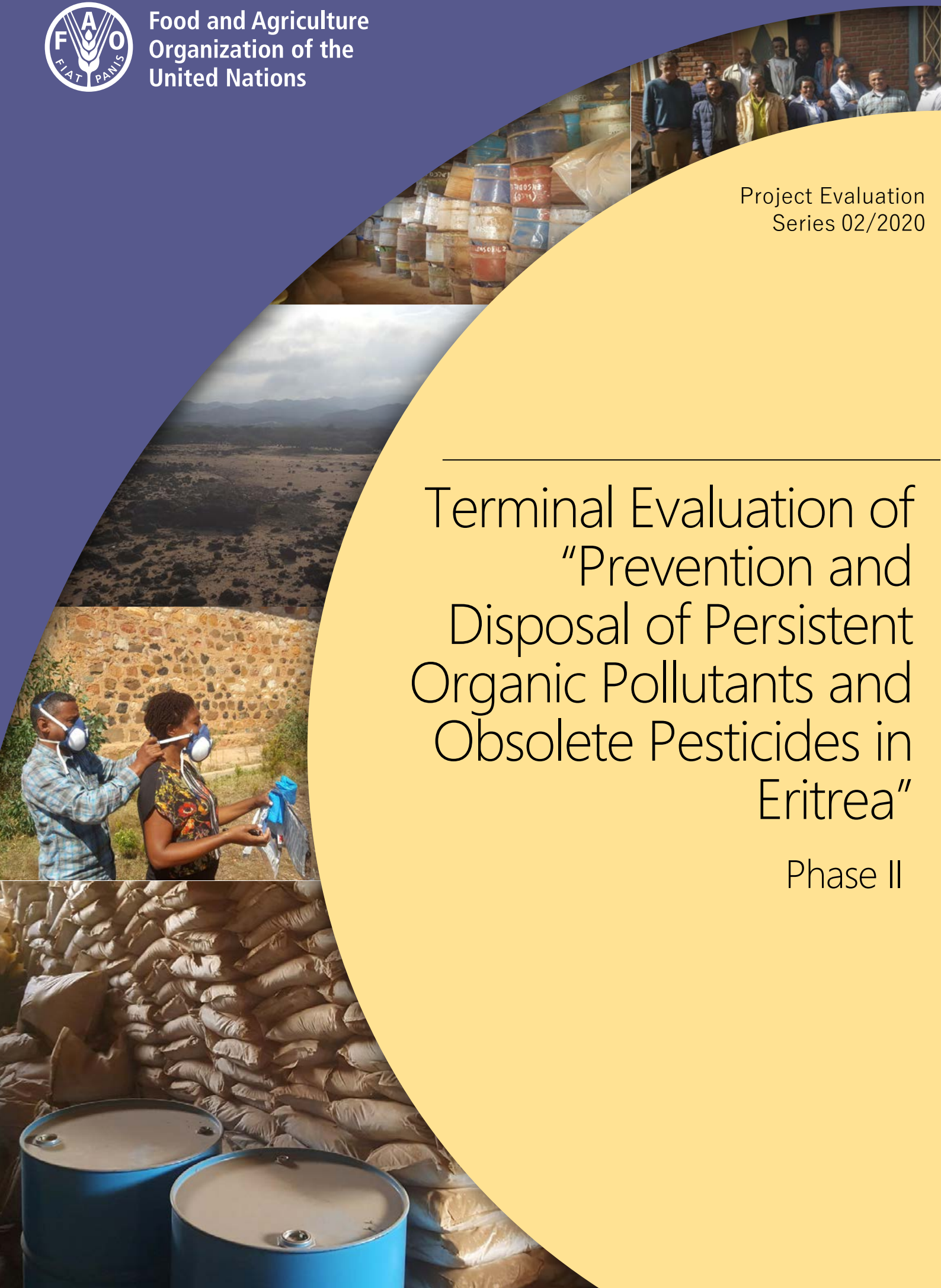
Food and Agriculture Organization of the United Nations



Project Evaluation
Series 02/2020

Terminal Evaluation of "Prevention and Disposal of Persistent Organic Pollutants and Obsolete Pesticides in Eritrea"

Phase II

Project Evaluation Series
02/2020

Terminal Evaluation of "Prevention and Disposal of Persistent Organic Pollutants and Obsolete Pesticides in Eritrea" Phase II

Project code: GCP/ERI/014/GFF
GEF ID: 3987

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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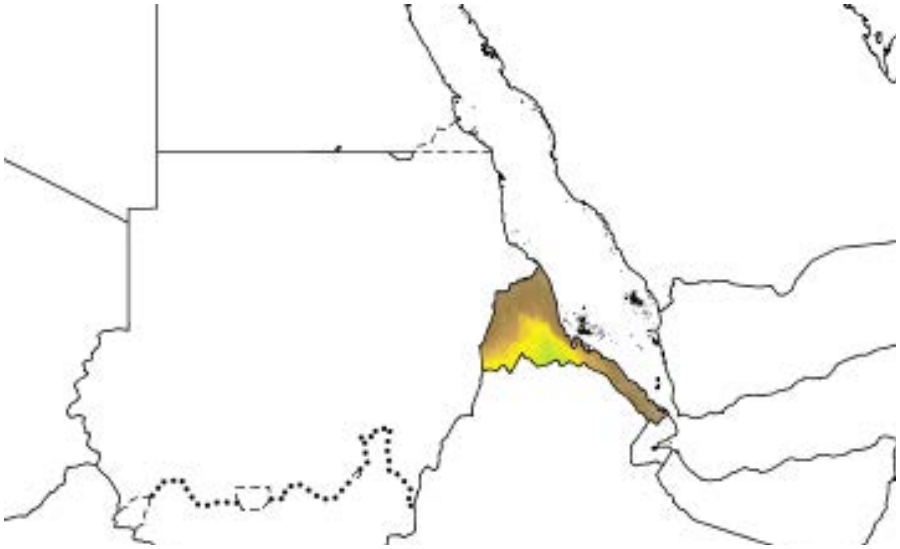
The evaluation was carried out with the invaluable assistance of the staff at FAO Eritrea Country Office, the Climate and Environment Division, and the Pest and Pesticide Management of the Plant Production and Protection Division.

The evaluation benefited from the inputs of many other stakeholders, including government officers, farmers' organizations and the staff of other UN agencies, research centres and private sector. Their contributions were critical to the team's work and are deeply appreciated.

Acronyms and abbreviations

CBC	Climate and Environment Division
EPC	Empty pesticide containers
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer field school
GEF	Global Environment Facility
GCU	GEF Coordination Unit
IPM	Integrated pest management
MoA	Ministry of Agriculture
MoH	Ministry of Health
MoLWE	Ministry of Land Water and Environment
NIP	National Implementation Plan of the Stockholm Convention
POPs	Persistent organic pollutants
PSMS	Pesticides Stock Management System
QPIR	Quarterly Project Implementation Report
SDG	Sustainable Development Goals
SMART	Specific, measurable, achievable, relevant and time-bound

Map of Eritrea



Adapted from UNITED NATIONS, World Map, February 2019.

Executive summary

The Food and Agriculture Organization of the United Nation's (FAO) Office of Evaluation (OED) assessed the project "Prevention and Disposal of Persistent Organic Pollutants (POPs) and Obsolete Pesticides in Eritrea, Phase II". The total value of the project was USD 5 400 000 of which the Global Environmental Facility (GEF) contributed USD 2 150 000 and the Government of Japan USD 1 500 000. The rest was co-financed by donations in cash and in kind. OED evaluated the project through the use of theory of change, Evaluation Questions and the required GEF evaluation criteria of Relevance, Efficiency, Effectiveness, Quality of Implementation/ Execution, Quality of Monitoring and Evaluation and Sustainability.

The evaluation found that the Project is relevant to global and national efforts for reducing and eliminating risks due to pesticides. Project activities contributed to FAO's strategic framework to increase sustainable food production and to GEF4's focus on POPs and sound pesticide management. At national level the Project addressed priorities identified in Eritrea's national implementation plan of the Stockholm Convention.

Despite shortcomings in the quality of some areas of Project execution and implementation, the Project was able to adapt to delays and setbacks and deliver some extremely important outcomes that would not have been achieved without it. The Project's main successes have been the safeguarding and disposal of 364 tons of obsolete pesticides and in contributing to the nationwide adoption of FFS and IPM. The Project did not achieve several important results relating to better pesticide life cycle management in part because funding was cut to spend on safeguarding and disposal.

The design of the monitoring and evaluation system was fit for purpose and it was effective at raising issues, although follow up on measures to deal with them was less successful. The Project did little to engage with gender but it's activities did contribute towards safeguarding the environment and human health from obsolete pesticides and associated materials. The Project has produced different types of result for which the approach to sustainability and scaling differ. It made progress along 8 out of 12 of its impact pathways that constitute the project theory of change. This is an acceptable result given difficulties that the Project faced.

The evaluation makes the following recommendations to FAO and the Project Steering Committee (PSC):

1) The PSC should ensure that steps continue to be taken to reduce risk from existing stocks of obsolete pesticides and associated waste;
2) The PSC should continue to take steps to prevent further accumulation of obsolete pesticides and waste;
3) FAO and the PSC should help to ensure the success of nationwide roll-out of IPM / FFS in Eritrea;
4) The PSC, FAO and GEF should learn lessons to improve implementation, execution and gender equity in future projects to reduce risk from pesticides in Eritrea and globally;
5) The PSC and FAO should ensure gender is mainstreamed into plans to sustain and scale Project results. FAO and GEF should mainstream gender into projects whose preparation did not follow FAO's environmental and social standards;
6) The PSC and FAO should take steps to ensure that reducing the risk from pesticides remains a priority for the government.

1. Introduction

1. The "Prevention and Disposal of Persistent Organic Pollutants (POPs) and Obsolete Pesticides in Eritrea Phase II" project (POPs Project) was designed to eliminate stockpiles of POPs and other obsolete pesticides in Eritrea, and to make sustainable improvements in pesticide management and use in order to reduce the serious threat these chemicals can pose to human health and the environment. Specifically, the project worked on three areas:

   i. POPs, obsolete pesticides and contaminated material safely remediated, safeguarded and destroyed;
   ii. strengthened capacity for pesticide life-cycle management including integrated pest management (IPM);
   iii. raised awareness of pesticide hazards and risk reduction.

2. The first area worked to reduce risk from existing stocks and contamination while the other two areas worked to reduce future risk.

3. The total project budget was USD 5 400 000 of which GEF contributed USD 2 150 000, Government of Japan USD 1500 000, FAO USD 935 000 and the Government of Eritrea USD 55 000 in cash. Other donations were in kind, with the largest being from the Private Sector (CropLife) and Government of Eritrea. The Food and Agriculture Organization of the United Nations (FAO) was the GEF implementing agency, and was also the executing agency responsible for supervision and provision of technical guidance during the implementation of the Project.

4. The evaluation used a cluster approach. This means that this Project, with two similar GEF-funded projects in Botswana and Mozambique due for final evaluation, used a common evaluation management and evaluation team. This approach allows for cross-project comparisons and learning. In addition to individual country-level evaluation reports, the evaluation also produced a lessons learned document of relevance to reducing risk for pesticide use in East and Southern Africa, adding to a similar synthesis from West Africa.

Box 1: Basic project information

GEF ID:	3987
FAO ID:	606880
FAO Project Symbol:	GCP/ERI/014/GFF
GEF Implementing Agency:	FAO
GEF Executing Agency:	FAO
National Executing Partner:	Ministry of Agriculture
Other Executing Partners:	Ministry of Land, Water and the Environment, Ministry of Health
GEF-4 Strategic Programs:	POPs SP-1, Strengthening Capacities for NIP Implementation; POPs SP-2 Partnering in the development of investment for NIP implementation; POPs SP-3, Partnering in the demonstration of feasible, innovative technologies and best practice in POPs reduction; Sound Chemicals Management
Date of CEO endorsement:	28 April 2011
Date of project start (effective):	1 January 2013
NCE date:	31 December 2018
Date of mid-term evaluation:	December 2016

1.1 Purpose of the evaluation

5. The final evaluation is a requirement of the main donor, the Global Environment Facility (GEF). It provides an account of how donor funds were spent and what was achieved for different stakeholders involved. As well as meeting accountability requirements, the evaluation also reviews the Project's successes and challenges to learn lessons for future work in the area. Findings, conclusions and recommendations are based on triangulated evidence and analysis.

6. The evaluation will assess the project against its set objective: "to reduce the risk to public health and environment from pesticides through the characterization, treatment and decontamination of POPs and POPs contaminated soils." The evaluation also documents intended and unintended consequences and how the Project contributed to them.

1.2 Intended users

7. The intended users of the results of the final evaluation include: focal points in the line ministries involved with the project (Agriculture, Land, Water and the Environment, Health); members of the Project Steering Committee; the Project Management Unit; Project donors; the FAO Country Office; and, the units within FAO responsible for project implementation and execution. Broader lessons will be useful to donors, governments, multilateral implementing agencies, private sector (e.g. CropLife) and civil society organizations interested in reducing risk throughout the pesticide life cycle. Other uses of evaluation results will include meeting GEF and FAO accountability requirements and informing next steps to consolidate and build on Project successes and learn from Project shortcomings. This was not the first project to deal with pesticide risk in Eritrea and it will likely not be the last.

1.3 Scope and objective of the evaluation

8. The final evaluation assessed the Project from its inception in January 2013 until December 2018. The evaluation focuses on results generated by funds spent during this period. The scope of the evaluation is determined by five evaluation questions shown in Box 2.

Box 2. Evaluation questions, scope of inquiry and GEF rating criteria addressed

EQ 1: How relevant was the project to global and national efforts for reducing risks to public health and the environment due to POPs and POPs contaminated soil?
EQ 1 addresses the relevance of the project at global and national scale. This involved establishing government position on pesticide use and disposal in policy documents, establishing relevance of project objectives to main chemical conventions through relevant websites and asking FAO and government representatives as to their view of the relevance of the project.
GEF rating criteria addressed: Relevance

EQ 2: How effective has the project been on delivering results?
EQ 2 addresses the delivery of project outcomes. The question considers whether project design was adequate to achieve outcomes as well as the extent to which project outcomes have been realized. This involves developing a theory of change based on project documents and conversations with key change agents and then testing it against data gathered in the field and monitoring and evaluation (M&E) reports.
GEF rating criteria addressed: Achievement of project results; stakeholder engagement

EQ 3: How satisfactory was project implementation and execution in achieving results? How satisfactory was M&E?
EQ3 considers whether institutional arrangements, project management, oversight, financial management and M&E were fit for purpose. The main sources of information were Project Implementation Reviews (PIRs), budgets, minutes of Steering Committee meetings as well as interviews with staff involved in implementation and execution.
GEF rating criteria addressed: Efficiency, project implementation and execution; monitoring and evaluation; co-financing

EQ 4: To what extent and how did the project include gender and environmental and social safeguarding in project design and implementation?
EQ 4 addresses gender and environmental and social safeguarding in project implementation. The Project began before GEF or FAO revised requirements to include gender mainstreaming in project design. The evaluation focuses on what steps the Project took to incorporate gender considerations and environmental and social safeguarding in project design and operation, particularly after recommendations made in the Medium-Term Evaluation.
GEF rating criteria addressed: Gender, environmental and social safeguards

EQ 5: To what extent and how can project outcomes be sustained and scaled to achieve wider impact?
EQ 5 addresses Project sustainability and future impact at scale by developing and critiquing a theory of change for the Project as well as understanding the different types of project results and what they need to be sustained and scaled. Information and insight for generating the theory of change came from the Project documents, the Inception Workshop, from evaluation team interviews with key stakeholders and from observation during visits to the field.
GEF rating criteria addressed: Sustainability, progress towards impact

1.4 Methodology

9. The evaluation methodology was described in an Inception Report (Annex 2) which passed through an internal FAO Office of Evaluation (OED) review process.

10. The evaluation adheres to the United Nations Evaluation Group Norms and Standards, the Global Environment Facility (GEF) Evaluation Policy and is in line with the FAO Office of Evaluation manual, methodological guidelines and practices. The evaluation was undertaken in line with the United Nations principles of independence, impartiality, transparency, disclosure, ethical behaviour, partnership, competencies and capacities, credibility and utility, and adopted a consultative and transparent approach with the Project's internal and external stakeholders throughout the evaluation process.

11. The evaluation was structured according to the value for money framework (DFID, 2011) as reflected in the evaluation questions shown in Box 2. Sub-questions were developed to further define the objectives of the evaluation (refer to Annex 2 – Inception Report). The evaluation also conducted a scoping phase in July 2018 to better define the priorities and limits of the evaluation.

12. The evaluation is based on the analysis of project documents (see Bibliography) and interviews with main actors involved in project implementation (see Appendix 1). The evaluation team:

    i. undertook a review of the Project's relevance, efficiency, effectiveness and approach to gender and equity;

    ii. carried out an analysis of the Project's design, potential impact, likely sustainability, institutional arrangements, management and financing;

    iii. recommended next steps for the Project Steering Committee to continue to reduce risks from pesticides;

    iv. identified lessons learned from project design, implementation and management of relevance to future efforts to reduce risk from pesticides regionally and globally.

13. The evaluation questions are further elaborated by a number of sub-questions. The sub-questions were chosen based on an exhaustive reading of the project document and mid-term evaluation report. The sub-questions are also chosen and worded such that answering them will provide a basis for the evaluators to rate project performance as per GEF requirements for terminal evaluations. Judgement criteria for answering the sub-questions, as well as sources of data and methods of analysis, are shown in an evaluation matrix in Annex 2.

14. An inception workshop was held at the start of the evaluation team's visit to Eritrea to build participants understanding and ownership of the evaluation process and results. The dates of the mission were 9 to 18 December 2018. Participants carried out a self-evaluation of the Project which the evaluation team used to inform and validate their own findings, working on the assumption that project staff and implementers are in the best position to identify project results, successes and shortcomings. Moreover, the literature on utilization-focused and participatory evaluation suggests that evaluations that include project staff and stakeholders in the evaluation are more likely to produce results that are useful and used.

15. The inception workshop was attended by 15 people from the MoA (Agricultural Extension Department, Debub National Agricultural Research Institute, Planning and Statistics Division); MoLWE (Regulatory Services Department); Hamelmalo College of Agriculture;

and the Eritrean Crop and Livestock Corporation. Participants worked in three groups, representing the three main areas on which the Project worked:

i. safeguarding and remediation of pesticides;

ii. strengthened capacity for pesticide life cycle management and integrated pest management (IPM);

iii. raised awareness of pesticide hazards and risk reduction.

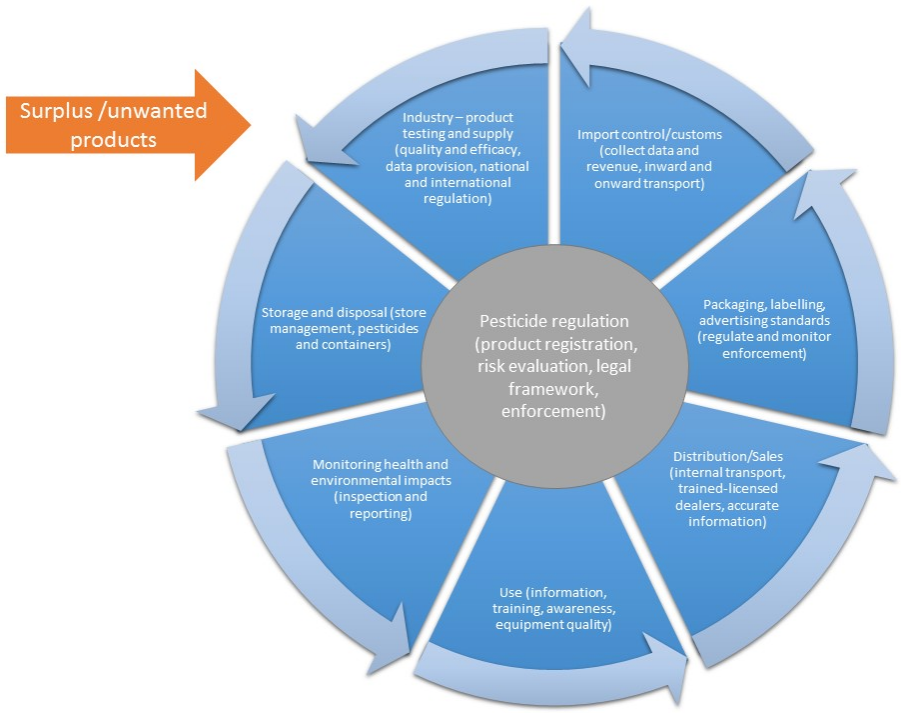
16. Each group constructed a timeline of what they considered to be the main events and processes in each of the three areas. They then carried out an 'after action review' by reflecting on what worked well, not so well, gaps and lessons learned. Finally, participants identified and prioritized next steps.

17. The evaluation team developed a theory of change for the Project based on the Project proposal and presented it to participants for validation. Participants used the theory of change to help identify gaps in implementation and priorities for next steps. The evaluation team also presented and explained the pesticide life cycle (Box 3.) to help with this.

18. The life cycle of a pesticide is defined as all the stages that a pesticide might pass through from production to its degradation in the environment after use, or its destruction as an unused product. This includes manufacture, formulation, packaging, distribution, storage, transport, use and final disposal of a pesticide product and/or its container (FAO & WHO 2014). Sound pesticide management must therefore address all of these aspects. Suboptimal and weak pesticide management contributes to the accumulation of stockpiles of obsolete pesticides.

19. The evaluation questions were answered through an extensive review of documents listed in Bibliography and through talking to people listed in Appendix 1. People were interviewed using questions derived from the evaluation matrix and questions designed to elicit understanding of underlying motivations and dynamics. The interviews were targeted based on initial analysis, recommendations from the country teams and snowballed from previous interviews. Respondents names were anonymised when the evaluation refers to something specifically said in an interview.

Box 3. The pesticide lifecycle



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Source: Project document - GCP/ERI/014/GFF (FAO, 2018)

20. The evaluation team carried out field visits to pesticide safeguarding stores in Daeropaolos, to a site of pesticide contamination at the Old Airport in Massawa, a site of a proposed landfill for obsolete pesticides and contaminated soil 30 km from Massawa, the proposed gasification plant to be used to dispose of used plastic containers at Scarico and to talk to farmers and government staff involved in IPM in the Mendefera Region (Zoba). The evaluation team also talked to key government stakeholders in Asmara, the capital of Eritrea.

21. At the end of the in-country mission and interviews, the evaluation team presented the preliminary findings to members of the Project Steering Committee including the chair, the GEF focal point the National Project Coordinator and the FAO representative. An internal Office of Evaluation peer review of the draft of the evaluation report was conducted to ensure quality. The first draft of the report went through an OED internal quality control check before circulation to a wider group of stakeholders. The evaluation report was finalized after the comments were received and corrections and suggestions were incorporated as considered appropriate by the Office of Evaluation and the evaluation team.

22. In order to meet GEF evaluation requirements, facilitate comparisons with other GEF implementing agencies and contribute to the GEF programme learning process, the

evaluation rated the Project in accordance to the existing GEF rating scheme and Office of Evaluation guidelines.

1.5 Limitations

23. The main limitation was access to the information required to assess co-financing. The team found information on co-financing in the Project Implementation Reports, but it was not clear how the in-kind contributions were calculated, nor how the contributions were allocated across the five project components. Ultimately, this made it impossible to know how much had been spent overall and how much had been spent on each of the components. Hence it was not possible to properly assess actual co-financing contributions and the extent that funds may have been shifted from one component to the other.

24. The Project proposal was developed before it was an FAO or GEF requirement for projects to have an explicit gender strategy or develop a theory of change. The former made it hard to say much about the fourth evaluation question on gender and equity beyond a recommendation made in the Mid-Term Evaluation. The lack of a theory of change was less of a constraint because the evaluation team was able to infer one from the Project's result framework.

1.6 Structure of the report

25. The report is published with the following annexes:

Annex 1. Terms of Reference
http://www.fao.org/3/ca7657en/ca7657en.pdf

Annex 2. Inception Report
http://www.fao.org/3/ca7658en/ca7658en.pdf

2. Background and context of the project

2.1 Context of the project

26. Eritrea has a legacy of environmental degradation and public health impacts from pesticides, including POPs, dating from the 1950s. According to the Project document as of 2010, much of the obsolete stock in Eritrea that the Project set out to dispose of were left over from previous Italian and Ethiopian regimes. The stock was old, often badly deteriorated and stored in unsuitable conditions. Many stores were located close to habitation and water sources. Some of this stock had been pilfered and there had been reports of people being hospitalised and even dying as a result of pesticide exposure whilst taking old, unguarded stocks.

27. Imports of pesticides to Eritrea were, and still are, mainly purchased by the Ministry of Agriculture and the Ministry of Health through the Red Sea Corporation. Between 2008-2010 the Ministry of Agriculture purchased approximately 427 tonnes of pesticides (an annual mean of 142 tonnes). Licenced imports by the private sector were negligible. The level of importation of pesticides fell far short of demand for these products, resulting in an escalating market in illegal products.

28. In 2008, FAO, with support from the Governments of Japan and the Netherlands, completed the project 'Prevention and Disposal of Obsolete Pesticides in Eritrea (inventory and CESA) Phase I' (Inventory Project). The project identified 400 tonnes of obsolete and unknown pesticides and approximately 1 400m^2 of contaminated soil; 12 000 empty containers; 5 400 contaminated sprayers and a number of contaminated stores.

29. The Government of Japan agreed to fund an FAO / Government of Eritrea technical cooperation project (TCP) called "Safeguarding and Disposal of Obsolete Pesticides" (Safeguarding Project). The grant agreement was signed in March 2010. This funding of almost USD 1.5 million was put together with co-financing from FAO, EC, the Government of Eritrea and CropLife International to leverage a further USD 2.15 million from GEF to form the POPs project with a budget of USD 5 359 153. The POP Project agreement was signed by FAO and the Government of Eritrea on 20 March 2012. See Table 4 for more details on co-financing. The start of the Safeguarding Project was delayed to run in parallel with the POPs project.

30. The Inventory Project carried out a Knowledge, Attitude and Practice (KAP) survey which found weaknesses in pest and pesticide management practices. This information was used to develop communication and information strategy documents for management of pesticides and pests, including management of citrus pests. Priority crops or IPM intervention were identified and FAO subsequently ran an IPM Technical Cooperation Project for citrus.

31. The KAP survey was also used to develop a policy on pesticide management, which was submitted for approval to the Department of Justice in 2008. The survey was used to develop a communication strategy. Further work on both the draft legislation and communication strategy was included in the POPs project document.

32. IPM was originally developed in the 1950s and 1960s in response to concerns about overuse and abuse of pesticides. A number of projects had supported IPM prior to the start of the POPs project, including an FAO project on IPM in fibre and seed crops and a DANIDA-supported Agricultural Sector Support Programme. By 2010, the Government of Eritrea had a draft national policy and strategy on IPM. The EU earmarked USD 100 000 as co-financing for the POPs project for IPM strategy development. IPM became a big part of the POP Project document.

33. A Mid-Term Evaluation (MTE) of the Project was published in December 2016 which made seven recommendations, summarised as follows:

i. to make improvements to Project management in particular with respect to providing the Project Steering Committee with information on Project expenditure, setting up PMU office, writing of progress reports and ensuring equal attention to all Project components;

ii. to move forward the work on IPM by drafting documentation, agreeing a replication plan and ensuring sufficient pheromone traps were available;

iii. to move forward the safeguarding of pesticide stockpiles by building a permanent store, repackaging and procuring packaging materials;

iv. to move forward the clean-up of the Massawa Old Airport contaminated site by funding the design and environmental impact assessment of a landfill;

v. produce a preliminary inventory of sites contaminated by pesticides, especially POPs;

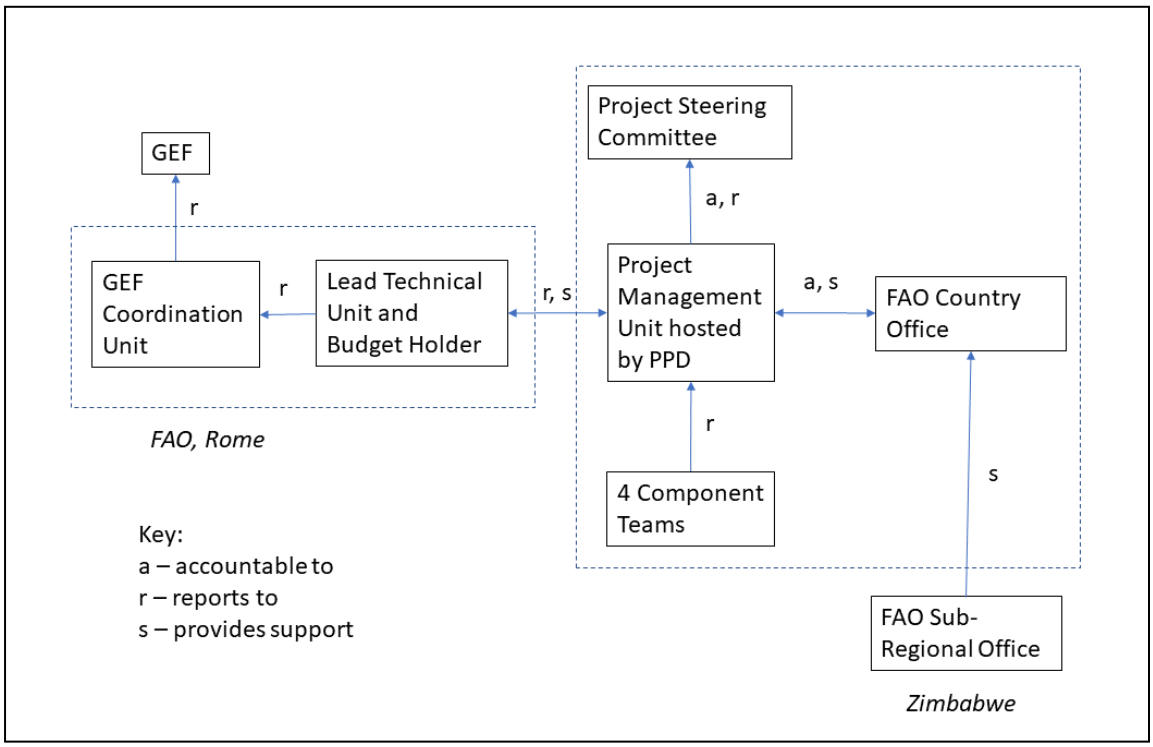
vi. to change the communication strategy to make it compliant with UN and FAO policies on gender mainstreaming;

vii. to further develop the concept note on management of empty containers.

2.2 Institutional arrangements

34. The POPs project institutional structure is shown in Figure 1. FAO was both the GEF implementing agency (IA)[1] and the executing agency (EA).[2] The FAO-GEF Coordination Unit (GCU) was responsible for providing an FAO GEF Annual Monitoring Review to GEF, based on the annual PIR. GEF made tranche payments on the basis of these reports. The Pesticide Risk Reduction Group were the Lead Technical Unit (LTU) responsible for providing technical support and ensuring delivery of outputs and outcomes. The LTU reviewed and provided clearance on consultancies and contracts on: selection of consultants and firms to be hired with GEF funding; all technical reports; reports on project progress; implementation reviews and financial reports. The LTU prepared the annual Project Implementation Review (PIR) in discussion with the GEF Coordination Unit and submitted to the GEF. The GCU also approved implementation reviews, financial reports and budget revisions and was also involved with Project supervision.

Figure 1. Project institutional arrangements



Source: FAO. 2018. 'ERI Pro Doc.pdf'. FAO Internal document. Project document. Rome.

35. Until 2015, AGP was also the FAO Budget Holder responsible for approving financial transactions against the GEF budget, working in close collaboration with the Executing Partner, the Regulatory Services Department of the Ministry of Agriculture (RSD).

[1] Partner directly managing the Project, executing Project activities, monitoring Project progress, sub-contracting, managing Project staff and funds, and carrying out other Project management functions (GEF Definition of Terms.pdf).
[2] Agency making the funding available and providing oversight during the entire Project cycle and being held accountable to the GEF Council for delivering global environmental benefits. Responsibilities include ensuring fiduciary standards are applied, and supervising the development and implementation of projects, including monitoring and evaluation, on behalf of the GEF (GEF Definition of Terms.pdf)

36. RSD was responsible for hosting the Project Management Unit (PMU), appointing the Chair of the Project Steering Committee (PSC) and, appointing and funding a number of positions including:

i. Full-time National Project Coordinator (NPC) in charge of the PMU;
ii. Part-time M&E Officer;
iii. Safeguarding / Disposal Officer;
iv. Pesticide Management Officer;
v. IPM Officer;
vi. Communications Officer.

37. The Ministry of Land, Water and Environment (MoLWE) was responsible for appointing and funding:

i. Environmental Coordinator for the PMU;
ii. Disposal Task Team;
iii. Pesticide Management Task Team.

38. Persons appointed to these positions continued with their duties in government ministries.

39. MoLWE facilitated the Project working with the country focal point for the relevant pesticide and hazardous chemical conventions (Stockholm, Basel and Rotterdam).

40. The PMU was responsible for day-to-day management of activities against a work plan agreed with the PSC and the Budget Holder. An internationally-recruited Technical Advisor (TA) was appointed to PMU to provide full-time technical and project management support. He helped prepare all required reports for submission to the LTU.

41. The PMU reported bi-annually to the PSC. The PSC was originally inherited from the safeguarding TCP to help ensure continuity between the two initiatives. By 2018, PSC members included:

i. Director General of the Regulatory Services Department (RSD), Ministry of Agriculture (Chair);
ii. Director of Environmental Management Regulations, Ministry of Land, Water and the Environment;
iii. National Project Coordinator, RSD, Ministry of Agriculture;
iv. Head of Malaria National Control Program, Ministry of Health;
v. Director, Plant Resources Regulatory Division, RSD, Ministry of Agriculture;
vi. Representative of Crop and Livestock Corporation of Eritrea;
vii. Representative of Ministry of Education;
viii. FAO Representative in Eritrea.

42. The PSC's roles were to provide policy advice, approve annual work plans and budgets and review project progress and performance.

43. The **FAO Country Representative (FAOR)** supported project execution, liaising with Government bodies, and linking with other FAO interventions. The FAO Country and Regional Offices supported financial management, procurement and human resources. In 2015, FAO-Eritrea became the Budget Holder.

44. The institutional arrangements described are consistent with GEF's Direct Execution modality, described in Box 4.

Box 3. FAO's Direct Execution modality for GEF projects

> Under the Direct Execution (DEX) modality, FAO implements and executes projects and provides services to National Institutions under the guidance of the Project Steering Committee (PSC), chaired by the lead Ministry or main National Executing partner. FAO is technically and fiduciary accountable for the achievement of all expected project results. The separation of implementation and execution functions, an important aspect of the GEF Minimum Fiduciary Standards, is ensured by maintaining the following setup. The day-to-day management of an FAO-GEF project is the responsibility of the FAO Budget Holder (BH) and the Project Management Unit (PMU) established for each project (execution function), while technical oversight, project supervision, and evaluation are the responsibilities of the FAO technical officers assigned to the specific FAO-GEF projects, FAO GEF Coordination Unit as Funding Liaison Unit, and the FAO Office of Evaluation (OED), respectively (implementation function).

Source: FAO's role and responsibility as a GEF Agency. FAO Internal document. p. 1 of Annex 3.

2.3 Aims of the Project

45. The Project's overall goal, as stated in the Project document, is "reduced risk to human health and the environment from POPs and other pesticides." Stakeholders and beneficiaries of the project were identified as: policy makers in several ministries (e.g. Agriculture, Environment, Education, Justice); national authorities involved the control of pesticide imports and quality control of pesticides; national staff involved in safeguarding, disposal and prevention activities; advisory/extension services and contact farmers; in particular tomato growers; and, women and men living near contaminated and leaking stores and contaminated soil. Indirect beneficiaries were identified as: consumers unaware of threat caused by overuse of pesticides; farmers exposed to illegal or sub-standard products; and, the global population and environment in the case of releases of POPs pesticides.

46. The Project's Global Environmental Objective was to eliminate risks from POPs and obsolete pesticides in Eritrea through the use of sound environmental management methods to dispose of existing stocks and prevent further accumulation of POPs and obsolete pesticides. The Project aimed to contribute to Millennium Development Goal (MDG) 7 on environment by reducing the environmental impact of obsolete pesticides entering the environment in an uncontrolled manner, and pesticides in use that impact on health and the environment through poor management and use practices. The Project also aimed to impact on MDG1 by contributing to more sustainable agricultural practices, improving food quality and value for the farming communities. Although the Sustainable Development Goals were proposed after the start of the Project, the Project could also have

contributed to SDG3 on good health and well-being and SDG12 on responsible production and consumption.

47. The Project aimed to be fully consistent with relevant provisions in the GEF POPs Focal Area Strategy. It intended to contribute to the GEF-4 strategic objectives of reducing and eliminating production, use and release of POPs and address all three strategic programmes:

i. SP-1 strengthening capacity for National Implementation Plan (NIP, of the Stockholm Convention) development and implementation;

ii. SP-2 partnering in investments needed for NIP implementation;

iii. SP-3 partnering in the demonstration of feasible, innovative technologies and best practice in POPs reduction.

48. The Project set out to achieve its aims through working on three components:

i. disposal of POPs and other obsolete pesticides and remediation of contaminated materials (Total: USD 3 489 628; GEF USD 1 205 978; Co-finance USD 2 283 650);

ii. capacity building for pesticide life-cycle management (Total: USD 1 116 861; GEF USD 556 745; Co-finance USD 560 116);

iii. information and communication (Total: USD 159 228; GEF USD 141 228; Co-finance USD 18 000).

2.4 Theory of change

49. A theory of change is an evidence-based story of how a project *has* or *will* achieve outcomes using the resources at its disposal. Most are the former -- predictions of how a project will bring change. A good theory of change builds its predictions on evidence of what is already starting to happen, from the social science literature and/or from stakeholder experience. It identifies the underlying mechanisms, that when triggered, will drive results with less or no subsequent project intervention. It also identifies their absence.

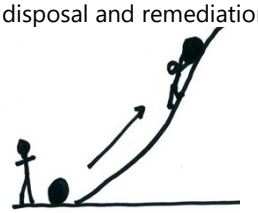
50. The evaluators classify project outcomes according to three categories to help answer the evaluation question on sustainability and impact of project outcomes. Doing so helps identify what the underlying mechanisms are and if they have the potential to drive change. The categories of outcomes are described in Box 5 (Hardcastle, 2008).

Box 4. Categories of project outcomes that require different approaches to be sustained and scaled

Self-sustaining: An outcome that will sustain itself and/or go to scale after the project has finished without significant further external investment, for example the setting up of a system for disposing of used plastic containers that pays for itself. Self-sustaining outcomes depend on the Project triggering a causal mechanism and dynamic.

Stepwise: A process towards an outcome that reaches a stable stopping point. The main outcome has not yet been achieved but progress can be put on hold for some time without major reversals, e.g. development of a communication strategy to be implemented sometime in the future. A stepwise process may or may not eventually lead to a self-sustaining outcome.

Contiguous: Need to continue to fund the work if the outcome is to be maintained or repeated, for example the safeguarding and international disposal of obsolete pesticides. There is no expectation of a self-sustaining causal mechanism that will continue after the project ends. Future outcomes require the government or a donor to provide the necessary funding to do it again. There can be major reversals, for example the capacity built in safeguarding, disposal and remediation is lost because team members leave to find more secure work.

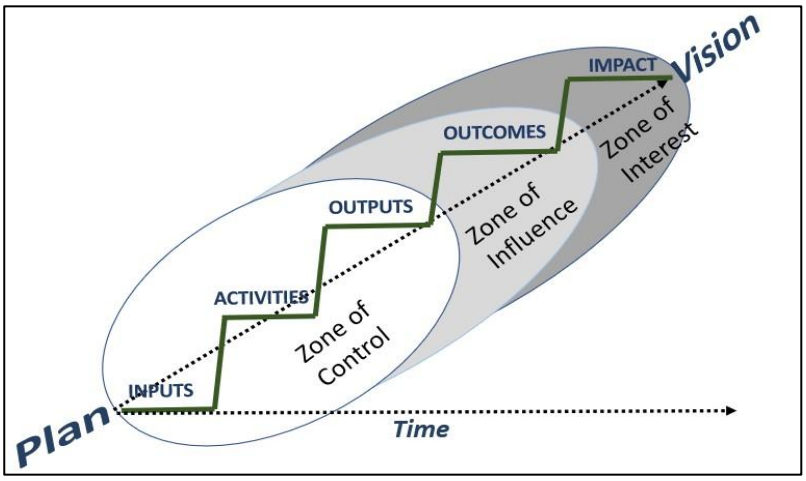


Source: Hardcastle, P.D. 2008. Thematic review of Darwin Initiative projects related to forest biodiversity.

51. A theory of change is usually accompanied with a diagram that shows a pathway from inputs to impact following the steps shown in Figure 3. Projects generally have control over whether they produce outputs, because they can be purchased. For example, a communication strategy is an output - a consultant can be employed to produce it. However, how farmers respond to a communication campaign on safe pesticide use is not under the project's control, but is under its influence. The project can tailor the campaign to the target audience. Outcomes, for the purposes of this evaluation are defined as changes in knowledge, attitude, skills, aspirations and/or practice by stakeholders engaging in project processes using project outputs. Outcomes also include changes in social or environmental state, for example a healthier environment after contaminated soils have been remediated and stop contaminating the water supply.

52. Impacts are the cumulative knock-on effects of outcomes (see Figure 2). acknowledges that practically speaking, projects have little or no influence over impact, but is something they should be interested in, and reacting to, particularly if project outcomes result in unexpected negative consequences.

Figure 2. Steps and level of certainty in a theory of change

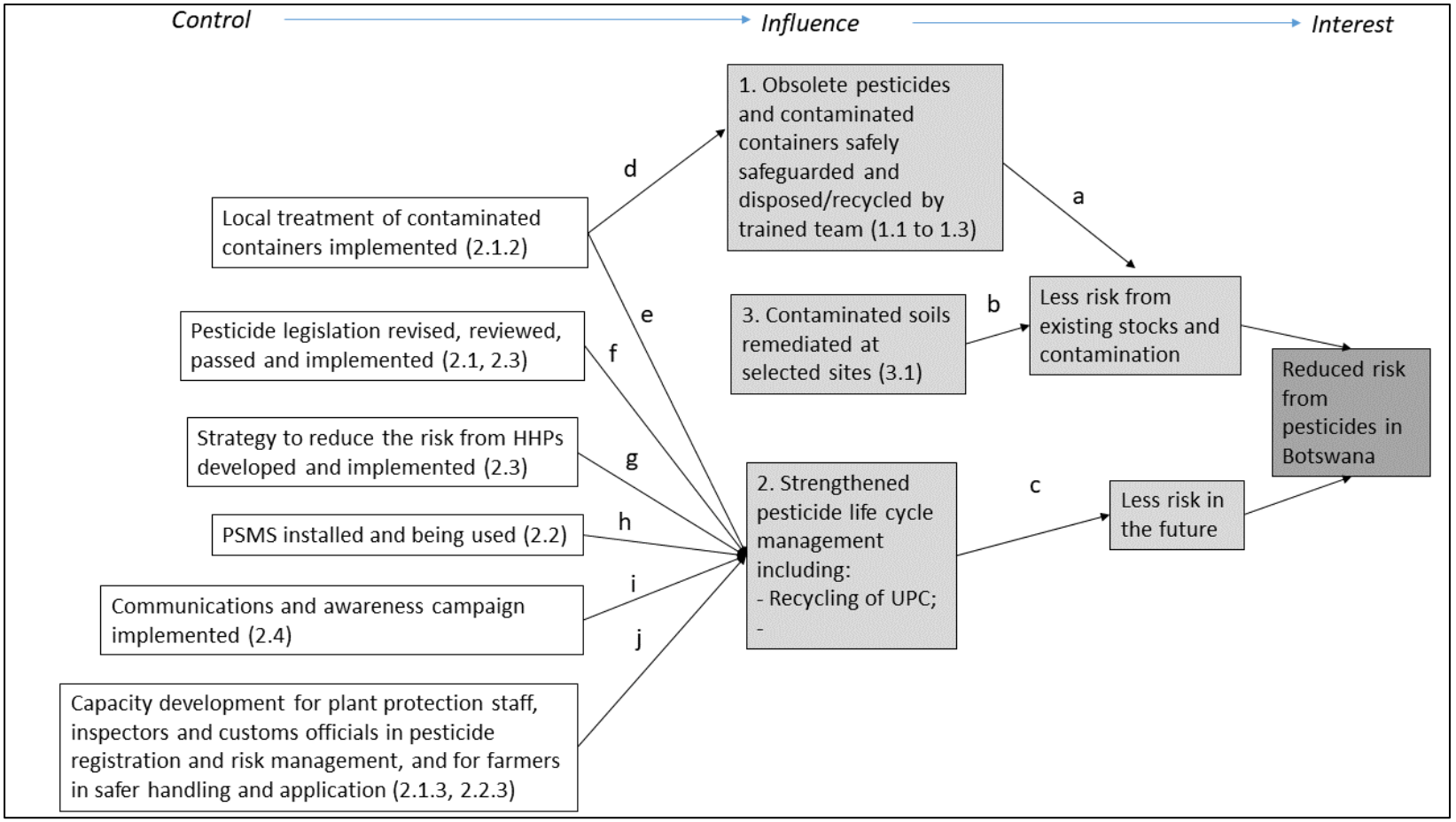


Source: Hardcastle, P.D. 2008. Thematic review of Darwin Initiative projects related to forest biodiversity.

53. FAO has recommended that project concept notes include a theory of change since 2015. The POP Project began before 2015 and did not develop a theory of change as part of the project document.

54. As suggested by the GEF Guidelines on the Project and Programme Life Cycle Policy (GEF, 2018), the evaluation team developed a theory of change (see Figure 3) from project documents, in particular the project results framework. The team presented the diagram for validation by project staff and key stakeholders during the inception workshop at the beginning of their country visit. Workshop participants confirmed that the diagram was a plausible model, to them, of how the Project was supposed to contribute to outcomes and impact.

Figure 3. Project theory of change



Source: Project team - GCP/ERI/014/GFF

Table 1. If-then logic underpinning the theory of change

Arrows	If - then logic
a.	Safeguarding and disposing of obsolete pesticides and contaminated containers will reduce current risk.
b.	That remediating contaminated soils will reduce current risk.
c.	That strengthening pesticide lifecycle management will lead to less risk from pesticides in the future.
d.	Characterization of the type and level of contamination of obsolete pesticides and empty containers will help ensure that those that pose the greatest risk are dealt with by the Project.
e & f	Carrying out environmental assessments and good planning for how to deal with obsolete pesticides, contaminated sites and empty containers will contribute to safe and effective disposal and remediation.
g & h	Local treatment of contaminated plastic containers will help with the disposal of existing stockpiles & reduce future accumulation, thus strengthening pesticide lifecycle management in Botswana.
i & j	Revised pesticide policy and legislation strengthens pesticide life cycle management in Botswana.
k.	Promotion of less toxic pesticides leads to reduction in the use of more toxic ones.
l	Central management of pesticides will avoid build-up of obsolete stockpiles.
m	Better trained plant production staff, inspectors, customs officials and farmers will strengthen pesticide lifecycle management.
n.	Raised awareness among target audiences will lead less and better use of pesticides.

55. The numbers in parentheses refer to outputs in Project results framework. The boxes are shaded according to the control - influence - interest spectrum shown in Figure 2. The three numbered boxes represent the Project's three main outcome areas (disposal, life cycle management, raised awareness). Each arrow in the diagram represents an if-then causal step. For example, arrow (a) implies that if obsolete pesticides and contaminated material are remediated, safeguarded and disposed of, then risk to human and environmental health will be reduced. The if-then logic is captured in Table 1 as a first step to identifying underlying causal mechanisms needed to make the steps happen. The table is in lieu of a causal narrative that usually accompanies a theory of change to tell the outcome to impact story of the project.

56. The theory of change and the table are used to answer the main evaluation question on sustainability and impact, specifically, the extent to which the Project has moved along the impact pathways shown in Figure 3 towards achieving its goal (reduced risk from pesticides in Eritrea).

57. Theories of change often specify causal assumptions. In this theory of change, the causal assumptions are the assumptions about where and under what conditions the causal mechanisms are likely to work. Specifying and testing causal assumptions is best done as part of any future impact assessment that seeks to establish and quantify strong causal claims linking project intervention to impact on the ground.

58. In the inception workshop, the theory of change served as a checklist to help participants remember and reflect on what had worked well, gaps and to prioritize next steps. Annex 2 shows the results of this 'after-action review', which was the main output of the workshop.

3. Findings

59. This section presents the main findings for the evaluation questions in the evaluation matrix. The judgement criteria and analysis to arrive at these findings are described in the evaluation matrix (Annex 2) and in the Methodology section above.

3.1 Relevance

EQ1: How relevant was the project to global and national efforts for reducing risks to public health and the environment due to POPs and POPs contaminated soil.

<u>Finding 1 on the Project's global relevance</u>: The Project's objective – to eliminate risks from POPs and obsolete pesticides in Eritrea and prevent further accumulation – were relevant to international objectives for reducing and eliminating risks due to obsolete pesticides, including POPs. It is consistent with key strategic objectives of GEF4 on POPs and sound chemical management and FAO's strategic framework on sustainable agriculture (EQ 1.1). Although it's design predates the Sustainable Development Goals, the project has contributed to SDG2 and SDG12.

60. The GEF's goal is to assist countries to reduce and eliminate production, use and release of POPs in order to protect human health and the environment, and to assist countries to develop capacity for the sound management of chemicals. The fourth replenishment of the GEF Trust Fund is structured around six focal areas and cross-cutting areas, with sets of strategic programs within each focal area. The POPs project contributed directly towards the GEF POPs focal area strategy and to the cross-cutting area of sound chemicals management. Expected project outputs were aligned to main indicators of GEF strategic objectives as shown in Table 2.

Table 2. Expected project outputs in relation to GEF's strategic objectives in the focal area

Some expected impacts	Main indicators	Expected project outputs
GEF-supported countries have strengthened capacity for POPs management and consequently strengthened capacity for the general sound management of chemicals.	Regulatory and enforcement capacity in place.	Pesticide legislation reviewed and enacted.
Dangerous obsolete pesticides that pose a threat to human health and to the environment are disposed of in an environmentally sound manner.	Obsolete pesticides disposed of.	400 tons of obsolete pesticides disposed of.
The risk of adverse health effects from POPs is decreased for those local communities living in close proximity to POPs wastes that have been disposed of or contained.	Reduced risk of exposure to POPs of project-affected people.	Risk due to obsolete pesticide stockpiles, contaminated empty pesticide containers and pesticide contaminated sites reduced.
The basis for the future implementation of the Stockholm Convention is established through the demonstration of innovative alternative products, best practices, and environmentally sound processes to the generation, use or release of POPs.	Knowledge management packages developed; the viability and cost-effectiveness of alternatives to POPs, in particular DDT, are demonstrated in a number of settings.	IPM FFS developed and institutionalized.

Adapted from 'GEF4-Focal-Area_strategy.pdf

61. Member countries of the United Nations adopted the 2030 Agenda for Sustainable Development in 2015 together with its 17 Sustainable Development Goals. FAO provides assistance for countries to enhance agricultural productivity and sustainability, including protecting crops against pests and diseases while limiting pesticide contamination. The Project's objective contributes to SDG2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture) and SDG12 (ensure sustainable consumption and production patterns). It also contributes to FAO's strategic framework to increase sustainable crop production through reducing crop losses, promoting more efficient use of pesticides and reducing pesticide risk to human health and the environment.

Finding 2 on the Project's relevance to international conventions: The Project objective was relevant to Eritrea's commitments to internationally ratified plans and conventions relating to POPs. The Project was directly aligned to Basel, Rotterdam and Stockholm Conventions on the movement, on prior informed consent and international trade in POPs, hazardous chemicals and pesticides. Eritrea is a signatory to the three conventions and as such the Project is highly relevant to the country's commitments under them (EQ 1.2).

62. The Government of Eritrea has demonstrated commitment to protecting human health and the environment from adverse effects of obsolete pesticides including POPs by ratifying conventions and international agreements related to the production, use, trade, transportation and disposal of hazardous chemicals. The country ratified the Basel Convention; the Rotterdam Convention and the Stockholm Convention in March 2005.

63. The Basel Convention and the Stockholm Convention provide guidance for disposal of existing obsolete pesticide stocks and immediate risk reduction. The Rotterdam Convention provides guidance for development of policies and strategies to control importation of hazardous chemicals and prevent accumulation of obsolete pesticide stocks. The Project contributed directly towards achieving the key objective of the Basel Convention by ensuring environmentally safe transportation and disposal of 364 tonnes of obsolete pesticides and wastes. National capacity to comply with provisions of the Rotterdam Convention were strengthened through initiating review of pesticide legislation and training staff in procurement and stock management.

64. The involvement of focal points for the three major chemical conventions and their participation in meetings of the steering committee facilitated smooth implementation of requirements of the conventions, including obtaining the necessary Basel notification for movement of obsolete pesticide stocks.

Finding 3 on the Project's national relevance: The Project objective was relevant to Eritrea's national policies relating to POPs and obsolete pesticides. The Project directly addressed national priority issues related to POPs in the National Implementation Plan developed under the Stockholm Convention (EQ 1.3).

65. As party to the Stockholm Convention, Eritrea is eligible to access funding for preparation of a National Implementation Plan and development of an effective plan for reduction of risk posed by pesticides. Eritrea developed its NIP with technical assistance from UNIDO and financial assistance from GEF in 2011. The NIP provides a national policy framework for addressing POPs related issues. Specific policy objectives contained in the NIP include reducing and eliminating use of POPs; identifying and promoting the application of Best

Available Techniques and Best Environmental Practices leading to reduction and eventual elimination of POPs; and mechanisms to reduce impact of POPs.

Box 5. Highly Hazardous Pesticides

Highly Hazardous Pesticides (HHPs) are defined as pesticides that are "acknowledged to present particularly high levels of acute or chronic hazards to health and/or the environment according to internationally accepted classification systems such as the World Health Organization (WHO) or the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) or their listing in relevant binding international agreements and conventions. In addition, pesticides that appear to cause severe or irreversible harm to health or the environment under conditions of use in a country may be considered to be and treated as highly hazardous" (FAO & WHO, 2014).

66. The Project directly addressed the following priority issues that were identified in the NIP:

i. creating public awareness and providing information and education at all levels;

ii. integrated approach of concerned institutions and stakeholders on POPs issues;

iii. identification and removal of stockpiles of chemicals, including from contaminated locations;

iv. reduce POPs impacts on human health and environment;

v. technical and financial assistance (bilateral and multilateral financial resources accessed; technical assistance for POPs management received).

3.2 Effectiveness

EQ 2: How effective has the project been in delivering results (both expected and unexpected)?

<u>Finding 4 on delivering safeguarding and disposal targets</u>: The Project achieved its main safeguarding and disposal target with the high temperature incineration of 364 tonnes of obsolete pesticide stocks, meeting its target for that component. Limited progress has been achieved towards meeting targets for safeguarding and disposal of contaminated soils, EPCs and contaminated sprayers primarily due to cost overruns and failure to finalize details of their execution (EQ 2.1).

67. The Project planned to complete disposal of all pesticides and waste identified during the preparation project that had not been dealt with through the safeguarding TCP. It disposed of 364 tonnes of obsolete pesticides and cleaned, cut and safely stored 720 metal drums in preparation for export to a High Temperature Incineration facility for final disposal. Local recycling of contaminated sprayers and plastic containers, disposal of remaining metal drums and disposal of 70 tonnes of obsolete Actellic were not achieved. An extension has been sought to enable the project to finalize arrangements for local recycling and to dispose of the obsolete Actellic.

68. The 364 tonnes of obsolete pesticide stocks that were safeguarded and disposed through the POPs project in Eritrea far exceeds that in similar projects in Botswana and Mozambique

(28.8 tonnes and 70 tonnes[3] respectively). With the exception of 32 tonnes of DDT that were disposed through the Project, no obsolete POPs or POPs contaminated soils were identified in the country.

69. In addition to the remaining metal drums, about six tonnes of safeguarded obsolete pesticides and 24 tonnes that have not been safeguarding are yet to be dealt with.

70. In contrast to the POPs project in Botswana, where safeguarding staff operated on short employment contracts and staff turnover was high, staff in Eritrea were retained and great capacity has been built in the national safeguarding team. The evaluation team agrees with the assessment in the Safeguarding Project final report that the safeguarding team represent a national asset with the ability to provide training to teams in other countries.

71. The safeguarding team ceased operation in June 2017 due to budget restrictions, even though much remains to be done. Prolonged inactivity will reduce the value of the asset as team members forget their skills and become unavailable.

72. The Project experienced large cost overruns on travel in safeguarding about 90 stores from which the 364 tonnes came. The GEF travel budget, used for paying the 14-strong safeguarding team travel and hazard allowances, was overspent by USD 266 000. The overspend came from funds that would have been spent on other Project components.

73. The Project aimed to develop and implement a risk reduction strategy for sites with heavily contaminated soils and building materials. Two heavily contaminated sites, Daeropaolos Store in Asmara and Massawa Old Airport, both located near inhabited residential areas were prioritized for remediation. Plans to construct a landfill for disposal of the contaminated building materials from the Daeropaolos Store and contaminated soil from Massawa Old Airport did not materialize. This was attributed to delays in allocation of a site for the landfill, a delay in responding to the geological and hydrological survey conducted by the Department of Environment (DoE) followed by a decision to have a second feasibility study conducted, and budgetary constraints. The landfill would also have provided facilities for disposal of contaminated soils from other sites in the country. Potential health risks to residents from contamination at Daeropaolos Store and Massawa Old Airport poses reputational risk to both the Government of Eritrea and FAO and urgent action needs to be taken to remediate the sites.

74. During the evaluation team's visit, members of the PSC agreed to explore a relatively quick and cheap option to remove and 'land farm' (land farming is a type of biological remediation) the Massawa contaminated soil at the proposed landfill site, following a recommendation from the second feasibility study. The evaluation team recommended an exceptional extension to allow unspent funds to be used for this purpose.

75. The Project planned to upgrade eight stores for use as intermediate collection centres and to build one new central collection centre. A site was selected and design agreed for the central store but before construction could start the land was given for another use. The PSC decided to reallocate remaining funds to help cover the safeguarding overspend. Two stores were upgraded by the Project - Daeropaolos and Keren. An additional five stores were upgraded during the TCP/ERI/3202 project that ran from July 2009 to October 2011.

[3] Contract not yet completed

76. The PSC has also agreed that the 70 tonnes of obsolete Actellic dust is to be disposed of at the Ghedem Cement Factory. Unspent Project funds are to be used to build a feed into the furnace. Disposal did not happen earlier because operation of the Cement factory stalled.

Finding 5 on capacity development: The Project has developed institutional capacity to reduce risk from pesticides and associated wastes through providing training and technical support for execution of project activities. Significant capacity was built in safeguarding obsolete pesticides. Capacity was also built in IPM and FFS approaches and in procurement and pesticide stock and store management (EQ 2.2).

77. Developing national capacity through project implementation is one of the cross-cutting goals of the GEF. The capacity building component of the Project was structured around a number of training courses and workshops addressing gaps in life cycle management of pesticides that had been identified prior to preparation of the project. Table 3 summarises the training activities conducted during the course of the project in terms of stages in the pesticide lifecycle. Table 4 provides information on courses given, organizations participating and numbers of attendees.

Table 3: Summary of training carried out by the Project with respect to the stages of the pesticide life cycle addressed

Stage of pesticide life cycle addressed by training	Number trained
Import	91
Registration	91
Procurement	91
Distribution/Sale	91
Use	221
Post Registration Monitoring	91
Waste Management	114

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Table 4: Details of training carried out by the Project

Nature & duration of training	Participants	Number trained	Date
Two-week course on safeguarding	MoA, MoLWE & MoH	25	
Two-year Post Graduate Diploma in Pesticide Risk Management at the University of Cape Town	MoLWE	1	2013 – 2014
Principles and approach of FFS and IPM	MoA, HAC, AED, DOE, MoLWE	47	12-13/06/2014
Three-month training of trainers on IPM FFS for management of Tuta absoluta in tomatoes	MoA extension staff from Zoba Debub	22	2015

Nature & duration of training	Participants	Number trained	Date
Season-long IPM FFS facilitators training	MoA	25	2016
Sub-Zoba training in IPM FFS	Extension staff, farmers	150	2017
Pesticide management	MoA, MoLWE, ECLC	30	5-7/06/2017
Store management	MoA, ECLC, Hidri Distribution Company		8-9/06/2017
Pesticide store and stock management	MoA staff & store managers	66	
One-week course on pesticide planning and stock management	MoA, MoLWE & another stakeholder	80	
IPM and FFS	Extension staff	67	
FFS	Farmers	20	

79. The State of Eritrea does not produce or formulate any pesticides, therefore training provided through the POPs project did not focus on this stage of the pesticide life cycle. One candidate successfully completed the Post Graduate Diploma in Pesticide Risk Management at the University of Cape Town in South Africa. This online course employs a life cycle approach to risk reduction and would likely discuss all stages of the life cycle. Most training provided through the Project was targeted at understanding and implementing IPM and FFS. A two-day course was given on the principles and approach and was provided to staff from MoA, HAC, AED, DOE and MoLWE. An integrated approach to pest management involves utilization of a range of management strategies including early pest recognition and protection of plants from infestation, which aim to address pesticide use and ultimately result in a reduction in the range and frequency of pesticide applications. The objective of the POPs project was to reduce risk from obsolete pesticides and wastes. A core of national staff received training and gained experience in safeguarding obsolete pesticides and wastes. Great capacity has been developed in safeguarding and the team that was trained through the project could be a valuable asset for future safeguarding activities. Training was also provided in pesticide procurement and stock and store management which help to prevent accumulation of obsolete pesticides.

80. The composition of the SC and the PMU with participation of a number of government departments encouraged inter-departmental capacity building and cooperation. The review of pesticide legislation involved a wide range of stakeholders (Ministry of Agriculture; Ministry of Health; Ministry of Land Water and Environment; Ministry of Education; Ministry of Information; Ministry of Finance; Ministry of Local Government; Crops and Livestock Corporation and two private companies). This inclusive process not only encouraged wide ownership of the process and enriched the technical quality of the output but also resulted in development of capacity to reduce pesticide risk across a number of institutes.

81. During the course of the project four shipments of obsolete pesticides were sent for disposal at a specialized facility in the United Kingdom. Government departments involved in this process gained experience in meeting conditions of the Basel Convention for movement of hazardous waste. Implementation of the project also enhanced national capacity to comply with provisions of the Stockholm and Rotterdam Conventions which collectively provide guidance and protection for countries to reduce risks from pesticides and associated waste.

<u>Finding 6 on IPM:</u> The Project has contributed substantially to development and implementation of IPM in Eritrea that has the potential to reduce risk from pesticides and associated waste. The urgent priority is to lever the capacity built by the Project to help ensure the successful roll-out of IPM/FFS at a national level (EQ 2.3).

82. FAO has been a key player in the development and global spread of FFS since introduction of the approach in Southeast Asia in the 1980s. By 2016 the FFS approach was being implemented in over 90 countries and it has been used in national IPM programmes (FAO, 2016). FFS are seen as a sustainable means of enhancing the capacity of farmers to identify and adapt management strategies that focus on a healthy agro-ecosystem approach with minimal use of pesticides.

83. Citrus is an important crop for both nutrition and income generation in Eritrea. However high production costs and reduced quality of the crop due to damage by insect pests have affected its profitability. The Government of Eritrea requested assistance from FAO in 2006 and 2008 to formulate and implement a pilot IPM project in citrus in a bid to address problems associated with excessive use of pesticides and increase production. A technical cooperation project on citrus IPM - TCP/ERI/3204(D) - was initiated in 2009 and a survey was carried out to identify major pests of the crop. Parasites were identified and imported to be established as biological control agents. Following unsuccessful release of these parasites' potential natural enemies for black and red scale, wooly white fly and leaf miner were collected locally and a tender was raised for their identification. In 2015 a decision was taken by the project steering committee to shift the focus of the IPM programme from citrus to tomato following invasion by the tomato leaf-miner Tuta absoluta. This put further development of a biological control programme on citrus on hold. Management of citrus pests in Eritrea still needs to be addressed and may be the focus of future national programmes or TCPs.

84. The POPs project in Eritrea recruited an IPM FFS expert in 2015 who provided training for FFS facilitators and farmers and initiated preparation of an IPM manual. Establishment of the pilot FFS took place in 2015 at Mendefera district, the capital of the southern region of the country and since then FFS have been established in four out of six districts with the support of the project. After initial delays caused by termination of the IPM consultant's contract, a comprehensive IPM manual was eventually completed. This is a useful output of the project that project staff[4] say needs to be simplified and translated in order to enable extension staff and FFS facilitators to get maximum benefit from the resource. The project has succeeded to build capacity of IPM among national staff and farmers, and raised awareness among policymakers through a study tour to Jordan. Speaking at a graduation ceremony after completion of the first training for farmers and extension staff at Mendefera the governor of the southern region and the Minister of Agriculture expressed their appreciation for the programme and their desire to have FFS in IPM extended to all farmers' fields (Brhan Araya 2016).[5] During interviews with the evaluation team the Director General of RSD also emphasized the government's strong support for IPM and the inclusion of FFS as one of the government's strategies for sustainability. The policy is that every ward should have a FFS. As it has funded a well-known and major initiative on IPM in the country, this Project is likely to have influenced the policy. Concerns that rapid expansion could affect quality of FFS implementation were recognized by FAO, leading to the production of a

[4] Feedback from inception workshop in December 2018

document to provide guidance for ensuring quality of IPM implementation in 2016 (FAO, 2016). The evaluation team has similar concerns regarding the proposed roll out in Eritrea.

<u>Finding 7 on disposal of empty containers:</u> The Project has developed a strategy for disposing of plastic containers that requires a recycling plant to be connected to three-phase electricity to implemented. It has also developed a strategy for disposing of contaminated metal containers that involves shipping them out of the country for disposal, which is still to happen (EQ 2.4).

85. The PSC has agreed a strategy for disposing of plastic containers that involves turning them into fuel (coke, diesel, gas) at a batch gasification plant located at the Scarico municipal landfill near Asmara. The fuel will be sold to the government, for use in the Ghedem Cement Factory or a power station. About 12 000 empty plastic containers and an estimated 5 400 contaminated sprayers await disposal or recycling.

86. The operation of the plant has stopped awaiting connection to three-phase electricity. A diesel generator, that is part of the plant, could be used in the meantime, but this has been deemed too expensive (even though the plant purportedly produces diesel). There may be other constraints to starting operation. It was not clear to the evaluation team whether delivery method or price has been agreed between the private sector owner of the plant and the cement factory or power station.

87. The discussions the Project has held with the owners of the gasification plant and MoLWE represent progress after the MTE recommendation to further develop the 2014 concept note developed by the Project on managing empty containers. However, the evaluation team was not able to find anything further in writing.

88. More details of the disposal strategy need to be hammered out and put into writing. The plastic containers still need to be transported to the site, shredded (a shredding machine exists at the Scarico landfill) and then triple washed before gasification. No plan exists so far for how to deal with the water used for washing other than to store it for possible future disposal overseas. The potential expense of dealing with this contaminated water remains a problem with the strategy. Also, it is not clear after the backlog has been cleared if and whether regular collection and disposal of empty containers will take place using the gasification plant.

89. With respect to contaminated metal containers, 792 contaminated metal drums have been washed, cut so they take up less space and stored at Daeropaolos store. About 500 drums remain to be safeguarded. Due to the high level of contamination, all the drums are earmarked for disposal abroad, together with the obsolete pesticides. These drums await disposal at Daeropaolos Store.

90. The empty container recycling scheme was not piloted in Maekel Region as intended (Output 2.9). Some exploration was carried out as to whether plastic containers could be recycled by a plastic recycling plant. The idea was apparently abandoned over concerns that contaminated plastic would be used in products that would be used for food.

<u>Finding 8 on PSMS</u>: The Project has not institutionalized the FAO PSMS nor attempted to implement alternatives. The decision was made to halt work on the FAO PSMS because of inadequate internet access (EQ 2.5).

91. Plans were made to host the PSMS at the Regulatory Services Department within the MoA. The Ministry was implementing an Information and Technology project funded by the International Fund for Agricultural Development (IFAD) that would connect all institutions and link then to the regions. This would provide easy access to the PSMS from all institutions and regions. Securing adequate internet connectivity to run PSMS through the privately-owned internet provider EWAN Technology Solutions Inc. was estimated at USD 48 000 for two years. It was considered that meeting this cost would not be sustainable after the project terminated. Hosting the package through RSD (as opposed to dealing directly with EWAN) would be more economical (USD 10 000 for two years) but this cost remains prohibitive and most likely not sustainable. After efforts to secure affordable adequate internet connectivity failed institutionalization of PSMS was cancelled. The PSMS tool has been under review by FAO's Information Technology Division since 2016 and is currently not available to countries.

92. Procurement of pesticides in Eritrea is centralized, with the government as sole importer. In theory this should make procurement and needs assessment easier to manage. The MoA has a database for obsolete pesticide stocks and it keeps a record of pesticide imports. However, a comprehensive system for capturing and managing all national pesticide data is lacking.

<u>Finding 9 on pesticide legislation</u>: The Project supported final review and submission of the draft legislation to the Ministry of Justice and translation into the local languages for possible submission to parliament by March 2019 and enactment by the end of the year. The Project has not supported capacity building for implementation and enforcement of the legislation, as this will take place only after the legislation has been enacted (EQ 2.6).

93. A review of pesticide legislation was undertaken before implementation of the Project. The legislation is guided by the FAO International Code of Conduct on Pesticide Management and it is influenced by provisions of various international agreements and conventions on management of chemicals to which the country is party. The legislation is supported by regulations addressing specific stages of pesticide management. Implementation of these regulations will contribute towards the country's policy objectives of protecting natural resources by reducing pesticide risk to the environment.

94. The Project supported finalization of the draft legislation and submission to the Ministry of Justice in 2014. The review process included eight government ministries, a government parastatal and two private companies. Following a recommendation from the Ministry of Justice the draft legislation was translated into Tigrina and Arabic. The quality of the initial translation carried out by a national consultant was not acceptable to the steering committee. The committee revisited the exercise and completed translation in 2016. In September 2018 the PSC requested support to hold a one-day workshop to validate the proposed amendments in view of the length of time that had elapsed since the revision was completed. A senior member of the PSC said that if the validation workshop was held in January 2019, the draft legislation could be submitted to Ministry of Justice by March and new legislation could be enacted before the end of 2019. The length of time it has taken raises questions as to the political will to pass the legislation.

95. Training of staff on implementation and enforcement of the new legislation will only take place after it has been enacted.

<u>Finding 10 on pesticide risk awareness campaign</u>: The Project has developed the material for an awareness campaign on pesticide risk and how to reduce it. The next step is to launch a concerted media campaign (EQ 2.7).

96. In 2007, as part of the Inventory project (see Section 2.1), a KAP survey on the use of pesticides was carried out. The results were used to develop a communications strategy in 2009. The Project held a workshop in 2014 to review the strategy and then put out a tender to develop communication material that could be part of a media campaign. Finalizing and signing of this initial tender was delayed for over a year, and the job had to be re-tendered. A local communications company was awarded the tender in mid-2017. A task force was assigned by the Project to work with the company and provide technical input. Materials were produced in English, Tigrina, Tigre and Arabic and included a booklet titled 'Pesticide Safety'. An introduction for smallholder farmers', three videos, a song, leaflets and posters on pesticide safety and a roll up giving a summary of the Project's achievements. The next step is to launch a concerted media campaign using the materials, something that can be done using government media channels without additional project funding. A follow-up KAP survey would be needed to establish the outcomes of such a campaign.

97. Annex 2 lists expected project outputs together with a percentage estimated by the evaluation team of level of accomplishment.

3.3 Efficiency

Evaluation question 3: How satisfactory was project implementation and execution in achieving outputs? How satisfactory was M&E?

<u>Finding 11 on Project institutional arrangements:</u> The Project's institutional arrangements and engagement strategy allowed for a high level of government recognition and ownership as well as the successful safeguarding and disposal of obsolete pesticides and associate material (EQ 3.1).

98. As described under EQ 2.1. above, the Project has been very successful in safeguarding and disposing 364 tonnes of obsolete pesticides and hazardous waste. The institutional arrangement of having a disposal taskforce, as part of the PMU which reported and sought guidance from the PSC, proved fit for purpose. Through the PSC, the Project was able to obtain the support from the Basel and Rotterdam conventions to make three international shipments.

99. The PSC met 16 times over six years, which is more than stipulated in the Project document (twice a year). The evaluation team was impressed by the seniority of the members of the PSC, their length of tenure and their level of knowledge of the Project, compared to PSCs in similar projects in Mozambique and Botswana. The PSC sought to hold the Project accountable in ways not seen in Mozambique or Botswana. In three interviews, members of the PSC urged the evaluation team to pressure FAO to find ways to make good on key Project commitments, in particular to safeguard the contaminated soil at the Old Massawa Airport site.

100. The evaluation team met both the Minister of Agriculture and Minister of Health (the latter was unplanned), both of whom knew what the Project was doing, suggesting strong political recognition and support for the Project.

<u>Finding 12 on co-financing</u>: More than half of Project funding came through co-financing, most of it for component 1 on disposal. While it was not clear to the evaluation team how some of the co-financing figures were calculated, the numbers provided suggest a co-financing shortfall of USD 454 000 with funding taken from work on pesticide lifecycle management to plug the gap (EQ 3.2).

101. Over half of the POPs project budget came from co-financing and over half of this came from the Government of Japan through the Safeguarding Project (GCP/ERI/017/JPN), see Table 5 and Table 6. Almost three quarters of the Safeguarding Project USD 1.5 million budget was spent on contracts for safeguarding and disposal of obsolete pesticides and POPs. The Safeguarding Project paid USD 484 000 to the company Veolia to incinerate 364 tonnes of obsolete pesticides and associated waste in the UK, while the GEF Project contributed almost the same amount (USD 450 000).

102. CropLife's contribution was in the form of a grant toward safeguarding and disposal and in-kind contribution. The latter was in the form of machinery donated to the Project from previous CropLife safeguarding work and pesticides that had been previously safeguarded and repacked, that was included in the 364 tonnes shipped out by the Project

103. The Government of Eritrea provided in-kind support in terms of: staff working for the Project Management Unit including a full-time National Project Coordinator; staff of four task teams (Disposal; Pesticide Management; IPM; and, Information and Communications); the time of pesticide convention focal persons liaising with the project; and, the time of government employees who were members of the Project Steering Committee, including the time of the Chair, the Director General of RSD.

104. The FAO contribution was two TCPs, one was the Safeguarding Project (see Section 2.1) and the other concerned with IPM in citrus. Both projects were due to finish in 2011. The EC contribution was in the form of USD 100 000 to fund IPM work in a project to enhance food security in the country.

105. Table 5 shows that there was a USD 494 000 shortfall in co-financing over the lifetime of the Project. The figures do not exist to say how the shortfall was distributed across Project components, but it is safe to say that both components 1 (disposal) and 2 (lifecycle management) will have suffered cuts because this is where most of the budget was allocated.

106. The GEF budget was overspent by USD 287 000 on component one, perhaps to make up for the co-financing shortfall. At the same time, GEF funding was reduced to component two work by more than one third. Together with the cut in co-financing, it is likely that component two received less than half the planned budget. Not surprisingly, a number of component two outputs were not achieved, including setting up a pesticide control laboratory, establishing a pesticides stock management system and providing capacity building on implementing the new legislation. Some priority component two work did continue, notably work to deal with unwashed plastic containers. The decision to protect funding to disposal reflects the priority given to disposal in the Project document and by the Project Steering Committee.

107. The evaluation team were not able to find the figures to complete the co-financing column for the components at project completion in Table 5. The figures for completing Table 6 come from the latest PIR, generated by the Budget Holder. There is some disagreement and uncertainty surrounding them, for example, the NPC estimates that the Government of Eritrea's in-kind contribution is higher than stated. Part of the problem is that, according to the reporting requirements laid out in the Project document (see Table 6), a semi-annual report on co-financing should have been prepared by the NPC and TA, but was not. As a result, the evaluation team was not able to discover how some of the co-financing numbers had been generated.

Table 5: Project financing and co-financing by component at start and at mid-term

	At start			At Project completion		
Components	**GEF**	**Co-financing**	**Total**	**GEF**	**Co- financing**	**Total**
1. Disposal	1 205 978	2 283 650	3 489 628	1 492 906		
2. Life cycle management	556 745	560 116	1 116 861	304 156		
3. Information and communications	141 228	18 000	159 228	192 281		
4. M&E	75 524	71 656	147 180	59 196		
5. Project management	170 525	275 731	446 256	60 179		
Totals	2 150 000	3 209 153	5 359 153	2 108 718	2 715 468	4 824 186

Note: All amounts in USD
Source: 'GCP /ERI/014/GFF Budget Revision'

Table 6: Project financing and co-financing by donor at start and at completion[6]

Name of the co-financer	**Co-financer type[7]**	**Type of co-financing[8]**	**Co-financing at project start (amount confirmed at GEF CEO endorsement/approval by the project design team in USD)**			**Materialized co-financing at project completion* (in USD)**		
			In-kind	**Cash**	**Total**	**In-kind**	**Cash**	**Total**
GEF	Multilateral organization	Grant		2 150 000	2 150 000		1 936 989	1 936 9899
Japanese Government	National government	Grant	-	1 494 000	1 494 000	-	1 485 000	1 485 000
FAO	GEF Agency	Grant and in-kind	50 000	935 000	985 000	30,000	620 000	650 000
Govnt of Eritrea	National Government	Grant and in-kind	195 000	55 000	250 000	140,000	-	140 000

[6] Values presented in the table were taken from those reported in the PIR and terminal report. At the time of the evaluation, the project activities have not been completed. Issues in the co-financing are detailed in the report's finding's section.
[7] Examples of categories include: local, provincial or national government; semi-government autonomous institutions; private sector; multilateral or bilateral organizations; educational and research institutions; Non-Profit organizations; Civil Society Organizations; foundations; beneficiaries; GEF agencies; and others (please explain).
[8] Grants; loans; equity participation by beneficiaries (individuals) in form of cash; guarantees; in-kind or material contributions; and others.
[9] Delivery at the time of completion.

Name of the co-financer	Co-financer type[7]	Type of co-financing[8]	Co-financing at project start (amount confirmed at GEF CEO endorsement/approval by the project design team in USD)			Materialized co-financing at project completion* (in USD)		
EC	Multilateral organization	Grant	-	100 000	100 000	-	100 000	100 000
CropLife	Private sector	In-kind	380 000	-	380 000	90,000	-	90 000
Grand Total (in USD)			625 000	4 734 000	5 359 000	260 000	4 141 989	4 401 989

<u>Finding 13 on Project execution</u>: The quality of Project execution was varied. The PMU and Budget Holder were able to assemble and support a competent Disposal team. Two other task teams make good progress on IPM and communications after safeguarding work stopped. Shortcomings included the lack of an office for the PMU and a failure to respond to Project Steering Committee requests for financial information (EQ 3.3).

108. GEF places an important distinction on project execution and implementation (Box 4). For this Project, execution refers to the day-to-day management which is the responsibility of the FAO Budget Holder (BH) and the Project Management Unit (PMU). Project implementation refers to technical oversight, project supervision, and evaluation which are the responsibilities of the FAO technical officers assigned to this Project, FAO GEF Coordination Unit as Funding Liaison Unit, and the FAO Office of Evaluation (OED), respectively. Maintaining a separation between execution and implementation is a requirement to meet GEF Minimum Fiduciary Requirements.

109. In the Project document the PMU was to include seven staff, six from MoA including a full-time National Project Coordinator to lead the Unit. It also was to include a full-time Environmental Coordinator provided by MoLWE (see Section 2.2).

110. According to the MTE in 2016: "Although the project envisages that the RSD of MoA is responsible for hosting the Project Management Unit, in practice a PMU office was not established. As a result, PMU is rather dysfunctional as there is limited communication among the PMU team, and more specifically between the RSD/MoA and MoLWE personnel in charge of the project who meet only sporadically. Communication is further complicated by the lack of functional phone lines, electricity disruption and lack of transportation." The MTE went on to say that the role of the MoWLE Environmental Coordinator was not clear.

111. As a result of this finding, the MTE recommended that "RSD/MOA and MOLWE to agree on a common PMU office (with internet connection) where PMU staff meet regularly to manage the project." This evaluation team found no evidence that the recommendation had been acted upon.

112. Four task teams reported to the PMU – Disposal; Pesticide Management; IPM; and Information and Communication. Despite the lack of an office, the Disposal team, led by the NPC, was successful in safeguarding and disposing of 364 tonnes of obsolete pesticides and associated waste. However, the success was not without some controversy:

    i. Component 1 of the Project covering disposal was overspent by more than USD 250 000 which came as a surprise to the PSC. At the time, the overspend was blamed on

the Disposal team travel and subsistence expenses, a necessary part of the cost of safeguarding and disposing of obsolete pesticides and associated waste in geographically dispersed locations. The overspend may not have happened were it not for a large shortfall in co-financing, most of which was earmarked for disposal (see Finding 12).

ii. The level and amount of travel, subsistence and hazard allowances caused jealousies between the Disposal team and the IPM team who received less (e.g. the IPM team did not receive hazard allowances). The evaluation team found that the issue of unpaid allowances had not been resolved despite an MTE recommendation to do so.

iii. According to the Project document, the Disposal team should have been led by MoLWE.

iv. The MTE found that the PMU had placed too much emphasis on disposal, to the detriment of the other task teams and project components.

113. The latter was resolved after funding was cut for safeguarding and disposal work and the NPC had more time to support the work of the other task teams. The IPM task team in particular achieved much of what was expected in 2017 and 2018.

114. At the start of the Project, the Budget Holder was AGP. This changed in 2015 when the then FAO-R requested that the responsibility move to the FAO-Eritrea Office, in part because budget information was not being shared. In addition to being jointly responsible for day-to-day management of a project, the Budget Holder was responsible for overall project supervision. The person acting as Budget Holder was the chair of the Project Task Force which also consisted of the LTO and representatives from the LTU, the GEF Coordination Unit and any other technical units involved in implementation. It was the responsibility of the BH to make sure that PIRs are produced.

115. Being responsible for both overall supervision and day-to-day management of a project would appear to contravene the GEF Minimum Fiduciary Requirement to keep the two functions separate. The GEF Coordination Unit agrees that there is an issue with the separation of the two functions with older FAO-GEF projects.

116. One of the responsibilities of the Budget Holder was to provide budget information to allow the PSC to fulfil its advisory role (see Section 2.2. for more on the role of PSC). The MTE found that this information had not been forthcoming and recommended that the Budget Holder prepare a budget at component level to be shared at each PSC meeting. This evaluation found that two members of the PSC remained unhappy with the budget information they were being given while two others said component level budget information had been shared and the situation had improved.

117. The evaluation team saw first-hand, and were told, that staff in the FAO Eritrea Office were not able to generate the component level budget information being requested automatically. It was explained to the team that to do so required a mapping of budget codes onto Project components, which had not been done when AGP was the budget holder. This required FAO Eritrea staff to generate component level budget information by hand, which was laborious and time consuming. Efforts were made to help FAO Eritrea staff do the mapping which was ultimately unsuccessful. The evaluation team heard differing accounts as to what support was offered by AGP and was taken.

<u>Finding 14 on Project implementation</u>: The quality of project implementation was varied. Project procurement decisions often took longer than envisioned due in part to high staff turnover in the LTU and the large workload they were under. This led to delays in execution that contributed to four no-cost extensions being requested and given. Implementation staff agreed to a transfer of the Budget Holder to FAO Country Office in Eritrea and were aware of issues that emerged, and, despite efforts being made, were not able to adequately resolve them. There was no management response to the MTE despite GEF Coordination Unit reminders (EQ 3.4).

118. The PSC is part of Project implementation, providing guidance and oversight to the day to day management of the Project. As described above, the PSC worked well in terms of meeting more often than originally envisaged, developing a keen interest, knowledge and understanding in the Project and holding the Project to account.

119. A key person supporting the Budget Holder, the PMU and the PSC was the Technical Advisor described in the Project Document as someone who should be internationally recruited to work full-time assisting the PMU in country. According to the MTE, the Technical Advisor took on a lot of responsibilities for reporting and planning. The TA left the Project in 2016, and was not replaced. The LTO took on some the TA's responsibilities but not all of them. Nevertheless, the Project made good progress on Component two and three (IPM and Communications). The MTE found that there was a "low level of ownership" of the Project linked to the view that the Project is an "external activity" carried out by FAO. This evaluation team found that in December 2018 ownership of the Project was strong, at least for RSD/MoA. One possible explanation for the change is that with the departure of the Technical Advisor, national project staff took more responsibility, and with it, ownership.

120. One implementation shortcoming found by the evaluation team were delays in procurement and decision making. Delays compared to the timeline envisaged in the Project document led to four no-cost extensions. Examples of delays include:

i. A slow start to the Project was blamed on the delay in recruiting the Technical Advisor to support the establishment and operation of the PMU.

ii. A delay in procuring a communication campaign for more than a year required a re-tender and an overall delay of eighteen months.

iii. A delay in contracting a consultant to design a landfill led to a delay in remediating a critical site at the old Massawa airport even though the PSC had agreed to a no-cost extension primarily for this purpose.[10]

121. A main reason given for delays in procurement was changes in senior staff. The FAO-R changed four times since the beginning of the project. The Chief Technical Advisor changed in 2016 and the full-time Technical Advisor left and was not replaced. The Lead Technical Officer changed in 2017. Apparently, AGP had a large number of staff changes in 2016 and 2017 which affected project implementation also in Mozambique (GCP/MOZ/100/GFF). Another factor is that AGP staff are responsible for a large number of projects internationally – during 2016 when the CTA left, AGP was dealing with about 20 projects with a pesticide component.

[10] Interview with members of PSC in December 2018

The MTE produced seven recommendations. As with projects in Botswana and Mozambique, there was no written management response as required by the GEF Coordination Unit. For this Project, the Budget Holder did not reply to reminders from the GEF Coordination Unit. The MTE consultant did present his findings to the PSC. This evaluation team found that some of the recommendations were heeded.

Finding 15 on the design of the Project M&E system: The design of the Project M&E system was satisfactory although the requirement for quarterly reporting and the number of different types of report suggest this part of the M&E system was burdensome to comply with in full (EQ 3.5).

122. There was a clear and well-designed M&E plan described in the Project document, based on a results framework laying out indicators, baselines and targets for project objectives and outcomes. The indicators were generally SMART. The M&E plan stipulated roles and responsibilities and reporting requirements. The results framework was validated during the Project inception workshop.

123. Table 6 shows that the Project has or was supposed to produce 13 different types of report, two required quarterly, two required semi-annually and three every year. Over the six-year life of the Project, full compliance would have resulted in the writing of over 100 reports, about 17 per year. This level of reporting appears to the Evaluation Team to be burdensome to comply with in full and, in the view of the evaluation team, not all necessary.

Table 7: Types, frequencies and description of reports required by the M&E system

Type of report	Description	Notes
Project Inception workshop report	Workshop held to help confirm Project indicators, baselines and targets.	Workshop report completed, but no confirmation of Project indicators, etc.
Back to Office Reports (BTORs)	Prepared after supervisory and consultancy visits to the Project.	15 seen by ET.
Quarterly Project Progress Reports (PPRs)	Prepared by NPC with support from the TA and the M&E officer to be sent to the LTU and then to the GEF Coordination Unit for information.	One seen by ET (Jan to Dec 2017); two seen by MTR (Mar 2015, Jan 2016).
Quarterly Project Implementation Report (QPIR)	Required the Budget Holder to review approved work plans against actual performance and take and report on corrective action, copied to the GEF Coordination Unit.	None seen.
Semi-annual Project Steering Committee minutes	Prepared under the responsibility of the Chair of the PSC.	16 meetings held; six sets of minutes seen.
Semi-annual report Co-financing	Prepared by the NPC and TA as part of PPRs.	
Annual Work Plan and (annualized) Budget	Prepared by PMU and submitted to PSC, LTU and Budget Holder for approval.	One seen for 2017.
Annual Project Implementation Review (PIR)	Prepared by the LTU, with inputs from PMU and with reference to BTORs and quarterly reporting, sent to the GEF Coordination Unit.	Seven seen – good quality, useful.
Annual Monitoring Review of FAO-GEF Portfolio	Prepared by GEF Coordination Unit based on PIRs from all projects in the FAO-GEF Portfolio.	None seen.

Type of report	Description	Notes
Request for project extension		Four in total (2016; 2017; 2018; 2019).
Mid-Term Evaluation (MTE)	Prepared by independent consultant contracted by GEF Coordination Unit.	Completed in December 2016. No follow up of recommendations.
Project Terminal Report	NPC with support from TA, no later than 6 months before the end of the project, submitted to the PSC and FAO, to be entered into FPMIS.	Not done.
Terminal Evaluation Report	Prepared by independent consultants contracted by FAO-OED.	This Report, to be completed in April 2019.

Finding 16 on the operation of the Project M&E system: The quality of operation of the M&E system varied. In summary, what worked well was PMU reporting on project progress to the LTU, and annual reviews carried out by the BH, LTO and the GEF Coordination Unit. The PSC met regularly and played their role. What did not work so well was reporting on budget and co-financing which constrained the PMU and PSC from managing and reviewing progress. The M&E system proved able to flag issues but less able to follow up on measures to deal with them (EQ 3.6).

124. Aspects of the M&E system were implemented satisfactorily. Table 7 shows the types of M&E report the Project was expected to produce, filled out by the evaluation team based on a review of documentation made available, and interviews with key people responsible for Project implementation and execution. The table suggests that supervisory visits happened as planned and BTORs were subsequently written to a good quality. It shows that semi-annual PSC meetings took place. Annual PIRs and semi-annual (not quarterly) PPRs were written as planned. The evaluation team agree with the assessment that the PPRs were "written following a common format, are synthetic and really helpful to make project achievements, shortcomings and risks understandable to the reader." The PIRs are equally well-written and useful.

125. Reports that were not written, or found to be inadequate, were the QPIRs written by the Budget Holder, the semi-annual report on co-financing and the project terminal report.

126. A complaint of the PSC, flagged by the MTE in 2016, was that the PSC and PCU lacked budget information provided by project output to allow them to review work plans (see Finding 11). Part of the MTE's first recommendation was for the FAO Country Office to "prepare a budget at least at component level, to be shared with the next PSC meeting and then periodically at each PSC meeting." According to the PSC chair, this did not happen as he expected.

127. A second shortcoming picked up by the MTE was that reports would remain unfinished in draft form. Issues would be flagged and left unresolved. The evaluation team found an example of this in the PSC's concern that their request for the project to hire a design consultant to design the landfill near Massawa had not been heeded, even though dealing with contaminated soil in Massawa was a main reason for granting a no-cost extension.

128. Table 7 shows that there were three requests for no-cost extension, which suggests that implementation took place much more slowly than originally planned. Slow procurement, staff hiring and changes in staff were some of the reasons given.

129. A fourth 'exceptional' no-cost extension was requested in December 2018 as a result of a concern expressed by the Steering Committee Chair and the GEF Focal Point to the evaluation team that the project has not yet dealt with the issue of contaminated soil at the Massawa Old Airport site, which had been a main reason for the previous extension. It was also requested because there remained about USD 150 000 unspent funds and the project was due to finish at the end of the month. A third reason for the request was that the feasibility study of the landfill site had recommended land farming, a type of bioremediation, which had not been considered previously and was a possible solution to the problem that was within the budget and timeframe of another extension. The extension was subsequently approved by the GEF Coordination Unit.

130. The evaluation team found that limited progress had been made on the MTE recommendations, perhaps because the TA left soon after the presentation. The one recommendation where good progress was made was for the "NPC to ensure that the other project components (IPM, legislation, communication) are managed with the same attention as the safeguarding activities."

3.4 Gender and environmental and social safeguards

EQ 4: To what extent and how did the project include gender, and environmental and social safeguarding in project design and implementation?

<u>Finding 17 on gender mainstreaming:</u> The Project did little to address gender in project design and implementation. The Project was written before GEF or FAO requirements to explicitly include gender mainstreaming or environmental and social safeguarding. The project was gender blind and did little to change after MTE recommended that gender mainstreaming be ensured (EQ 4.1).

131. When the Project was approved in 2011, there was no requirement from GEF or FAO to include gender mainstreaming[11] or environmental and social safeguarding in project design. Gender is not mentioned at all in the Project document.[12] Not surprisingly then, the 2016 mid-term evaluation (MTE) found "little evidence of gender mainstreaming policies in project implementation".

132. The MTE evaluator analysed participation in Project activities and found that men predominated. He concluded that there is a need for the Project "to increase gender mainstreaming in all project activities" and included a recommendation: "In addition, the Communication Plan should be made compliant with the UN and FAO policies on gender mainstreaming. Gender mainstreaming should be ensured whenever possible in the remaining activities." At the same time, he acknowledged that the Project may have little control in practice.

133. This evaluation found that little had been done with respect to the MTE recommendation on gender. When asked, interviewees were at a loss as to what mainstreaming gender meant in practice. A review of project documents found no particular mention of gender in the Project communications strategy or the communication materials developed subsequently. Gender was mentioned in the farmer field school manual that mentions

[11] According to FAO OED Guidelines, gender mainstreaming is "the process of assessing the implications for women and men of any planned action, including legislation, policies and programmes in all areas and at all levels."
[12] Word search of ERI_Prodoc.pdf

gender analysis and says it is "important to ensure a gender balance in the group of trainees and it is also important to include women facilitators in the program." The LTO used the final report of the Safeguarding Project to recommend that the government do more to encourage the participation of women in agriculture after finding that only three of the 25 trained IPM FFS facilitators were female.

Box 6. Minimum standards for gender mainstreaming

1. Gender analysis is incorporated in the formulation of all field programmes and projects, and gender-related issues are taken into account in project approval and implementation processes.

2. All programme reviews and evaluations fully integrate gender analysis and report on gender-related impacts in the areas they are reviewing (FAO, 2013).

134. The Project may have responded more actively after the MTE if more specific suggestions had been provided. The MTE could have recommended the preparation of an Environmental and Social Commitment Plan (ESCP) that would have listed actions for the project to take in order to achieve compliance with the standards in remaining project activities, e.g. collection of sex-disaggregated data in the final KAP survey that was planned, and mainstreaming of gender in communication and awareness products.

135. The Project should have been screened against the minimum environmental and social standards when these were developed in 2015. If the project was rated as having moderate or high risk the FAO should have facilitated completion of the Environmental and Social Risk Management training module by the LTO, CTA and NPC, to equip them to effectively support project compliance.

Finding 18 on environmental and social issues: With respect to social issues, the project did prioritize the safeguarding of the sites that represented the greatest immediate risks to human health over all other work, supported by the PSC (EQ 4.2). The development of a comprehensive communications strategy and production of multi-media material will contribute towards raised public awareness of risks posed by pesticides. Minimum standards for environmental safeguarding stipulated by GEF and FAO were met through the development of risk-based Environmental Management Plans, detailed feasibility studies for selection of a site for the proposed landfill.

136. The global objective of the Project "to eliminate risks from POPs and obsolete pesticides in Eritrea through the use of sound environmental management methods to dispose of existing stocks and prevent further accumulation of POPs and obsolete pesticides" is geared directly towards environmental protection and improving living conditions of people near project sites. Disposal of obsolete pesticides is a complex and highly risky operation with risks being present along the whole chain from inventory, repackaging, transport and final disposal. Repackaging, transport and final disposal pose highest environmental risk and the safeguarding team is at particularly high risk due to possible contact with the chemicals or waste. The safeguarding team in Eritrea were well trained and no accidents that may have resulted in significant risk of contamination to the environment or human lives were reported.

137. In order to mitigate possible reputational risk for project donors and partners design and implementation of projects should ensure that environmental and social safeguards are rigorously enforced and responsibilities of stakeholders made clear. GEF and FAO provide guidelines to ensure that there are negligible negative environmental impacts associated with implementation of project activities. The criteria and minimum requirements on environmental and social safeguards that are to be applied to all GEF-funded projects are listed in the GEF document *Policy Environmental and Social Safeguards 2015*. The criteria relevant for this project include:

i. minimum standard 1: Environmental and social impact assessment
ii. minimum standard 2: Protection of natural habitats
iii. minimum standard 3: Involuntary resettlement
iv. minimum standard 4: Pest management
v. minimum standard 8: Accountability and grievance systems

138. In 2015, FAO published revised environmental and social guidelines for the management of risk in its strategies, policies and field projects and all projects supported by FAO are required to meet minimum Environmental and Social Standards (ESS). Activities of the POPs project were linked directly to ESS1: Natural Resource Management; ESS2: Biodiversity, ecosystems and natural habitats and ESS5: Pest and pesticide management. Ideally environmental and social safeguards should be detailed during the project design process with the LTO screening and classifying the project, and where required ensuring that the relevant standards are triggered.

139. Although adherence to minimum standards required by GEF and FAO was not made explicit in project design, design and implementation of the Project included precautions and best practices that mitigated risks addressed by these standards. A detailed Country Environmental and Social Assessment (CESA) was carried out as part of preparation for the project. Environmental assessments were carried out by independent external experts, meeting requirements for moderate or high-risk projects. An international consultant was engaged to develop a risk-based EMP to guide remediation activities. Duties of the consultant included evaluating available alternatives for treatment including environmental impacts and social upheaval of nearby residents.

140. The Department of Environment in MoLWE issued environmental clearance for construction of a landfill for hazardous waste at Lahzien in sub District Foro in 2016. The project invested extra time and budget to carry out a second feasibility study to ensure that all environmental and social considerations had been attended to. The objective of the second feasibility study carried out by independent experts was to "contribute to better protection of public health and environment by reducing the risk posed by hazardous pesticides in the region." The study confirmed suitability of the site which is uninhabited and not in close proximity to water sources. Involuntary resettlement was avoided although a small group belonging to a nomadic tribe would have to avoid using the area after the landfill has been constructed. There could still be merit in establishing an accountability and grievance system to facilitate timely response to future complaints that may arise related to adverse effects of project implementation, such as the proposed landfill.

141. Inclusion of stakeholders in the project design process affords opportunity for highlighting and integrating social concerns that are specific to the project sites or social groups. The project document identified two NGOs involved in raising awareness about risks posed by pesticides whose activities would be supported by the project (The Eritrean Social Marketing Group and Toker, a local agricultural NGO). However, no further mention is made of these groups during project implementation

142. Positive social impacts of the Project included investment in training and development of multi-media material to raise public awareness about safe handling of pesticides. The activities of components two and three of the project (strengthening pesticide life-cycle management and development of a comprehensive communication strategy) are geared towards achievement of long-term environmental benefits of reduced risk of contamination from obsolete pesticides. The GoE is also promoting the adoption of IPM strategies which maximize agricultural production without compromising the sustainability of agro-ecosystems. Sites were prioritized for safeguarding and remediation based on hazard posed to human health and ecosystems. Although remediation of contaminated sites was not completed, safeguarding and disposal activities demonstrated immediate benefits to the living conditions of people around project sites whereas benefits to the environment may only become evident with the passage of time. Other project activities could have been modified to reduce risk, such as the EPC management strategy of triple rinsing which produces large quantities of contaminated water which may pose further risk to humans and the environment if not properly disposed.

143. The Project was concerned about the health of families and communities living in close proximity to pesticide stores. The evaluation team found frustration among PSC and PMU that the Project had not been able to safeguard and remove contaminated soil from the Old Massawa Airport nor demolish and remove Daeropaolos Store at Asmara. Both are in populated areas and are endangering human health. Indeed, the implicit priority towards safeguarding and disposal, as evident in where funding has gone, could be taken as evidence of concern dealing with clear and pressing danger to health and wellbeing.

3.5 Sustainability and scaling

EQ 5: How can Project results be sustained and scaled to achieve the Project goal?

<u>Finding 19 on sustaining and scaling Project results:</u> The Project has generated results that require different approaches to be sustained and scaled: some have developed a momentum of their own and require no further project intervention (self-sustaining, e.g. government FFS/IPM rollout), some require further support to become self-sustaining (stepwise, e.g. UPC disposal) and some will always require public funding (contiguous, e.g. overseas disposal) (EQ 5.1).

144. The main project results with the potential to be sustained and scaled were identified by key project staff and stakeholders in the Inception workshop (see Section 1.4). The evaluation team validated the selection during their field trip and review of project documentation. The results are shown in the first column of Table 8 together with the actions the evaluation team and Inception workshop participants think are required to sustain and scale the result, and the underlying causal mechanism that will be necessary to achieve sustained impact.

145. In the fourth column, the evaluation team uses the three types of project result in Section 2.2. to indicate the project results they think can be sustained and achieve wider impact with little or no external (project) intervention (self-sustaining), which still require further investment to become self-sustaining (stepwise) and which will always require project funding (contiguous).

146. The analysis shows that the Project's main result of safeguarding and disposing of 364 tonnes of obsolete pesticides is contiguous in that it depended on several million dollars of funding, without which it would not have happened. Future safeguarding and international disposal will need a new project with new funding.

147. The Project's other main outcome of influencing government policy towards IPM is self-sustaining because IPM has recently been identified as one of the government's priorities for Ethiopia. The Ministry of Agriculture has stipulated that every ward should have a farmer field school. IPM can be expected to have a life of its own without further Project support. However, the length and success of that life will depend crucially on whether IPM lives up to expectations. There is a danger scaling IPM and farmer field schools out too quickly will overstretch the cadre of experienced trainers leading to poor quality of implementation. If unattainable expectations for IPM lead to a reduction in imports of pesticide, farmers could be left without crop protection, or having to rely on illegal imports.

148. The other outcomes are stepwise, in that they require future investment and action to deliver on their potential. Several outcomes were delayed and/or had their funding reduced to pay for disposal cost overruns.

Table 8: Expected project results, further actions, impact pathways and their underlying mechanisms

Project result	Further action required for the result to continue	Underlying mechanism that can sustain the result	Type of result	Impact pathways from ToC
Obsolete pesticides and associated material are safeguarded and disposed of.	Requires continuous funding until all contaminated material and stockpiles are safeguarded and disposed of.	Acceptance that safeguarding and disposal is a public good to be funded by the government while at the same time improving pesticide life cycle management to prevent future stockpiles.	Contiguous.	a.
Competent safeguarding team established.	Same as above.	Same as above.		d, b.
Team sells its expertise to train teams in other countries.	Contiguous.	d, b.		e, a.
Empty container and contaminated sprayer disposal.	Implementation of agreed disposal method (conversion by heat into fuel in a gasification plant).	Gasification plant is paid for by the fuel it generates and in turn pays for empty plastic containers (with likely necessary subsidy from government).	Stepwise.	f, b.
New pesticide legislation approved.	Pesticide legislation is put into law and implemented.	Sufficient political support to pass the legislation.	Stepwise.	i, j, b.

Project result	Further action required for the result to continue	Underlying mechanism that can sustain the result	Type of result	Impact pathways from ToC
IPM approaches developed and adopted.	None - IPM enjoys strong political support and is written into government policy.	The successful roll-out of farmer field schools across the country allows the approach to keep its political currency.	Self-sustaining.	k, l, c, b, c.
Pesticide risk awareness campaign implemented.	Roll out full-scale awareness campaign using materials already developed and measure results.	Acceptance that there is a need for future awareness raising to be funded by government.	Stepwise.	

<u>Finding 20 on Project impact:</u> The Project has made reasonable progress towards its goal. Analysis of the Project's theory of change finds that the Project has made progress along 8 out of its 12 impact pathways. The Project has likely reduced existing and future risk from pesticides by: safeguarding and disposing of 364 tonnes of obsolete pesticides and associated waste; establishing and building the capacity of a competent safeguarding team; and, contributing to the nation-wide rollout of IPM/FFS. Pathways where more progress might have been expected include: safeguarding critical sites; EPC disposal; passing of pesticide legislation; and mounting an awareness campaign. Further work is required to sustain and amplify all pathways, in particular the ones where progress has not yet been made (EQ 5.2).

149. The fifth column of Table 8 shows the impact pathways in the Project theory of change (Figure 3) needed to translate the results into impact. The letters in bold indicate pathways where the evaluators have found evidence that the Project has made some real progress. Out of 12 pathways, the project has made progress along eight, indicating that the Project has made reasonable progress towards its goal.

150. The narratives of the eight impact pathways can be written out. The three main ones are:

i. The Project's safeguarding and disposal work has likely reduced risk to human health from existing stocks of obsolete pesticides and related contaminated material.

ii. The Project's safeguarding and disposal work has led to a competent national team, the existence of which will strengthen the country's management of the pesticide life cycle (if the team is used). Safeguarding and disposal of future stockpiles of obsolete pesticides will reduce the risk to human health in the future.

iii. The Project's successful work on IPM likely contributed to the decision by the Ministry of Agriculture to roll out IPM and farmer field schools across the country. This will likely lead to a reduction in the use of pesticides, at least in the short term. Whether that reduction is maintained, or if there is better use of pesticides, or if this leads to a reduction in future risk from pesticides, depends on the success of the roll-out.

151. Clearly, what needs to be done to further reduce risk from pesticides in Eritrea (the Project's goal) is to work on all the pathways. Much more needs to be done, starting with the priority actions listed in Table 8. With respect to IPM, it will be crucially important to support the nationwide roll-out of farmer field schools to ensure IPM is seen to be a viable alternative to indiscriminate use of pesticides.

4. Conclusions and recommendations

152. Footnotes indicate the findings that each conclusion is based on. The findings relate to the evaluation questions in the evaluation matrix (Annex 2). The recommendations indicate the conclusions from which they derive. Hence the reader can trace recommendations through conclusions and findings back to the evaluation questions.

4.1 Conclusions

153. Footnotes indicate the findings that each conclusion is based on. The findings relate to the evaluation questions in the evaluation matrix (Annex 1). The recommendations indicate the conclusions from which they derive. Hence the reader can trace recommendations through conclusions and findings back to the evaluation questions.

Conclusion 1. The Project is relevant to global and national efforts for reducing and eliminating risks due to pesticides.[13]

154. The Project is relevant at global and national level. The Project's objective – to eliminate risks from POPs and obsolete pesticides in Eritrea and prevent further accumulation – contributes to SDG2 and SDG12, to FAO's strategic framework to increase sustainable food production and to GEF4's focus on POPs and sound pesticide management. The Project was aligned with the objectives of the Basel, Rotterdam and Stockholm Conventions. At national level, the Project contributed to a number of priorities identified in Eritrea's NIP on POPs, including increasing public awareness and reducing the impact of POPs on human health and the environment.

Conclusion 2. The Project's main successes have been the safeguarding and disposal of 364 tons of obsolete pesticides[14] and in contributing to the nationwide adoption of FFS and IPM.[15] The Project did not achieve several important results relating to better pesticide life cycle management in part because funding was cut to spend on safeguarding and disposal.[16]

155. The Project built a competent safeguarding team in the process of disposing of obsolete pesticides. The team can help reduce risk from obsolete pesticides in the future. However, in achieving the success, safeguarding and disposal took resources and attention away from other Project outputs. With respect to IPM, the Project is said to have influenced a recent government policy that every ward in the country should have an FFS. There is, however, a risk that FFS/IPM will be rolled out before there is adequate capacity to run large numbers of FFS across the country.

156. The Project made only a modest contribution towards addressing gaps in pesticide life cycle management other than increased knowledge of and capacity to undertake IPM. Planned-for results that were partially achieved include:

    i. pesticide legislation – a document originally drafted in 2008 was translated by the Project and now awaits further validation before passing into law;

[13] Findings 1 to 3
[14] Findings 4, 5 & 12
[15] Findings 6 & 19
[16] Findings 7 to 10

ii. disposal of empty plastic containers – agreement reached to gasify and turn plastic containers waiting for an electricity supply and further detailing of the concept note requested by the MTE;

iii. awareness campaign on pesticide risk and how to reduce it – materials for a media campaign have been developed and the next step is to run the campaign.

157. Plans that were cancelled include:

i. building of a central store for pesticides;

ii. establishment of a laboratory to test for pesticide residues;

iii. institutionalization of PSMS.

Conclusion 3. While the Project achieved real success, there were shortcomings in the quality of some areas of Project execution and implementation that contributed to a three-and-a-half-year delay in finishing the Project. Delays were also a feature of POPs projects in Mozambique and Botswana reviewed by the same evaluation team. Delays were also a feature of the African Stockpiles Program, suggesting the potential for lesson-learning across similar POPs projects.[17]

158. Execution, as defined by GEF, is the responsibility of the PMU and BH. The former was not properly established with an office to regularly meet and plan, that might have allowed greater participation from MoLWE. The BH role was moved from FAO Rome to FAO Eritrea, in part to improve access to financial information. Despite this, the MTE made a recommendation to improve financial information provided to the PSC, which was only partially accomplished. A lack of detailed reporting on expenditure of co-financing, as well as loss of information as a result of staff turnover, makes it impossible to know how co-financing was allocated to Project components.

159. Project implementation, as defined by GEF, is to do with project supervision. There were also shortcomings in the quality of some aspects of Project implementation, partly as a result of a high turnover in AGP staff in 2015 and 2016, and the large number of other projects for which they were also responsible. As a result, procurement was sometimes delayed which led to delays in execution. A result of the problems with execution and implementation was the need for four no-cost extensions and the Project finishing three and a half years later than planned. Nevertheless, the Project was able to adapt to delays and setbacks and deliver some extremely important outcomes that no one else could have delivered.

Conclusion 4. The design of the M&E system was fit for purpose. The system proved effective at raising issues but less able to follow up on measures to deal with them.[18]

160. The design of the Project M&E system was satisfactory except for the large number of reports specified in the Project document that would have been burdensome if all had been produced. The quality of the PIRs was high. Two shortcomings were: the lack of a

[17] Findings 13 & 14

[18] Findings 15 & 16

management response to the MTE and subsequent supervisory follow up; and, the absence of detailed reporting on co-financing.

Conclusion 5. The Project worked to safeguarded the environment and human health by reducing current and future risk from obsolete pesticides and associated materials, including POPs. It did little to engage with gender.[19]

161. The Project did little to engage with gender or social inclusion. Likely, more would have been done if gender and social inclusion had been written in from the start of the Project, and if the MTE recommendation to ensure gender mainstreaming had been much more specific.

Conclusion 6. The Project has produced three different types of result for which the approach to sustainability and scaling differ. In delivering the results, the Project has made progress along 8 out 12 of its impact pathways towards its objective, which is acceptable given difficulties faced.[20]

162. The three types of result produced by the Project are:

i. self-sustaining – the result needs no further project support to be adopted and scale, e.g., the work on IPM that has helped make IPM a national priority;

ii. stepwise – the result is interim and more needs to be done to become self-sustaining, e.g., the work on disposal of UPC. Other stepwise results include passing of pesticide measurement legislation and launching a public awareness campaign on the risk posed by pesticides;

iii. contiguous – sustaining and scaling the result requires continuous and growing levels of funding, usually from government or donors, e.g. overseas disposal of obsolete pesticides using high temperature incineration.

163. The 12 Project impact pathways derive from the Project theory of change developed by the evaluation team based on the Project Document and Project implementation. Safeguarding and overseas disposal is expensive and can be sustained only when there are funds available. For other results, such as disposal of empty plastic containers, an underlying mechanism may exist, for example, profit motive, that could see a sustainable solution put in place. The Project has made progress towards its objective, but less than expected, particularly with results that need an underlying mechanism, to make them work. Some results are still not achieved despite pursuing them for more than ten years across multiple projects and no-cost extensions. The reasons why they have not worked should be unpacked before future attempts are made to finally achieve them.

4.2 Recommendations

Recommendation 1. To the Project Steering Committee (PSC) members to ensure steps continue to be taken to reduce risk from existing stocks of obsolete pesticides and associated waste (based on Conclusion 2).

164. It is recommended that the PSC mobilizes resources to:

[19] Finding 17 & 18
[20] Finding 18 & 20

i. export for high temperature incineration remaining quantities of about 30 tonnes obsolete pesticides (about six tons are safeguarded and about 24 tonnes requires safeguarding); 792 highly contaminated metal drums that have been cut, cleaned and stored at Daeropaolos Store; about 500 empty contaminated metal drums are yet to be safeguarded;
ii. dispose of 70 tonnes of obsolete Actellic 2 percent either by exporting it to the Ghedem Cement Factory for destruction by incorporating it into cement making processes, or by following recommendations contained in the Green Cross feasibility report to dispose of the waste in a local domestic landfill or a newly built landfill facility that will be designed to accommodate hazardous waste;
iii. complete safeguarding of contaminated soil at Aligeder and 21 additional sites with heavily contaminated soil.

165. It is recommended that urgent action is taken to reduce risk to communities residing near Massawa Old Airport contaminated pits by implementing either of the recommendations contained in the Green Cross feasibility report. The following options were presented for decontaminating the Massawa site:

i. if no contaminants besides fenitrothion are detected, the contaminated soil may be excavated and remediated through landfarming. This would be in line with the preference of the Governor of the Northern Red Sea Administration for a permanent and sustainable solution for the contaminated soil;
ii. if other contaminants besides fenitrothion are present, the contaminated soil should be safeguarded and disposed of in a dedicated landfill yet to be constructed.

166. The contaminated store at Daeropaolos should be demolished and rubble exported to a dedicated landfill for disposal. The site should then be remediated following expert recommendations for the activity.

167. It is recommended that funds are sourced for design and construction of the landfill for hazardous waste at Lahzien Hairore, Foro sub region. If the Government of Eritrea intends to request funding from FAO and GEF Environmental Assessments and EMPs will have to be conducted in line with these organizations' environmental and social safeguards.

168. PSC to consider requesting FAO (AGPMC and LEGN to review the draft pesticide legislation once more before the project closes to ensure the draft is in line with current developments (e.g. HHPs, the revised FAO/WHO Code of Conduct on Pesticide Management). The legislation has been in draft form for several years.

Recommendation 2. To the PSC members to continue to take steps to prevent further accumulation of obsolete pesticides and waste (based on Conclusion 2).

169. It is recommended that the PSC:

i. Expedite the process to enact the revised draft pesticide legislation. Organize training to build capacity for national pesticide regulatory staff to implement the new legislation.
ii. Provide budgetary support to replicate IPM FFS on tomato in all regions and expand it to other crops.

iii. Finalize, put into writing and implement agreement with Scarico municipal landfill for recycling of empty plastic containers while at the same time facilitate the removal of remaining obstacles, e.g., lack of three-phase electrical supply.
iv. Mobilize funds for construction of a central pesticide warehouse to be used for storage of pesticides for use in controlling migratory pests, storage of future stocks of safeguarded obsolete pesticides and storage of pesticides prior to distribution for use.
v. Investigate options for accessing more affordable laboratory services, preferably within the region, for quantifying and characterizing pesticide contamination.
vi. Roll out the mass communications campaign to disseminate information on safe handling of pesticides and risks associated with pesticides and their waste.
vii. Request support from FAO to help re-evaluate if and what sort of pesticide stock management system is required to strengthen pesticide life cycle management. Assuming PSMS remains a priority, develop a system that is compatible with existing internet connectivity and an institutionalization plan which recognizes that this should go well beyond the adoption of a data management system.

Recommendation 3. To FAO and to the PSC to help ensure the success of nationwide roll-out of IPM/FFS in Eritrea (based on Conclusion 2).

170. This recommendation is made given the risk that nationwide roll-out of FFS may happen before FFS facilitators have been properly prepared. It is also made cognizant that FAO, in promoting IPM in Eritrea and elsewhere, must take some responsibility in ensuring broad adoption brings benefit to farmers. It is recommended that:

i. FAO should support the conversion of the Project output "Farmer Field School for Integrated Pest Management in Tomato in Eritrea – A Facilitator's Field Guide" into much shorter and simpler guidance, translated into local languages, aimed at the hundreds of FFS facilitators liable to be called upon to set up FFS as part of nationwide roll-out. The current document is too long and theoretical to be field guide. Part of the work would involve broadening the guidance beyond that for tomato.
ii. Both FAO and the PSC should agree a joint strategy as to how they best support the roll-out of IPM in Eritrea such that the pace of roll-out is matched to the capacity to do it well, and FAO's gender equality objectives are addressed.

Recommendation 4. To the PSC, FAO and GEF to learn lessons to improve implementation, execution and gender equity in future projects to reduce risk from pesticides in Eritrea and globally (based on Conclusion 3).

171. In Eritrea, it is recommended that the PSC, FAO and GEF:

i. Ensure that the causes for delay in this Project (summarised in Conclusion 3) are acknowledged and avoided in any future proposal development for projects to reduce risks from pesticides.

172. Globally, it is recommended that, FAO and GEF:

i. Streamline the reporting system expected of similar projects to what is practical, useful and commensurate with budget provided. Then make sure the reports are produced and uploaded into FPMIS or similar.

ii. In particular, ensure monitoring and detailed semi-annual reporting of co-financing happens and that a management response to mid-term evaluation findings is produced and acted upon.
iii. Carry out an after-action review based on Eritrea's and other POPs projects' experiences to identify and understand common patterns that may shed light on underlying mechanisms and structural issues that thwart gender equity and efficient and effective implementation leading to timely, equitable and sustainable outcomes.

Recommendation 5. To PSC and FAO to ensure gender is mainstreamed into plans to sustain and scale Project results and to FAO and GEF to mainstream gender into projects whose preparation did not follow FAO's environmental and social standards (based on Conclusion 5).

173. It is recommended that the PSC and FAO develop a plan for mainstreaming gender into future plans to sustain and scale Project results. At a minimum this should involve ensuring that gender-specific messages are incorporated into: the pesticide risk communication and awareness campaign; and, IPM guidance material. In general, the PSC and FAO should push to include gender equity considerations as part of their support to the roll-out of IPM and FFS in Eritrea.

174. It is recommended that FAO and GEF projects that started before the development of FAO's environmental and social standards should be screened against the minimum set, at least during the MTE. Staff of projects rated as having moderate or high risk should be given the Environmental and Social Risk Management training module and the project should prepare an Environmental and Social Commitment Plan (ESCP). Implementation of the plan should be monitored to achieve compliance with the standards in remaining project activities.

Recommendation 6. To PSC and FAO to ensure that reducing the risk from pesticides remains a priority for the government (based on Conclusion 6).

175. This recommendation is made given that sustaining and scaling several Project results depends on continued government support for reducing the risk from pesticides.

i. It is recommended that the PSC and FAO, individually and together, take opportunities to raise and maintain awareness of the risk from pesticides within the MoA, MoLWE and MoH.
ii. The suggestion is to link this to the PSC's and FAO's contribution to the successful roll-out of IPM.

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Appendix 1. People interviewed

	First Name	Last Name	Organisation and location	Role
1.	**Adiom**	Berhane	PSD	SAS/FS
2.	**Alganesh**	Ghebrekristos Berhe	FAO Eritrea	Programs assistant, Steering committee
3.	**Asghedorn**	Tewelole	FAO Eritrea	Programme Officer
4.	**Aster**	Redizhgi	MoLWE	Director Environment and Management Division. Basel Convention Focal Point, Member of the Steering Committee
5.	**Baogen**	Gu	FAO AGPMC	Senior Agricultural Officer. Pest and Pesticide Management Unit, Team leader
6.	**Bereke**	Okbamicael		FFS facilitator
7.	**Bereke**	Gebreselosi	MoA. Mendefera sub region	Head of Extension, FFS facilitator
8.	**Elisabetta**	Tagliati	FAO AGPM	Agricultural Officer, Lead Technical Officer
9.	**Erimas**	Asmolash	MoA	Head of Horticultural Unit, FFS Coordinator
10.	**Erimas**	Asmolash	MoA	Head of Horticultural Unit, FFS Coordinator
11.	**Eyob**	Syium Andom	Mendefera Sub Region	Head of Plant Protection, Member of the Steering Committee
12.	**Eyob**	Syium Andom	Sub-Zoba Mendefera	Head of Plant Protection, Member of the Steering Committee
13.	**Ghenet**	Tezfazion	FAO	Head Administrator, Administrator
14.	**Giulia**	Calcagnini	FAO AGPMC	Programme Officer, Programme Officer
15.	**H.E. Arefaine**	Berhe	MoA	Minister
16.	**Hailezghi**		Eri Bio diesel & recycling factory	Manager
17.	**Hogos**	Haile	MoA Debub Region	Head Plant Protection, Participated in project from 2016
18.	**Ivy**	Saunyama	FAO AGPMC	Agricultural Officer, Lead Technical Officer (LTO)
19.	**Johannes**	G/Welsi	RSD MoA	Safeguarding
20.	**Kaleab**	Haile	RSD MoA	National Project Coordinator
21.	**Kaleab**	Haile Mokonnen	RSD MoA	National Project Coordinator
22.	**Kibrom**	Asmorom	Environmental Assessment Division	Stockholm Convention Focal Point , Member of the PMU
23.	**Kidane**	Yohanes	MoA. RSD	Safeguarding team
24.	**Kidane**	Yohanes	RSD MoA	Safeguarding team
25.	**Kuena**	Morebotsane	GEF Coordination Unit	TCI-GEF Funding Liaison Officer ,
26.	**Luwam**	Mengs	AED	FFS
27.	**Mengisteab**	hailemichael	Mendefera Sub Region	Farmer , Participated in IPM FFS
28.	**Michael**	Yacob	Debub NARI	IPM TT
29.	**Michael**	Stephanos	Japan International Cooperation Agency	Liaison Officer, Donor
30.	**Mogos**	WeldeYohannes	Department of Environment. MoLWE	Director General, GEF Focal Point

	First Name	Last Name	Organisation and location	Role
31.	**Oxana**	Perminove	FAO AGPM	
32.	**Prof**	Adugna Haile	Hamelmalo College of Agriculture	Lecturer, National Consultant
33.	**Prof**	Adugna Haile	Hamelmalo College of Agriculture	Lecturer, National IPM Consultant
34.	**Rezene**	Ghiwet	Agricultural Inputs and Pest Control Services	Owner , Private Sector
35.	**Robel**	Haste	PSD	SAS/FS
36.	**Robiel**	Haile	PSD	SAS/FS
37.	**Saeed**	Abubakar Bancie	FAO Eritrea	FAO Rep, Representative
38.	**Selam**	Mehnteab	Ministry of Health	Director malaria program, Member of SC
39.	**Semere**	Yohannes	MoLWE. Northern Red Sea Region	Head of the Environment Unit , Local authority responsible for contaminated Massawa soil
40.	**Sherit**	Mekonnen	RSD MoA	Safeguarding/ Communication
41.	**Shida**	Tekley	RSD MoA	Communication
42.	**Tekleab**	Mesghena	Regulatory Services Dept. MoA	Director General, Chair of steering committee
43.	**Tekul**	Berkia	MoA. Debub Region. Senefa Metera Sub Region	Director of Crop Production, Trained in FFS

Appendix 2. GEF ratings table

In order to facilitate comparison of GEF projects the evaluation team was asked to rate the success of the Project according to the GEF criteria following the usual six-point scale. The rating and comment for each criterion are given below. An overall rating is given at the bottom of the table.

GEF - FAO criteria/sub criteria[21]	Rating[22]	Summary Comments[23]
A. ASSESSMENT OF PROJECT RESULTS		
1. Overall quality of project outcomes[24]	MS	
1.1. Relevance	HS	Project objectives are well aligned with FAO and GEF strategic objectives as stated in section 3.1. The Project is fully aligned with national policies & strategic objectives on POPs, and with main international chemical conventions to which the country is party.
1.2. Effectiveness	MS	The Project has had major successes in terms of disposing of 364 tonnes of obsolete pesticides and associated waste, building the capacity of a competent safeguarding team and influencing the decision roll-out IPM / FFS across the country. A number of important results were not achieved, but this should be seen in the context of implementation and execution challenges faced by the CPU.
1.3. Efficiency	MU	The Project could have been expected to achieve more considering it was extended by more than three years. There were long delays in procurement, the PMU was not properly established as a team and budget was not properly monitored allowing an overspend of more than USD 250 000 on safeguarding and disposal.
B. PROJECT IMPLEMENTATION AND EXECUTION RATING		
2. Quality of project implementation	MU	Project procurement decisions often took longer than envisioned due in part to high staff turnover in the LTU and the large workload they were under. This led to delays in execution. Implementation staff agreed to a transfer of the Budget Holder to FAO Country Office in Eritrea and were aware of issues that emerged, and, despite efforts being made, were not able to resolve them. The recommendations of the MTE were not proactively followed up.
3. Quality of project execution	MS	Despite shortcomings with the Budget Holder and the PMU, the Project was able to assemble a competent Disposal team. The PMU make good progress on IPM and communications after the MTE flagged an over emphasis on disposal. Eritrea is the only one of the three countries that initiated IPM FFS with a lot of support from the government.
C. MONITORING AND EVALUATION (M&E) RATING		
4. Overall quality of M&E	MS	
4.1. M&E Design	S	The Project M&E design was fit for purpose although the number of reports specified initially was burdensome and unnecessary.
4.2. M&E Plan Implementation	MU	Monitoring reports were produced on a regular basis that allowed for issues to be identified. The PSC were well informed and took an active interest in Project implementation and execution. Shortcomings were: not providing some of the financial information requested by the PSC; lack of detailed reporting on co-financing; lack of follow up on MTE recommendations; and, leaving reports in draft form and not uploading them into the FPMIS (which made this evaluation harder).
GEF - FAO criteria/sub criteria	**Rating**	**Summary Comments**
D. SUSTAINABILITY OF PROJECT OUTCOMES		

[21] Please refer to the TOR for te GEF rating scheme used.

[22] See rating scheme at the end of the document.

[23] Include reference to the relevant sections in the report.

[24] Assessment and ratings by outcome may be undertaken if there is added value. A composite scoring of all outcome ratings, however, is not advised.

GEF - FAO criteria/sub criteria	Rating	Summary Comments
5. Overall likelihood of risks to sustainability	ML	
5.1. Financial risk	MU	While there is a stated commitment on the part of the government (Minister of Agriculture, DG of Regulatory Services Department and from the MoLWE) there is no clear plan for budgetary support for components requiring further action after project termination. Financial viability of EPC strategy has not been made clear. Future disposal activities through high temperature incineration would need substantial funding and it is not clear if or when that funding will be available again.
5.2. Socio-political risk	L	Government has demonstrated great ownership & political will in this project and previous efforts on pesticide risk reduction.
5.3. Institutional risk	ML	There are concerns regarding conflicting priorities among partner departments. MoLWE was at odds with MoA in whether to prioritize dealing with contaminated soil in Massawa over completion of other project activities. MoLWE felt they had not been sufficiently involved in safeguarding activities.
5.4. Environmental risk	ML	Long term strategies for environmental protection (such as construction of a landfill and central storage warehouse, implementation of a strategy for EPC management) have not materialized.

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

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