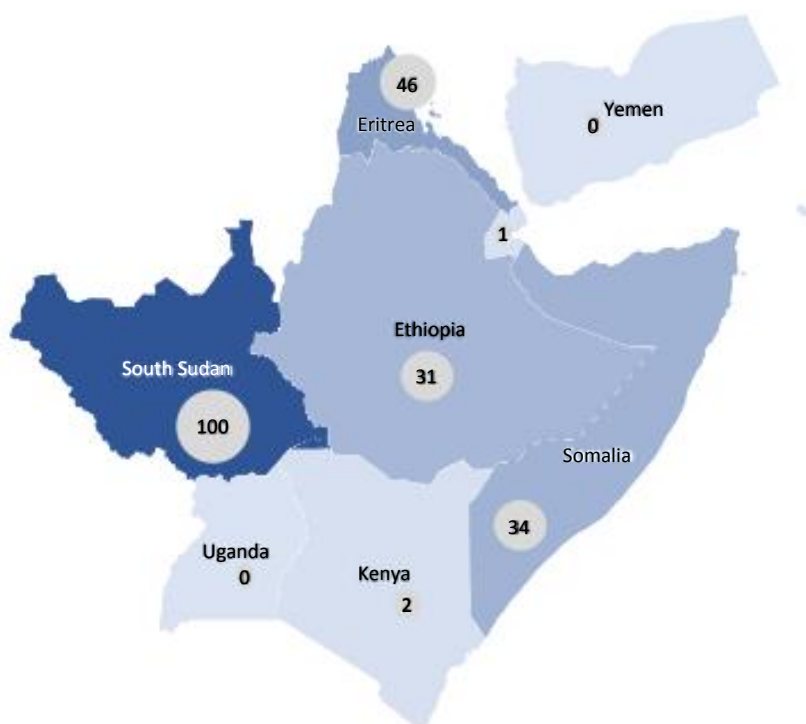


Source: Evaluation team, adapted from: *Desert locust upsurge – Progress report on the response in the Greater Horn of Africa and Yemen (May–August 2020)* (FAO, 2020b)
 Map corresponds to Map No. 4170 Rev. 19 UNITED NATIONS, October 2020

CONFIDENCE RATING: HIGH

3.7.3 The number of households reported as reached by livelihoods protection activities remains low at this stage, which is mostly explained by the sequencing of livelihoods operations around seasonal rainfall.

62. As of the end of August 2020, the average number of targeted households reported reached per country was 27 percent. This ranged from 100 percent in South Sudan to 0-2 percent in Eritrea, Kenya, Uganda and Yemen. The phasing of livelihoods operations has been tied to short rains and dry seasons according to the unimodal and bimodal rainfall systems in specific countries. Initial operations began between May and August for Djibouti, Eritrea, Ethiopia and South Sudan; with the majority of activities beginning in September.

Figure 3: Percentage HH targeted reported as reached by end August 2020

Source: Evaluation team, adapted from: *Desert locust upsurge – Progress report on the response in the Greater Horn of Africa and Yemen (May–August 2020)* (FAO, 2020b)

Map corresponds to Map No. 4170 Rev. 19 UNITED NATIONS, October 2020

CONFIDENCE RATING: MODERATE

3.7.4 Some questions were raised about the distinction between desert locust livelihoods support and ongoing food insecurity in the region. In part due to the time needed to produce crop loss assessments, livelihood activities have been targeted on the basis of macro-level data about desert locust areas and food insecurity maps.

63. Locust-related crop loss assessments were conducted for the Horn of Africa by the FSNWG. The assessments provided high-quality data and were based on a robust methodology. But the time required to conduct assessments of this type meant that livelihoods targeting had to begin prior to the sharing of the crop-loss data. In some cases, FAO teams have instead used country-wide maps of pre-existing food insecurity, compared against anticipated areas of desert locust activity. For example in Somalia, families targeted for the Gu season are those where locusts had been identified during the period December to March or projected to be present during the Gu season. Likewise, for South Sudan where areas targeted are those projected to be on the trajectory of the locust migration from Kenya to Sudan. As such the livelihoods response was implemented as an anticipatory action.
64. Whilst this decision has allowed preparation of livelihoods protection activities to begin, it does raise questions about the targeting of this aspect of the response. Donor contributions aimed specifically at locust-affected households will need to be reserved for communities most badly hit, rather than simply based on pre-existing food insecurity. FAO has made efforts to ensure that livelihoods activities funded under the GRP 2020 appeal are focused on locust-specific livelihood concerns, but ongoing food insecurity and

livelihood challenges in the Horn of Africa will inevitably make it difficult to disaggregate between vectors of food insecurity and threats to livelihood. This issue will be further investigated during the Phase II country case studies of this RTE.

CONFIDENCE RATING: MODERATE

3.7.5 Engagement of food clusters at country level has been encouraged by FAO, but some questions remain about the balance of control between regional and national leadership structures on the livelihood response.

65. Many of the countries affected by desert locusts in the 2020 upsurge have longstanding food security needs, with ongoing food security and livelihoods operations central to country strategy papers. Food security contexts and timeframes vary from one country to the next, with country-specific dynamics affecting harvest cycles, food supply and distribution, and consumption constraints. In this context, some actors argued that, to be successful, livelihood operations need to be integrated in ongoing humanitarian responses outlined in the country strategy papers. In light of this, the livelihoods component of the GRP has been de facto managed at country level with leadership support from the regional resilience hub in the case of the Horn of Africa. And FAO stakeholders at both HQ and field level sought to engage country food security cluster leads and other country-based coordination mechanisms in the coordination of the livelihood response across the Horn of Africa and southwest Asia. The response from country cluster coordination mechanisms has been mixed, however, with only minimal engagement from some cluster leads so far, the reasons for which remain unclear at this stage. Nevertheless, with the crop assessment process being managed at regional level, and the information feeding through to country offices over the course of the RTE Phase I data collection, the current coordination mechanism for the livelihoods operations looks to be significantly improved from the early-phase of the response.

CONFIDENCE RATING: MODERATE

3.7. Issues for follow-up in Phase II:

- i. Evidence of effectiveness of livelihood packages, and relevance and appropriateness of targeting.
- ii. Evidence of whether and how FAO and its partners have disaggregated between locust related livelihoods needs and pre-existing needs in each country.
- iii. Further evidence regarding the coordination of the livelihoods response with the country food security clusters and alternative country-based coordination mechanisms in countries with no food security clusters.

4. Conclusions and recommendations

Conclusions

66. The conclusions of Phase I are presented below, based on the findings above.

Conclusion 1. FAO's regional coordination mechanism has proven effective given the nature of the crisis, but it remains unclear how best to coordinate the livelihood response at this stage. (see Finding 3.1)

Conclusion 2. In hindsight, the 2020 appeal was well timed in that it balanced the operational need for early action with the advocacy need for donor engagement. Questions remain about the best way to turn locust forecasts into early warning and ultimately early action. (see Findings 3.2.1 and 3.2.2)

Conclusion 3. The production and dissemination of FAO's locust forecast, whilst broadly effective as a warning device at country-level, was not sufficient to sensitize donors to the risks posed by the upsurge in the months leading up to January 2020, and questions arose regarding the internal communication channels between technical and emergency teams. (see Findings 3.2.2 and 3.2.3)

Conclusion 4. The wider funding response has been unusually strong in both scale and rapidity, whilst the use of SFERA pooled allocations and an early CERF donation proved vital for the initial phases of upsurge response. (see Findings 3.2.1 and 3.2.2)

Conclusion 5. The reputation of FAO's technical capacity on desert locusts has been a critical part of both the donor response and the engagement of locust-affected countries. (see Findings 3.3.3 and 3.3.4)

Conclusion 6. The pre-existing regional capacity for locust control in the Horn of Africa was significantly lower than in southwest Asia, with concerns raised about the functioning of the DLCO and the ability of CRC to raise funds from member states in a timely fashion. (see Finding 3.4)

Conclusion 7. National engagement in capacity-building and surge activities varied greatly, with successes observed in Kenya, and Pakistan, good progress made in Somalia, despite persistent challenges round data collection and reporting, whilst difficulties remained in Ethiopia and Yemen most critically. (see Findings 3.4.1 and 3.4.2)

Conclusion 8. The quality and breadth of surveillance data is one of the success stories of this upsurge, despite significant gaps existing in certain areas and questions about the sustainability of FAO's desert locust monitoring and forecasting expertise in the longer-term. Innovations in the use of satellite imagery, whilst still embryonic, demonstrate the potential to improve data collection where access constraints and internet outages present obstacles to traditional approaches. (see Finding 3.5)

Conclusion 9. Control operations have been broadly successful, contributing to the limitation of potentially significant movements from Kenya towards Sudan, in conjunction with supportive meteorological conditions. But problems remain in some countries. (see Finding 3.6)

Conclusion 10. Procurement and pesticide triangulation was a significant barrier to timely response, with constraints arising from limited market supply and transport restrictions resulting from the COVID-19 pandemic. (see Findings 3.6.4 and 3.6.5)

Conclusion 11. Targeting of livelihood protection activities to those most affected by desert locusts has proven challenging in the Horn of Africa, given the number of pre-existing drivers of food insecurity in the region. This could potentially impede the targeting of those most affected by the desert locust upsurge, although it is too early to say at this stage. (see Finding 3.7)

Recommendations

67. On the basis of the conclusions presented above, and the data collection activities of Phase I of the RTE, the evaluation team makes the following recommendations for FAO and its partners to build on the successes seen so far and make improvements where possible to the desert locust response.

Recommendation 1. To FAO senior management and donor liaison teams. Sensitize principle donors to the potential for a renewed locust upsurge between October and December 2020 following recent breeding in Yemen. (see Conclusions 1, 2 and 9)

Recommendation 2. To FAO member countries, senior management and donor liaison teams. Strengthen the FAO-donor relationship regarding threat prioritization and pro-active allocation of resources to better translate surveillance and forecast data into coordinated advocacy and preparedness ahead of time; whilst simultaneously reviewing internal communication between technical and emergency units. (see Conclusions 2 and 3)

Recommendation 3. To FAO donor liaison and emergency response management. Communicate the importance of the flexibility provided by the SFERA pooled allocations and CERF contributions to the timely and effective surveillance and control operations; linking this to advocacy for continued support from the wider community. (see Conclusion 4)

Recommendation 4. To FAO senior management. Review resourcing for the production of desert locust forecasts, in order to ensure FAO's technical expertise and capacity for surveillance and objective data provision is sustainable for the long-term future. (see Conclusions 5 and 8)

Recommendation 5. To FAO procurement teams. Conduct detailed annual market studies for pesticide supply and surveillance and control equipment, so as to identify and update available supplier lists ahead of time. (see Conclusion 10)

Recommendation 6. To FAO desert locust technical division. Extend and continue the use of satellite imagery in contexts where access or communications technology makes ground or aerial surveillance difficult, and review the benefit of using crowdsourcing technology for desert locust surveillance. (see Conclusion 8)

Recommendation 7. To FAO emergency response team. Review pesticide stocks across the greater Horn of Africa with a view to limiting unused stocks and maximizing triangulation within the region over the short-medium term. (see Conclusion 10)

Recommendation 8. To FAO senior management and desert locust technical division. Devise a strategy for the Horn of Africa regarding sustaining desert locust management capacity beyond 2020 at both country and regional level, including: the capacity to manage desert locust information systems within country without FAO HQ direct support; funding of CRC's emergency fund in advance of desert locust threats emerging; and an open discussion on the future of the DLCO-EA. (see Conclusions 6, 7 and 8)

Recommendation 9. To FAO emergency response team. Prioritize coordination of the livelihood protection response with country-level actors, including country food security cluster bodies. (see Conclusion 11)

References

FAO. 2020a. *FAO Desert Locust Response Overview Dashboard* [webpage]. In: *FAO* [online]. Accessed October 2020: <http://www.fao.org/locusts/response-overview-dashboard/en/>

FAO. 2020b. *Desert locust upsurge – Progress report on the response in the Greater Horn of Africa and Yemen (May–August 2020)*. Rome. (also available at: <http://www.fao.org/3/cb1500en/cb1500en.pdf>).

Food Security and Nutrition Working Group (FSNWG). 2020. *East Africa Regional Desert Locust Impact Monitoring. Round 1. 4 September 2020*. (also available at: https://reliefweb.int/sites/reliefweb.int/files/resources/FSNWG_Desert%20Locust%20Impact%20Assessment.pdf).

K. Cressman. 2014. *eLocust3: Desert Locust survey and control data recording and transmission by satellite in real time*. FAO. Rome. (also available at: <http://www.fao.org/ag/locusts/common/ecg/2201/en/eLocust3overview.pdf>).

Appendix 1. Evaluation questions

68. The following matrix maps each of the evaluation questions and their associated sub-questions addressed across the three phases of the RTE. These are mapped against data collection tools deployed and the evaluation phases in which they are addressed.

		Literary review	KIIs	Secondary data	Survey	Phase 1	Phase 2	Phase 3
EQ1	To what extent did FAO's leadership, management and technical capacity support a relevant, timely and effective system-wide response to the desert locust upsurge?							
1.1	To what degree did FAO's strategic positioning support a rapid and timely scale-up of the donor and partner response?	X	X		X	X		X
1.2	To what extent were donor and partner organizations successful in scaling up the response in a timely manner with sufficient support for surveillance, control and preparedness activities?	X	X	X		X		
1.3	To what extent were the early surveillance, control, forecasting and communication efforts supportive of increased preparedness, pre-positioning and planning in both frontline and invasion countries?	X	X			X	X	
1.4	How have FAO's organizational structures and decision-making processes helped or hindered effective preparation and response?	X	X			X		
1.5	To what degree have the actions of FAO and its partner organizations supported a targeted and appropriate response for different stakeholder groups including pastoralists, agriculturalists, refugee populations, all genders, ages and abilities, and those facing specific protection risks?	X	X			X	X	X
1.6	How have FAO and its partners integrated learning from previous outbreaks and evaluations and studies thereof?	X	X			X		
EQ2	To what extent was the response coherent with FAO's other operations and those of other actors?							
2.1	How successfully did the response to the desert locust upsurge complement pre-existing pest management operations in affected countries?	X	X				X	X
2.2	To what degree have the actions of FAO and its partners support successful integration of emergency relief, development, sustaining the peace and stewardship of the natural environment?	X	X			X		X
2.3	How effectively did FAO's partnership approach support the response of the regional commissions, national governments, NGOs and other relevant actors responding to the upsurge?	X	X		X	X	X	

		Literary review	KIIs	Secondary data	Survey	Phase 1	Phase 2	Phase 3
2.4	How well did FAO coordinate its activities with those of other actors?	X	X		X	X	X	X
EQ3	What were the positive and negative, intended and unintended results of FAO's actions in terms of food security, livelihoods and resilience of affected households and communities?							
3.1	How has FAO contributed towards reducing food insecurity in affected countries?	X	X	X		X	X	X
3.2	How has FAO contributed towards protecting livelihoods of farming communities affected by the locust upsurge?	X	X	X		X	X	X
3.3	How has FAO contributed towards building resilience of affected countries, communities and households in affected regions?	X	X	X		X	X	X
3.4	To what extent did FAO succeed in integrating – and encouraging partners to integrate – health, safety and environmental concerns in the response to the desert locust upsurge?	X	X		X	X	X	X
3.5	What additional, unintended, consequences can be observed in relation to FAO's actions?	X	X	X		X	X	X
EQ4	What have been the enabling factors and limiting constraints on the effectiveness of FAO's response?							
4.1	What factors have enabled FAO to respond in a more timely and effective manner to the upsurge?	X	X		X	X	X	X
4.2	What constraints have been faced by FAO in the areas of data collection and analysis, procurement, stock management and human resource capacity?	X	X			X	X	X
4.3	How did the COVID-19 pandemic and insecurity in locust-affected countries affect the locust response operations, and how did FAO and its partners mitigate these impacts?	X	X	X		X	X	X
EQ5	To what extent did FAO's processes support innovation and learning across the affected regions?							
5.1	How effective were FAO's learning mechanisms in transferring lessons across countries and regions?		X		X	X	X	X
5.2	What challenges were faced by FAO and partner organizations in deploying, using and scaling-up innovative solutions to the desert locust upsurge in 2020-2021?	X	X				X	X

Office of Evaluation
E-mail: evaluation@fao.org
Web address: www.fao.org/evaluation

Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy