



Prevention and Disposal of Persistent Organic Pollutants
(POPs) and Obsolete Pesticides in Eritrea Phase II

GCP/ERI/014/GFF
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Mid Term Review Report



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ACRONYMS AND ABBREVIATIONS

AGP	Plant Production and Protection Division
CO	Country Office
EA	Executing Agency
FFS	Farmer Field School
GoE	Government of Eritrea
HQ	Head Quarter
HTI	High Temperature Incineration
IA	Implementing Agency
IC	Information and Communication
IPM	Integrated Pest Management
KAP	Knowledge Attitudes and Practice
LSD	Legal Services Department
LTU	Lead Technical Unit
MoA	Ministry of Agriculture
MoLWE	Ministry of Land, Water and Environment
NARI	National Agricultural Research Institute
NIP	National Implementation Plan of the Stockholm
NPC	National Project Coordinator
NTC	National Technical Consultant
OP	Obsolete pesticides
PIR	Project Implementation Review
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
PPE	Personal Protective Equipment
PSC	Project Steering Committee
PSMS	Pesticide Stock Management System
RSD	Regulatory Service Department of MoA
SAICM	Strategic Approach to International Chemicals Management
SC	Stockholm Convention
STAP	Scientific and Technical Advisory Panel
TA	Technical advisor
TCI	Investment Centre Division



1 INTRODUCTION

1.1 PROJECT SUMMARY

The project “Prevention and Disposal of Persistent Organic Pollutants (POPs) and Obsolete Pesticides in Eritrea Phase II (GCP/ERI/014/GFF)”, the object of this evaluation report, has been designed to eliminate stockpiles of Persistent Organic Pollutants (POPs) and other obsolete pesticides in Eritrea, and to make sustainable improvements in pesticide management in order to reduce the threats these chemicals pose to human health and the environment. Building capacity in Integrated Pest Management (IPM) approaches helps to rationalize pesticide use in the farming sector and lead to economic, environmental and health benefits.

Eritrea has a legacy of environmental degradation and public health impacts from POPs dating from the 1950s. In 2008 FAO, with support from the Governments of Japan and the Netherlands, completed the preparation project ‘Prevention and Disposal of Obsolete Pesticides in Eritrea (inventory and CESA) Phase I’. This project identified 400 tonnes of obsolete and unknown pesticides and approximately 1400m² of contaminated soil; 12 000 empty containers and 5 400 contaminated sprayers.

As there are no suitable facilities within Eritrea for the environmentally sound disposal of POPs and obsolete pesticides, following the recommendation of the Scientific and Technical Advisory Panel of the Global Environmental Facility (GEF/STAP), the project envisages that all obsolete pesticides (including POPs) are shipped to a suitable High Temperature Incineration (HTI) facility. For the contaminated materials more detailed assessment and evaluation of the most appropriate environmental option, based on the risks posed to the environment and public health, are necessary prior to implementation.

In the course of project preparation, weaknesses in pest and pesticide management in Eritrea have been also identified. The excessive and inappropriate use of pesticides has heavily impacted citrus production in Eritrea, for example. The project therefore includes an IPM component, initially focused on citrus and then shifted to tomato crops.

The project includes therefore the following components:

- Component 1: Disposal of POPs and other obsolete pesticides and remediation of contaminated materials
- Component 2: Capacity building for pesticide life-cycle management
- Component 3: Information and communication

The main national executing institution is the Regulatory Services Department of the Ministry of Agriculture (MoA). The project also works in close partnership with the Ministry of Land, Water and Environment (MoLWE), in particular with the focal point for the relevant conventions (Stockholm, Basel and Rotterdam) and for Strategic Approach to International Chemicals Management (SAICM).



FAO provides the necessary support to project execution through the provision of targeted technical guidance from the Lead Technical Unit (LTU), in this instance the Pesticide Risk Reduction Group within the Plant Production and Protection Division (AGP). Financial management and procurement are provided through AGP, the local FAO representation in Eritrea and the FAO procurement service. Project Supervision is provided by the LTU, the FAO-GEF Coordination Unit in the Investment Centre Division (TCI) and relevant units in FAO. The project is being implemented in conjunction with and benefiting of substantial co-financing from the Japanese funded project “Safeguarding and Disposal of Obsolete Pesticides in Eritrea” (GCP/ERI/017/JPN) which focuses on the safeguarding and disposal of the obsolete pesticides (OP). A Technical advisor has been recruited to support Execution of both projects.

1.2 NOTES ON PROJECT HISTORY

The FAO-POPs project in Eritrea “Prevention and Disposal of Persistent Organic Pollutants (POPs) and Obsolete Pesticides in Eritrea Phase II (GCP/ERI/014/GFF)” was launched in November 2012. The table below summarizes the key project dates.

KEY PROJECT STEPS	DATES
Council PIF Approval Date	2009-06-24
PPG Approval Date	2009-12-11
CEO Endorsement Date	2011-04-28
GEF Agency Approval Date	2011-05-18
Signature of GCP agreement by Government of Eritrea	2012-03-20
Project Start Date	2013-01-01
Signature of project MTR contract	2016-02-11
MTR in-country visit	29 th February – 9 th March 2016
Proposed Project Closing Date	2016-12-30 (from PIR)

1.3 SUMMARY OF PROJECT IMPLEMENTATION

Component 1. Safeguarding and disposal of pesticide stockpiles

This component, although facing a number of difficulties (delay of the building of the central storage; lack of consensus on the modality for recycling empty containers; difficulties related to the identification of a site for the building of a landfill for contaminated soil), is making progress. The staff provided by MoA and MoLWE undertaking the safeguarding operations have adapted the FAO practices and guidelines related to handling pesticides safely. Throughout the implementation phase, the team has consistently followed all FAO instructions and procedures. A first batch (91 tonnes) of POPs pesticides has been sent abroad for disposal,



and a second batch (68.5 tonnes) left the country in April 2016. On this component, the following needs have been identified:

- 1) speeding up the design and building of the central storage facility;
- 2) continue the effort on shipment and disposal of obsolete pesticide waste,
- 3) accelerating all the aspects related to the procurement of the needed equipment;
- 4) agree on the way forward for the disposal / recycling of empty containers, possibly including the shipment abroad for disposal of empty steel drums under the existing contract with the disposal service company.

Component 2: Strengthened capacity for pesticide life-cycle management

This component includes two key outcomes: development and adoption of a legislation on pesticide management, and IPM demonstrated and adopted on key crops (initially on citrus, subsequently replaced by tomatoes for practical reasons). Under this component important results have been achieved: the new legislation has been preliminarily submitted by the Legal Services Department (LSD) of the Ministry of Justice. The LSD requested the legislation to be translated into Tigrigna and Arabic. FAO country office contacted a firm to translate the legislation into Tigrigna and Arabic. The Regulatory Services Department (RSD) however was not satisfied with the translation work made. RSD is now checking the correct translation before it is submitted to LSD.

The training and practical demonstration on IPM on Tomatoes has been carried out successfully. There is however the need to consolidate these two results to achieve the expected goals. If it is indeed only a matter of translation, there is no reason why the legislation on pesticide management cannot be approved soon.

On the side of IPM/FFS (Farmer Field School), the replication throughout the country needs a greater support of the country institutions. Moreover FAO should facilitate it by completing the recruitment of a new consultant on IPM as the previous international consultant resigned and procurement of additional equipment is needed. The view of the government on the issue was that although the international consultant was obliged to prepare manuals and curriculum on IPM/FFS, she could not do it. Financial support for baby FFS was a government responsibility but the consultant was insisting to go to Zobas which was not on her TOR. Instead, the view of FAO on the matter was that the content of the manual should be site-specific and informed by local experiences. FAO therefore considered the request to compile the manual without visiting the site not in line with international best practice and even the way FAO has assisted countries in IPM FFS. Finally, similarly to what has been observed in other countries, the FAO PSMS (Pesticide Stock Management System) is not functional due to the unreliability of internet connection in the country. Although project provided a standalone application, it was not possible to maintain the system updated due to limited speed and the unreliability of the connection.



Component 3: Raised awareness of pesticide hazards and risk reduction

Important achievement under this component are the completion of an initial KAP (Knowledge Attitudes and Practice) (indeed performed already in 2007 independently from the project), the drafting of a detailed communication strategy, the drafting of a TOR (Term of Reference) for consultancy on Information and Communication, and the discussion of the Information and Communication activity with the Government. Evidence of misalignment between FAO and GoE (Government of Eritrea) have been found in relation to the FAO request to have a letter of commitment signed by GoE on the use of the communication material developed. This issue has been apparently resolved recently. In addition, the Communication Strategy developed failed to identify specific messages and actions on POPs risk and prevention, as well as gender integration. This should be included clearly in the TOR for Information and Communication strategy activities and carefully monitored.

2 METHODOLOGY

The Mid-Term Review (MTR) has been carried out as a descriptive assessment and on the basis of a scoring system.

The MTR required the analysis of all the relevant project documents, meetings in Eritrea and at the FAO offices in Rome with project partners and the most relevant stakeholders involved in the project implementation. Furthermore, the review of most of the technical and administrative documents, mission reports, meeting minutes produced in the course of project activities, and visits to the POPs contaminated sites have also been part of the assessment process.

In few cases, when it was not possible to arrange face-to-face meetings, the lead MTR Consultant carried out the interviews via Skype or telephone calls.

Concerning the project implementation rating, the following 6 level score in compliance with GEF evaluation criteria for project outcomes and outputs has been adopted, with the numeric values associated to each level:

RATING CRITERIA	ASSOCIATED NUMERIC VALUE
Highly satisfactory (HS). The project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	5
Satisfactory (S). The project had minor shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	4
Moderately satisfactory (MS). The project had moderate shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	3
Moderately Unsatisfactory (MU). The project had significant shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	2
Unsatisfactory (U). The project had major shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	1
Highly unsatisfactory (HU). The project had severe shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	0



All the project outcomes have been subjectively evaluated with three different scores from 0 to 5 based respectively on the criteria of relevance (R), Efficiency (Eff) and Effectiveness (Ect).

The scores were subjectively assigned on the ground of documentary evidence, interview and site visit, as following:

- 1) Relevance implies the assessment of the strict logical relationship of the project outcome with the project objective of reducing the risk to public health and the environment posed by poor pesticide management and obsolete pesticide. A high relevance score was assigned to those activities, which if correctly implemented, are directly related to the objective, while a lowest relevance score has been assigned to activities indirectly related. Two steps in the assessment of the relevance have been adopted: relevance of the expected project outcome or output with the GEF focal area objective and the specific Stockholm Convention requirements; and specific relevance of the activities with the expected output or outcomes.
- 2) Effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved. In contrast to efficiency, effectiveness is determined without reference to costs and, whereas efficiency means "doing the thing right", effectiveness means "doing the right thing". Therefore, a high value of effectiveness has been assigned to outputs/outcome which reached their expected target, whereas low value has been assigned to outputs/outcome which reached only partially their intended objective.
- 3) Efficiency is the comparison of what is actually produced or performed with what can be achieved with the same consumption of resources (money, time, labour, etc.). Efficiency is an important factor in determination of productivity, therefore a high value has been assigned to activities which have been carried out in due time and which are expected to be carried out without delay.

The three scores obtained with the criteria summarized above were averaged within each output. Then each average score was averaged within outcomes among all the outputs of each outcome. Finally, the numeric values were translated in to the nearest rating criteria.

In addition to the above, a SMART (Specificity, Measurability, Achievability, Relevance and Time-bound) analysis of the project framework, at the level of outcomes and outputs, has been carried out. The methodology for the SMART analysis is described in section 3.2.

2.1 REVIEW SCOPE AND OBJECTIVES

The project mid-term review (MTR) has been carried out in compliance with the objectives set in the Terms of Reference for the MTR Consultants.

The focus of the MTR was on the process and implementation aspects. In particular, the assessment focused on:

- analysis of the main issues described in the Project Implementation Reviews (PIR) reports;



- project design and scope (results framework); completeness of the baseline figures; consistency between baseline figures and targets;
- project set-up (steering committee, project task force, stakeholders' engagement, including management of gender issue and indigenous community);
- how the project management arrangements have ensured or affected performance of the project;
- administrative and technical support received from FAO (HQ, regional, sub-regional and country offices);
- progress in generating project outputs and disbursement status:
 - technical quality of outputs achieved to date;
 - timelines of outputs, possible problems/delays and their reasons/mitigation actions;
 - operational (respect of project work plan and use of Government co-finance) and administrative management (procurement, LoA);
- monitoring system (ensure that a consistent M&E Plan is in place and functional; data quality check and reliability);
 - reporting (frequency and quality of the reports, clearance and uploading);
 - review and validate reported progress (e.g. in PIRs) towards achieving project objectives;
- assessment of financial resources management:
 - rate of delivery;
 - adequacy and realism of budget allocations to achieve intended results;
 - adequacy and realism of budget revisions in matching implementation needs and project objectives;
 - delivery and use of co-financing including timing aspects;
- analysis of gender mainstreaming for gender equality.



3 PROJECT DESIGN

3.1 RELEVANCE WITH THE COUNTRY POLICIES AND THE GEF FOCAL AREA STRATEGY

Relevance of the project with Country priorities.

Based on what is reported in the project document, the Government of Eritrea has demonstrated its driveness to address POPs and other obsolete pesticide issues with its commitment and contributions to the inventory and safeguarding project in 2008, 'Prevention and Disposal of Obsolete Pesticides in Eritrea (inventory and CESA) Phase I'.

Eritrea has ratified the Stockholm Convention on Persistent Organic Pollutants (1 March 2005), the Basel Convention on transboundary movement of hazardous waste (1 March 2005), and the Rotterdam Convention on the Prior Informed Consent process for trade in certain hazardous chemicals (1 March 2005).

When the project document was under preparation, the Eritrea's National Implementation Plan of the Stockholm was not yet completed. The NIP (National Implementation Plan) was completed and submitted to the secretariat of the Stockholm Convention in April 2013. The NIP includes the following priorities:

- Identification and removal of stockpiles of Annex A Part I chemicals, including from contaminated locations: POPs pesticide stocks identified, quantified and disposed of; contaminated locations contained, reclaimed, or cleaned up;
- Institutional and regulatory strengthening: professionally led import/ export mechanisms of chemicals including POPs in place, control mechanism for discouraging illegal import/ export of chemicals, including POPs;
- Public awareness, information and education at all levels: public is aware of the health effects of POPs; public is actively and responsively participating in protecting the environment from POPs; information exchange is strengthened.

Based on the above, it may be affirmed that the relevance of project general objective and of the specific objectives of all the project components for the country priorities is high.

Relevance of the project with GEF focal area strategies ad Stockholm Convention on POPs.

The Strategic Objective of GEF 4 is "To reduce and eliminate production, use and releases of POPs". The table below compares the expected impacts with the project achievements at mid-term and the project activities to be completed after the mid-term review:

EXPECTED GEF 4 IMPACTS	MAIN GEF INDICATORS	PROJECT RELEVANCE (COMMENT RELEVANCE OF THE PROJECT DOCUMENT)
GEF-supported countries have strengthened capacity for POPs management and consequently	Regulatory and enforcement capacity in place.	Satisfactory. The whole component 2 of the project is dedicated to the "Strengthened capacity for pesticide life-cycle management". The relevance of this outcome to the



EXPECTED GEF 4 IMPACTS	MAIN GEF INDICATORS	PROJECT RELEVANCE (COMMENT RELEVANCE OF THE PROJECT DOCUMENT)
strengthened capacity for the general sound management of chemicals.		GEF indicator is limited to the POP component, as it intends to address pesticides in general and not only POPs
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.	Highly Satisfactory. Outcome of the project is “Eritrea’s existing stocks of POPs and other obsolete pesticides safely destroyed and strategies for the remediation of contaminated materials, including soils developed and demonstrated”. With this respect, the project goal is the destruction of 400 tonnes of POPs and other pesticide stockpiles.
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.	Highly satisfactory. Further to the destruction of POPs pesticide stockpile, which will reduce exposure to people leaving nearby storage of obsolete pesticide stockpile and contaminated sites, the project intends to demonstrate Integrate Pest Management for the reduction of the use of pesticides, and management of empty pesticide containers.

3.2 ANALYSIS OF THE PROJECT FRAMEWORK

Analysis of project result framework has been carried out following:

1. a SMART (Specificity, Measurability, Achievability, Relevance and Time Bound) analysis at the level of project outcome and project indicators;
2. an analysis of the completeness of baseline figures, and of the consistency of baseline figures and targets.

“SMART” analysis of project outcome. The objective of the project is the *“To eliminate risks from POPs and other 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.”*

This objective is pursued by means of demonstration approach structured in four technical outcomes (management outcomes not being considered in this analysis):

- Outcome 1: Eritrea’s existing stocks of POPs and other obsolete pesticides safely destroyed and strategies for the remediation of contaminated materials, including soils developed and demonstrated
- Outcome 2: Strengthened capacity for pesticide life-cycle management.
- Outcome 3 Raised awareness of pesticide hazards and risk reduction.
- Outcome 4: Project monitored and evaluated effectively.



Specificity (S of SMART). In general, all the components and associated outcomes of the project are sufficiently specific, as the desired targets are unambiguous and clearly developed. Component 1, which is dealing with quantitative technical targets (POPs and pesticide stockpiles managed and disposed, strategy demonstrated for remediation of contaminated soil and empty containers) is the most specific among the three components. Component 2 and 3 allows for a certain level of arbitrary in the identification and achievement of the target.

Measurability (M of SMART) Outcome 1 is highly measurable as the targets are set either in term of the amount of pesticide stockpile disposed or the number of container for which a recycling/disposal strategy is demonstrated. The only exception is output 1.07 where the risk reduction strategy has to be demonstrated for “sites with heavily contaminated soils and building materials”. Component 2 is mainly associated with targets which are set in a qualitative way: approval of a legislation on pesticide management, training, installation of the PSMS system. These kind of activities have a reduced measurability: for instance, the number of participant in the training is a very inaccurate measurement of training effectiveness; the approval of a legislation is not automatically related to its quality and to the level of its enforcement. In general, the level of measurability of component 2 is low. Component 3 (raising awareness) is associated with the conduction of 2 KAP (Knowledge, Attitude and Practices) surveys intended to measure the level of effectiveness of the raising awareness activities. This is an effective way to overcome the difficulty to measure the impact on project beneficiaries in term of awareness. The measurability of this component is therefore good.

Achievability (A of SMART). The project set a number of objectives for all the components which may be considered achievable with the available resource and within the deadline set. More specifically, the amount of pesticide stockpile to be destroyed (400 + 91 tons) can be achieved with the available GEF grant and co-financing budget. The achievability of approval of new regulation is more uncertain and is more related to the commitment of the Government to approve the proposed regulation.

Relevance (R of SMART). All the project components can be considered relevant as far as the main objective to reduce POPs releases and exposure of POPs are concerned. Some of the outcomes (and more specifically, all outcomes related to the characterisation and disposal of POPs waste) may be considered as having a direct impact on the release of POPs; whilst other, like IPM, awareness raising and communication strategy have an indirect impact.

Time Bound (T of SMART). A clear time schedule is established in the project document. Therefore, all the outcomes may be considered time bound.

Below, a simple and subjective SMART check performed at the level of project indicators is reported.

OUTCOME	INDICATORS	S	M	A	R	T
1	Quantity (in tonnes) of POPs and other obsolete pesticides safely removed and disposed of	√	√	√	√	√



OUTCOME	INDICATORS	S	M	A	R	T
	Remediation strategies developed and demonstrated -recycling/disposal strategies and risk reduction strategy for contaminated materials	√		√	√	√
2	New strengthened pesticide legislation adopted					√
	Number of technical personnel trained on pesticide life-cycle management (IPM, Pesticide Stock Management System, Pesticide Risk Management and Regulation)	√	√	√	√	√
	Number of farmers adopting IPM for citrus	√	√	√		√
	% reduction in the volume of broad-spectrum pesticides used on citrus by participating farmers, compared to nonparticipating farmers and baseline	√	√	√		√
	% improvement in citrus yields among participating farmers compared to nonparticipating farmers and baseline yields	√		√		√
	Empty pesticide container management scheme piloted		√	√	√	√
3	Communication strategy implemented -level of awareness of pesticide hazards and risk reduction among target groups raised (as assessed by the KAP survey)	√	√	√	√	√
4	M&E activities implemented as scheduled in the M&E plan, and associated quality M&E reports prepared (quality/effectiveness of M&E and reports as assessed in mid-term review and terminal evaluation)	√	√	√	√	√
	SMART Total	8	7	8	5	10
	SMART %	80	70	90	50	100

Analysis of the consistency of baseline figures and of baseline figures with targets.

POPs stockpile baseline figures. Based on the figures reported in the project document, in February 2008, FAO completed the preparation project 'Prevention and Disposal of Obsolete Pesticides in Eritrea (inventory and CESA) Phase I'. That preparation project identified 400 tonnes of obsolete and unknown pesticides; 1400m² of contaminated soil; 12 000 empty containers and 5 400 contaminated sprayers. These baseline figures were converted into project targets. In terms of safeguarding and disposal the project envisages to repack and export for incineration an amount of 400 tonnes. The project sets also as target the implementation of measures for risk reduction strategy for an overall amount of 1500 m³ of soil. On this respect it has to be affirmed that the estimated amount of contaminated soil remains uncertain, and that until now the presence of soil contaminated by POPs chemicals has not yet been proven. The survey on the



Massawa site indeed contains only data relating to the presence of Fenitrothion at a concentration exceeding 79mg/kg in one of the sample analyzed. Based on that, that report provides a very preliminary estimate of an amount of non-POPs pesticide contaminated soil of 450 m³. Therefore, whilst on the side of pesticide stockpiles the project provides rather accurate estimates (although currently it seems that the 400t will not be reached), on the side of contaminated soil the target set by project document were approximated using surface area of contamination and estimate of depth.

A quick survey made in 2012 showed that the quantity of obsolete pesticides has been found to be lower than the baseline figure. This is due to lacking availability of affordable pesticides leading to continued use of obsolete pesticides. Further drums have leaked leading to increased soil contamination. In addition the MoA during the implementation of the project confirmed, through a laboratory efficacy test made in South Africa that the chemical 2, 4-D was still usable and therefore the project did not remove this chemical. Similarly, the project analysed Actellic and found that the active ingredient had been decomposed rendering the substance harmless. In order to ensure that the environment is not affected the material will be disposed of locally in a cement kiln.

Concerning the other aspects (regulation, awareness, use of pesticides) the baseline identified in the project document are the following:

- Pesticide regulation and controls in Eritrea are relatively weak as the Regulatory Services Department of the Ministry of Agriculture, which has the main responsibility for regulation of pesticides, established in early 2003 does not seem to have adequate capacity and resources to make the necessary controls. The first, interim, pesticide legal notice was adopted in 2006.
- IPM strategy has never been demonstrated in the country; indeed as the IPM/FFS on tomatoes to control *tuta absoluta* has just started recently
- The KAP survey carried out in 2007 demonstrated that *“there is an urgent need to raise the level of awareness amongst pesticide applicators (mainly farmers) and members of the public on pesticide safety and the disposal of empty containers as well as tackling some of the broader issues of pesticide management and alternatives”*

These baseline may be considered demonstrated on the basis of documentary evidence (information concerning the original pesticide legislation, KAP report, Eritrea’s NIP). However, the review of the legislation was never reported as an urgent issue by any of the Governmental stakeholders interviewed. Therefore, the targets set in Component 2 and 3 of the project are relevant and justified, although doubts may exist on the real awareness of Eritrean Government concerning the needs to improve the pesticide legislation.



4 IMPLEMENTATION

4.1 ANALYSIS OF THE MAIN ISSUES DESCRIBED IN THE PROJECT IMPLEMENTATION REVIEWS (PIR) REPORTS

The last Project Implementation Review (PIR) (PIR- Project Implementation Review 2015-1 July 2014 to 30 June 2015) rated as Moderately Unsatisfactory (MU) only the outcomes / outputs related to the implementation and adoption on IPM practices (Outcome 2, output 2.03. 2.04 and 2.05). Achievement of progresses under these output is reported in section 4.2.2. In summary, the issues under this component are the following:

- 1) IPM in citrus to fighting the Woolly Whitefly (*Aleurothrixus floccosus*) has been replaced by IPM in tomato to fight the tomato leafminer *Tuta absoluta*, because this second is considered of greater economic importance. This was even confirmed during the meeting with the Minister of MoA, who reported that the biological competitor, *Cales noacki*, was already existing in the country and therefore there is the need to focus on other more urgent crops, like tomato instead of citrus. This view was partially disputed during interviews with academic experts, reporting that “citrus are still seriously affected by woolly white fly, cottony cushion scale and black scale problems”. If the competitor *Cales noacki* is present in the country, that need to be confirmed and if confirmed, the introduction to other citrus areas in the country would be very cheap. FAO can assist with a small budget on that.
- 2) The training on IPM/FFS was indeed successfully, however it has to be replicated countrywide. There is the need to continue on training activities and to provide more pheromone traps against *Tuta absoluta*. As the IPM/FFS consultant resigned no curricula or guidance manual were developed. Currently there is the urgent need to recruit an international consultant to continue the activity on IPM. However, the Government stated that they had the resources to establish the baby IPM FFS at the Zobas. On this, FAO considers that their proposal to have remotely developed recommendations without the consultant working on the actual ‘baby’ farmer field schools, is not in line with international best practices. There is also the need to quantify and procure the additional equipment needed for the replication of the IPM activities.

The project was rated in the most recent PIR as Moderately Satisfactory (MS) with the motivation that “Although implementation is behind schedule, significant progress has been made compared to the previous FY2014, and the project is expected to achieve its objectives in relation to disposal of POPs and wastes. However, significant delays and challenges seem likely to prevent full achievement of the outcomes in relation to IPM adoption by the agreed and extended end date”.

4.2 PROGRESS IN GENERATING PROJECT OUTPUTS AND DISBURSEMENT STATUS

4.2.1 Progress with reference to key indicators

The project started in April 2012. The project progress as of March 2016 is reported in Table 1 below, which summarizes the information gathered through interviews with the stakeholders, visit to the operation sites



carried out in the course of MTR mission in Eritrea, and analysis of the relevant documentation and reports made available. Based on the analysis and scores reported in Table 1, and on the assignment and calculation of scores as detailed in the methodology section 2, the project components, with specific reference to key indicators, should be rated MS.

4.2.2 Progress in generating project outputs

The project is experiencing some delays mostly due to procurement reasons, but can achieve its objectives provided that a project extension is granted.

Component 1: Eritrea's existing stocks of POPs and other obsolete pesticides safely destroyed and strategies for the remediation of contaminated materials, including soils developed and demonstrated.

The safeguarding activities lead by the team in MoA are progressing well. The pesticides stockpiles, identified in 2007 as well as quantities in newly identified stores, are being safeguarded (repacked and stored pending disposal in the Zobas (provinces), after which they are moved to the Daeripaulos site, from where they are transferred to shipping containers and exported for high temperature disposal. The project team undertake packaging and storage of pesticide pending disposal professionally, and in accordance with the procedures described in FAO Tool Kits. The only issue is related to the fact that, as the new storage has not been built as scheduled at MTR, around 220 tonnes of pesticides have been safeguarded in the storage sites of Daeripaulos and In Gash Barka.

Unfortunately, the new storage site, which should have been built as a matter of priority, has been delayed due to procurement issues. A bid was published in 2015 for the design of central collection store. Therefore, the Daeripaulos site is being used for the temporary storage for pesticide pending shipment for disposal, creating some difficulties and risk due to the fact that the site is contaminated and that in a section of the storage there are obsolete pesticides needing to be repacked and safeguarded (see photographic annex); in addition, the Daeripaulos storage represents a bottleneck for the repacked materials coming from other sites. This issue has not been resolved yet. Issues with the payment of safeguarding team and difficulties in imposing the use of Personal Protective Equipment (PPE) are reported in some of the reports of the Technical Advisor and of the International Consultants. Other issues on safeguarding concern the limited availability of PSMS barcodes.

The MoLWE fulfilled the Basel Convention obligations in tight communication with the Ministry of Environment in UK (England) and all transit countries. A first batch of pesticide stockpile (92.6 tons) has been packaged and sent to Europe for final disposal. Certification of final destruction was received by MoLWE.

The second shipment has left Eritrea on April 12 carrying 68 tonnes. Based on communication with the project team, it seems that the total amount will be less than the 325 tonnes expected previously (contract is for 365 tonnes). Procurement of additional packaging materials and transportation services is proceeding slowly. Due to the long delay in payment for their first delivery the company that delivered the first batch insisted to have advance payment. FAO agreed to under the condition that the company provided a bank guarantee certified using the FAO standard template. The company rejected to use the FAO template as their bank considered the conditions too risky. After that the project asked for assistance from Veolia (who also



submitted their bid) but their transport cost was too high, therefore FAO is investigating alternative transport.

Concerning the demonstration of container management, a “Concept Paper for Empty Pesticide Container Management in Eritrea” (FAO Project Management Unit, February 2014) has been drafted, taking into consideration the outcomes of a previous workshop on the matter (11/10/2007). In support of that, a simple trial has been conducted at Daeropoulos where Paraquat containers were washed. Discussion is still ongoing on the possibility to recycle plastic containers for producing plastic articles. Both MOLWE and MOA expressed their concern on the safety of articles made from recycled plastic containers, and the reliability of the recycling industry which should guarantee that that plastic is not to be used for producing sensitive articles, like food containers, toys, etc.

Concerning the demonstration of contaminated site remediation: a site investigation has been conducted for the Massawa old Airport site. A conceptual model on the site, and a sampling campaign have been carried out to ascertain the level of contamination. The project analysed 21 soil samples finding concentration up to 79mg/kg at 1, 2 m depth. On this side, the proposal to build a specific landfill for disposing the contaminated soil is currently under examination by relevant Ministries. A tender has been issued for construction of a fence around the site to prevent access.

Component 2: Strengthened capacity for pesticide life-cycle management.

The final translation of the legislation has not been submitted to concerned bodies of the government, the translation is still being worked out. While the government repeatedly confirmed his commitment to approve the new legislation, the slowness of this process has been perceived by some of the project partners interviewed as a lack of commitment by the government. This finding is also somehow different from the PIR statement saying that *“The revised Pesticide legislation being considered by Parliament. Translations into Arabic and Tigrinya completed.”* The training on legislation will be conducted once the pesticide legislation is enacted.

On the IPM aspect, the original plan to implement IPM to fight the citrus Woolly Whitefly was modified upon request of MoA in favour of the biological control of *“Tuta absoluta”* for practical purposes instead of citrus. Academic expert interviewed in the course of MTR reported however that Woolly Whitefly is still a relevant problem in the country and should be not completely dropped out by the project. To this end, the international expert on IPM drafted some ToRs at the request of Government for a national survey on citrus IPM practices.

A workshop on IPM was conducted in June 2014 at the Serena Hotel in Keren with participation of 47 people from MoA, MoLWE and regional extension services. The Director Generals from MoA_RSD and NARI participated in a study tour to Jordan to gather experience in the practical aspects of implementing IPM.

The project drafted the Term of Reference for the IPM consultant. Among others, these include:

- Develop detailed plans for establishment and implementation plan of FFS including identification of tomato fields suitable for FFS;



- Introduce Extension workers to FFS including principles of Non-Formal Education, discovery-based, participatory and experiential learning processes;
- Extensively train 10-15 and extension workers on the FFS approach in the field; conduct weekly FFS on tomato covering 1 crop cycle or critical crop stages;
- Assist the trained extension workers in facilitating FFS for 10-15 tomato farmers in the field;
- Compile the field tested FFS curriculum during the implementation of the FFS;
- Assist in the planning and importation of Cales noacki including to ensure presence of proper rearing facilities for Cales noacki;
- Recommend approach for releasing of Cales noacki, conduct refresher training for rearing;
- Supervise the rearing, release and monitoring of Cales noacki establishment and impact;
- Plan with Task Team the development of an FFS IPM training materials and manual and review the final draft of the manual.

An international consultant was selected for this task. Concerning the work carried out by that consultant, there were mixed views from the stakeholder consulted. Apparently, the consultant was extremely effective in carrying out practical training on site, as all the interviewed trainees testified. However, the consultant resigned for personal reasons after conducting three training mission in Eritrea before finishing her assignments. The MTR consultant had the opportunity to see the field where IPM activities were conducted and talked with several trainees from “zoba” (province of) Maekel. The trainees explain about the training they received. Four extension experts from “zoba” (province of) Maekel were trained on IPM-FFS on tomato in Mendefera for three months. The training was practically applied on farmers’ field and extension agents’ trial. The farmers did their own practice and the extension agents were using certified tomato seeds.

The IPM FFS training covered all aspects starting from seed bed preparing, planting and transplanting up to harvesting. All the training classes were in the field. Soil samples were taken for nutrients and pathogen analysis and sent to National Agricultural Research Institute (NARI). Comparative testing of different procedures (with and without IPM) were carried out in separate plots. The IPM procedures implemented for tomato gave visible result (see photographic documentation). The issue on this component is therefore how to propagate the knowledge and ensure the sustainability of future actions, from pilot scale to full scale.

The training and establishment of the FAO PSMS software is under the same component. The consultant was informed that the PSMS is currently not working due to low reliability and low speed of the internet connection in Eritrea. In the past FAO did purchase some equipment for RSD to improve the internet connection and hired a local internet service which is no more working. Clearly, the limitation of running the software within MoA boundary is not compliant with the policy behind PSMS, which is to exchange data on pesticide with FAO and globally to ensure a better management of pesticides.



A program for two workshops to be held in conjunction addressing the topics of stock management, needs assessment and procurement of pesticides has been prepared and discussed at the steering committee meeting in December 2015. The SC requested modifications to the program but stressed the urgency for the workshop. ToR for engagement of a consultant to conduct the workshops has been prepared. The Workshop is planned to take place by end of April 2016.

Component 3: Raised awareness of pesticide hazards and risk reduction

The communication strategy was developed by an international consultant (Prevention & Disposal of POPs & Obsolete Pesticides Projects - Communication Strategy, January 2014). A KAP survey was also conducted, which resulted in the conclusion that “there is an urgent need to raise the level of awareness amongst Pesticide Applicators and General Member of the Public on Pesticide Safety”. The survey also identified major problems and issues which can be addressed through information and communication. These include:

- Lack of awareness about the health and environmental hazards
- Lack of skills in selecting, transporting, storing, applying & disposing of pesticides
- Low awareness & practice of alternatives to pesticides for plant protection
- Absence of mechanisms for safe collection of empty pesticide containers
- Lack of training for farmers from Ministry of Agriculture technical officers

The procurement for the communication campaign started. Before initiating the campaign FAO requested a written statement to ensure that the text developed by FAO would be adopted and used by the Government in their communication. This request was rejected by the Steering Committee, as they perceived it was unnecessary, given that the Government already committed on the full project document.



Table 1 – Summary of progress in generating project’s results. Comparison with the objectively verifiable indicators based on available sources of verification

Outputs for Outcome 1: Eritrea’s existing stocks of POPs and other obsolete pesticides safely destroyed and strategies for the remediation of contaminated materials, including soils developed and demonstrated											
	Indicators	Targets*	Sources of verification	Status	Remarks / Status as from latest PIR	Rate at MTR	Rel.	Effc	Efct	Avg	
1.01	91 tonnes of obsolete pesticides in 8 critical stores repacked and safeguarded	Tonnes of obsolete pesticides in 8 critical stores repacked and safeguarded	91 tonnes of obsolete pesticides in 8 critical stores repacked and safeguarded	Project Progress reports	Completed (as from the TCP)	From PIR: Critical Store in Dauropoulos (2), Ghindae, Shakayamo, Paradizo, Elabered, Dekemhare, Harsile, Massawa, have been safeguarded. Total quantity is estimated to 82 tonnes.	HS	5	5	5	5
1.02	8 stores upgraded as intermediate collection centres and 1 central collection centre constructed	Number of intermediate and central collection centres created	8 stores upgraded as intermediate collection centres 1 central collection centre constructed	Bidding document prepared. Contract in preparation.	Issues on procurement (no bidders submitting an offer). Design not started yet.	Central collection center: Critical. Likely the central collection center cannot be built by 2016. From PIR: TA and FAO infrastructure experts have prepared a technical description of the activities to be performed at the central store and provided a basis design. Invitation to Bid (ITB) was published in the local newspapers but no bid was received. TA revised the conditions of contract to reflect Eritrea conditions and the project was retendered – one bid was received. TA have performed the evaluation and recommend to award the contract to the bidding company. Award of contract for the design will take place in January 2016	MU	4	1	1	2
1.03	309 tonnes obsolete pesticides remaining in 286 stores repacked	Quantity of obsolete pesticides repacked	309 tonnes of obsolete pesticides repacked	Basel Convention Transboundary Movement	220 tons of pesticide safeguarded locally (at Zoba level)	From PIR: The team is continuing the safeguarding for the remaining region.	S	4	4	4	4



into UN approved packaging			Tracking Forms							
1.04 400 tonnes of POPs and other obsolete pesticides shipped to a destruction facility	Quantity of obsolete pesticides safely delivered at the destruction facility	400 tonnes of POPs and other obsolete pesticides safely delivered at the destruction facility	Shipment to Veolia facility planned for march - june 2016		First shipment took place on 10.10.2015 where 7 containers loaded with 92.3 tonnes of pesticides. The second shipment was under preparation during the MTR visit to the storage. Further communication with TA: around 62 tons shipped	S	4	4	4	4
1.05 400 tonnes of POPs and other obsolete pesticides destroyed in an environmentally sound manner	Quantity of obsolete pesticides safely destroyed	400 tonnes safely destroyed		91.2 tonnes destroyed	From PIR: The disposal of the first shipment arrived the facility on 4.12.2015 and the disposal was completed by the end of 2015.	MS	4	3	2	3
1.06 Recycling/disposal strategy developed and demonstrated for 53 000 contaminated empty containers	Recycling/disposal strategy for contaminated empty containers implemented	Strategy demonstrated for recycling/disposal of 53 000 contaminated containers		Only concept paper developed. Simple trial undertaken. Demonstration delayed until the finish of the safeguarding. The shredders envisaged by the project were not procured.	May be critical. Likely it cannot be completed within 2016. The crusher for drums was "considered" too expensive (any inquiry?) From PIR: TA met with a new potential treatment facility which could process the cleaned materials according to the strategy previously approved by MoLWE. There is no agreement on how to permit the recycling of plastic material by existing facilities (debriefing meeting).	MS	4	2	2	2.67
1.07 Risk reduction strategy developed and implemented for sites with heavily contaminated soils and building materials	Risk reduction strategy for contaminated soils and building materials implemented	Risk reduction strategy implemented – 1500m ³ contaminated soils and building materials remediated or		Site investigation report on the Massawa site carried out. Landfill site identified, pending further	What is the concentration of POPs in the soil to be landfilled? From PIR: MoLWE is putting pressure on the Governor of Northern Red Sea (Massawa) to take action towards the contaminated site. Alternatively, the demonstration project could be at different location.	S	4	3	3	3.33



		safely and permanently contained		confirmation from the local administration which will investigate the site further and report whether the site can be used for the construction of a landfill.	During the period TA and MoLWE met with the local administration in Massawa on a number of occasions. A new site where a landfill could be built has been identified and was inspected by TA. Despite complying with geological and hydrogeological conditions the administration is still hesitant to approve the construction of the landfill. MoLWE is considering steps to manage the contaminated sites in Eritrea						
1.08	Recycling/disposal strategy developed and demonstrated for 5 400 contaminated sprayers	Recycling/disposal strategy for contaminated sprayers	Strategy demonstrated for recycling/disposal of 5 400 contaminated sprayers	Delayed due staff availability. Activity did not start	May be critical. Very likely won't be completed by the deadline.	MS	4	2	2	2.67	
Outputs for Outcome 2 Strengthened capacity for pesticide life-cycle management											
	Indicators	Targets*	Sources of verification	Status	Remarks	Rate at MTR	Rel.	Effc	Efct	Avg	
2.01	New pesticides legislation finalized and approved	Adopted new pesticide legislation	New pesticide legislation adopted by end of project	Government of Eritrea Law Gazette	The legislation in English is finalized. The translation however was not considered satisfactory by the RSD so that it was not transmitted by the Legal Service.	From PIR: The legislation prepared by the project is still in process of being enacted by the Parliament. A few final comments to the translations into Tigrinya and Arabic are outstanding	MS	4	2	3	3
2.02	Capacity built to	National and regional workshops	1 national and 6 regional	Project progress	Will be carried out once the	Could be critical if the legislation is enacted in the last minute or it is not	MS	4	1	2	2.33



implement new legislation	for key stakeholders Leaflet explaining new legislation and responsibilities prepared and distributed to implementing agencies	workshops held for key stakeholders 2000 leaflets produced and distributed to implementing agencies	reports Field visit reports	legislation is finished	enacted. Maybe the work on capacity building can start before the legislation is enacted.					
2.03 Biological control for key citrus pests established	Guidelines/technical material on biological control Number of technical staff trained on rearing, maintaining and release of natural enemies Number of parasitoid species introduced Natural enemies introduced and established at sites in Eritrea	Guidelines and technical material on biological control developed – at least 100 copies of guidelines printed and disseminated Training-of-trainers training in rearing, maintaining and release of natural enemies received by 20 technical staff At least 2 parasitoid species introduced to Eritrea in order to improve control of Woolly Whitefly (WWF) and Citrus Leaf Miner Cottony Cushion Scale (CCS) and Parlatoria ziziphya indigenous		In June 2014 stakeholders expressed their preference to focus on managing Tuta Absoluta in tomato rather than citrus. Guidelines not prepared yet. Training carried out on tomato on 17 staff (trainers) and 20 farmers Parasitoid against WWV not introduced as the activity on citrus was replaced by Tomato	PIR: 40 people trained in IPM and FFS and IPM/FFS workshop with participation of 47 persons was conducted in June 2014 FFS/IPM expert hired on The IPM/FFS trainer resigned therefore guidelines and technical material on biological control were not developed	MS	4	2	2	2.33



		biological agents identified and augmented								
2.04 IPM approaches for citrus developed and adopted by at least 100 farmers	<p>Number of technical staff and field agents trained in IPM</p> <p>IPM training plan for extension services and farmers implemented</p> <p>Number of farmers trained in IPM</p> <p>Number of on-farm IPM workshops conducted</p> <p>Farmer field schools (FFS)/ participatory on-farm trials and number of participating farmers</p> <p>Number of farmers who have adopted IPM approaches for citrus</p> <p>IPM training plan for extension services and farmers implemented</p>	<p>IPM training plan fully implemented</p> <p>20 technical staff and field agents trained by end of project</p> <p>At least 20 on-farm workshops conducted in sub-Zobas over 2 seasons</p> <p>FFS / participatory on-farm trials established in 20 sites to involve minimum of 400 farmers in training, and an additional 400 in on-farm demonstrations for the development and demonstration of crop improvement and crop protection strategies</p> <p>At least 400 farmers trained in IPM</p> <p>IPM for citrus</p>		<p>The training was conducted for 20 MoA extension workers which met in Mandefera where they were trained in IPM and FFS.</p> <p>The training was both theoretical but also practical where the team met with up to 15 farmers in the field.</p>		MS	4	2	3	3



		adopted by at least 100 farmers 20 technical staff and field agents trained by end of project								
2.05 Opportunities and next steps for IPM in priority crop(s) other than citrus identified	Survey of pests and pathogens, pest management practices and market opportunities in key crop(s) ((key pests and pathogens identified) IPM strategy for key crop(s) Curriculum for IPM on priority crops	1 survey completed, key pests and pathogens identified and priority crop(s) for IPM intervention identified At least 1 IPM strategy for priority crop(s) developed and tested through on-farm trials Curriculum for IPM on priority crops developed by end of project		The project has requested a budget for implementing a national pest survey. FFS/IPM missions. The project has provided IPM materials to combat fruit flies in Guava. Currently a suitable site is being looked for		S	4	3	3	3.33
2.06 FAO's Pesticide Stock Management System (PSMS) operationalised in Eritrea	PSMS package installed on ISP server Number of relevant staff trained in use of PSMS Operational data collection system	PSMS package installed on ISP server in Eritrea and access established for all users (3 offices). Data collection system developed and operational		PSMS not working due to low reliability and low speed of the internet connection in Eritrea		S	4	4	4	4



<p>2.07 Regulatory staff from MoA and MoLWE trained in pesticide risk management and regulation</p>	<p>Number of staff trained in pesticide risk management and regulation</p>	<p>1 staff trained to Post Graduate diploma level in pesticide risk management 20 staff receive 1-week course in pesticide regulation RSD & MoLWE receive 1 weeks' technical support/ on-the-job training to strengthen regulatory procedures</p>		<p>Completed beginning of 2015</p>	<p>For the course on pesticide regulation: waiting for the legislation to be introduced. It is considered to conduct the workshop based on the not approved legislation as it will increase focus on the proper management of pesticides Workshop is being planned in combination with output 2.8</p>	S	4	4	4	4
<p>2.08 MoA staff trained in stock management, needs assessment and procurement of pesticides, stock management and equipped to provide necessary training to storekeepers</p>	<p>Number of staff trained Training booklet for storekeepers</p>	<p>10 staff trained in stock management, needs assessment and procurement of pesticides Training of Trainers received by 20 staff for training storekeepers on stock management and PSMS forms and procedures 1 booklet developed, printed and distributed to all pesticide</p>		<p>A program for two workshops to be held in conjunction addressing these topics has been prepared and discussed at the steering committee meeting in December 2015. The SC requested modifications to the program but stressed the urgency for the workshop. ToR for engagement of</p>		S	4	4	4	4



		storekeepers (293)		a consultant to conduct the workshops has been prepared. The Work shop is planned to take place by end of April 2016 The communication activity will include development of such booklet						
2.09 Empty container recycling scheme piloted in Zoba Maekel	Refined recycling scheme Contractual agreement between Ministry of Agriculture and recycling facility Communications plan to alert target communities to the dangers of pesticide containers and to encourage participation in the scheme implemented	Empty container recycling scheme refined through stakeholder consultations (including 3 workshops) and piloted Contractual agreement reached between MoA and plastic recycling facility (private sector) Communications plan for container scheme implemented		Only concept paper developed. Simple trial undertaken	Combined with activity 1.6	S	4	4	4	4
2.10 Plan to upgrade pesticide quality control laboratory at RSD	Procured laboratory equipment Number of laboratory staff trained in pesticide	All procured equipment delivered to RSD laboratory 5 staff trained in		Output has been eliminated	Cancelled in the 2014 SC					



developed and implemented	analysis and sampling protocols	pesticide analysis, 10 staff trained in sampling protocols								
Outputs for Outcome 3: Raised awareness of pesticide hazards and risk reduction										
	Indicators	Targets*	Sources of verification	Status	Remarks	Rate at MTR	Rel.	Effc	Efct	Avg
3.01 Communications strategy updated and a awareness campaign on pesticide hazards and risk reduction implemented	Updated and refined communications strategy Implemented mass awareness campaign	Refined communications strategy available and a mass awareness campaign implemented	Project progress reports Mid-term review and terminal evaluation reports KAP Survey documents	Communication strategy developed by an international consultant. KAP survey conducted. Procurement for the communication strategy not started yet	To ensure that the produced materials are used FAO HQ recommended that a written statement was gathered from the participating partners. However, the SC does not agree on that request.	MS	4	2	2	2.67
3.02 IPM promoted to policy- makers	Number of field visits by Ministers and senior technical staff to relevant sites where IPM has been adopted	At least 3 visits made by end of project			Completed.	S	4	3	3	3.33
3.04 KAP surveys completed	Number of KAP surveys completed	2 KAP surveys (one in first quarter of implementation and the second in the final year of implementation) completed			First KAP completed. Discussions concerning the execution of the second KAP ongoing.	MS	4	2	2	2.67
Overall project rating						S	HS	MS	MS	S



4.2.3 Technical quality of outputs achieved to date.

Although a detailed analysis of the technical quality of project outputs is beyond the scope of the MTR, nevertheless in the course of the assignment the consultant had the opportunity to go through the key technical reports and undertake two site visits to safeguarding and IPM operation areas (see also the photographic annex).

The MTR consultants visited 2 sites:

- 1) the Daeropoulos storage site near Asmara. From a quick visit to the storage site the following has been observed: the re-packed pesticides are generally properly repacked using standard drums for liquid or solid materials; some of the repacked drums are labelled with PSMS barcode, however the barcode labels were not enough to mark all the containers. The National Technical Consultant (NTC), who accompanied the MTR consultants, was highly competent on the use of PPE equipment, and showed the use of different PPEs made available by the projects. The warehouse where all the PPE equipment is kept needs however a better organization, to avoid lost/damage of valuable equipment. In one of the storage, there is evidence of contamination originated before the starting of project activities started. This contamination is also evident within the storage, making the operation of re-packing of stockpiles coming from other storage very complex and hazardous.
- 2) the Mendefera site where IPM/FFS training were conducted. The MTR consultants had several meetings with trainers and trainees on IPM/FFS. He received information concerning the IPM-FFS on *Tuta absoluta* on tomato for about three month starting from July23-Dec 16th, 2015. The training was organized by FAO & MOA in Zoba Debub. There were 20 farmers and 17 extension agents attended the training. The training was practical and theoretical and it was very comprehensive. Resource persons were FAO consultants and from MoA. The consultants noted that the experiment has six plots and they were using improved seeds and farmers seed and with shed (IPM) and without shed. Based on the trial observation the shaded plot resulted with good stand and healthy. The consultants had the opportunity to personally appreciate the difference between IPM and non IPM, and the use of pheromone traps against *Tuta absoluta* (see photographical annexes).

The consultant received the following technical documents.

- Prevention & Disposal of POPs & Obsolete Pesticides Project - Communication Strategy (FAO Project Management Unit, January 2014). It includes the report for the first KAP survey (conducted however in 2007, much earlier than the starting of the GEF project), and based on that, it describes in detail the Communication Strategy. The report correctly identifies target audience (Pesticide applicators, Farming community households, Technical officers, Opinion leaders and Academics, Pesticide Importers and Dealers) and for each of them lists the information and communication needs, and the communication goals. It also identifies the three main functions (Raising General Awareness, Providing Knowledge and Skills to pesticide users, and Institutional Capacity Building) on which the Communication Strategy need to focus to achieve its objectives. The Communication Strategy proposes three general awareness messages (on potential impact of pesticide on human health; on potential impact of pesticides on the environment; on the importance to adopt safe practices). On



this basis, the report articulated a Communication Plan, structured by output, outcomes and activities with associated timeframe and budget. The quality of the Communication Strategy is high and its approach is very realistic. It however missed to identify specific communication actions on the prevention of the use POPs pesticides, which is one of the key goal of this project. It is therefore recommended to improve the communication strategy by properly integrating messages, communication activities and goals specifically related to POP pesticides.

- Concept Paper for Empty Pesticide Container Management in Eritrea (FAO Project Management Unit, February 2014). The report starts from the assumption that the implementation of the “triple rinsing” concept by the users of pesticides will take time, and therefore it is necessary to identify a proper technique to safely dispose/ recycling empty pesticide containers. The concept note relies on the methodology of triple rinsing by using a series of three tanks for the sequential washing of empty containers, and an evaporation tank for the treatment of contaminated water. The concept note needs however to be further developed and engineered to address: 1) risk control measures for the operators and the environment, 2) mass balance and capacity, 3) maintenance and cleaning operation, 4) procedures for the disposal of the residue after evaporation.
- Site Investigation Report - Massawa Old Airport Site. Summary (FAO Project Management Unit, May 2014). This is a preliminary site investigation, containing a conceptual model and the result of sampling and analysis of contaminated soil, based on a regular grid scheme and three levels of depth. It identified pesticide contamination (Fenitrothion) in one of the pits, with a concentration of 79 mg/kg at 1.2 m depth. The investigation cannot provide an exact estimate of the amount of contaminated soil, as further sampling and analysis are needed. As of now, no POPs pesticide have been identified in the site. The proposed remediation is excavation of contaminated soil and transfer to a newly designed hazardous waste landfill.
- Actions required for initiating Demonstration Project for Remediation of Contaminated Sites (FAO Project Management Unit, April 2015). This is an unofficial report, containing a road map of action for the building of a centralized landfill hosting the contaminated soil coming from the Massawa old airport site and Elaborated site. The proposed roadmap spans for 14 months, which means that the proposed action would not be completed within project deadline.
- Specification for the establishment of fence at the Massawa old Airport (FAO Project Management Unit, December 2012). Pending any site remediation action, the project team identified the needs to establish risk management measure at the Massawa old airport site to reduce the direct and indirect exposure of people to the contaminated soil. To keep people out of the area the project has agreed with the municipality of Massawa to provide a 9 x 9 m fence and signboards until the soil can be moved to another location. The fence shall be installed around the pit located far away from the newly constructed block of flats – being the one pit contaminated.
- BTOR of the mission of the international experts (Cobban, April 2015) (Hansen, April 2013) (Hansen, June 2013) (Nyambo, September 2015) (Thompson, July 2011). These include all the BTOR reports from the TA, one BTOR report from the IPM/FFM consultant.



4.2.4 Timeliness to outputs, possible problems/delays and their reasons/mitigation action

The project is moderately late in the achievement of its objectives with specific reference to the following:

Component 1:

- Safeguarding, repacking and disposal (outputs 1.01 and 1.03 to 1.05): the project is moderately late but can still complete this activity by the end of the year.
- Building of central storage and upgrading of existing (output 1.02). The building of the central storage will not be completed by the end of the year. An extension of three to six months to achieve this output is necessary.
- Demonstration on pesticide containers and sprayers (1.06 and 1.08). Only limited demonstration carried out. Alternative need to be identified. An extension of at least six months is necessary to complete the demonstration.
- Risk Reduction strategy for contaminated sites (1.07). This output cannot be completed by the end of the year. Besides the building of a temporary fence to prevent people exposure, it is still unclear how the project will manage the contaminated soil from Massawa site.

Component 2:

- Legislation (2.01, 2.02) and associated training (2.07). This activity can be likely been achieved by the end of the year, as most of the work has been already carried out. It depends only upon completion from RSD of the revision of the translation carried out by FAO, which was not considered satisfactory by RSD:
- Biological control and IPM (2.03, 2.04, 2.05). This activity already achieved important objectives. FAO and the government are currently discussing on who and how, over the next few years, IPM trainings and manuals, based on the experiences from the baby FFS and the Mendefera learning site, may be carried out
- PSMS: making operational the PSMS system requires the presence of a better internet infrastructure, in the absence of which, this cannot be achieved.
- Training of MoA on pesticide management (2.08). It would be helpful if the training could be done when the legislation is adopted, nonetheless, the main reason for the delay is due to the difficulties to find a suitable consultant to carry out the training. In the meanwhile, a workshop to explain the key aspects in the legislation hereby creating awareness towards illegal importation could be held.

Component 3:

- The massive awareness raising envisaged under component 3 will be hardly completed within the project deadline, as the procurement for this activity is still ongoing.



5 PROJECT MANAGEMENT

5.1 SET-UP OF THE PROJECT (STEERING COMMITTEE, PROJECT TASK FORCE, STAKEHOLDERS ENGAGEMENT (INCLUDING GENDER AND INDIGENOUS PEOPLE))

The project envisages a three level management structure, composed by a project Steering Committee (SC), a Project Management Unit (PMU) and 4 technical leaders in charge of the four project components. Ministry of Agriculture (MoA) is the national executing agency, in coordination with other executing partners, namely, the Ministry of Land, Water and Environment (MoLWE) and the Ministry of Health.

FAO is both the GEF Implementing Agency (IA) and Executing Agency (EA) of the project. The Pesticide Risk Reduction Group in the Plant Production and Protection Division (AGP) of the Agriculture and Consumer Protection Department in FAO headquarters is the FAO Lead Technical Unit (LTU) for the project and provide technical backstopping, through a Lead Technical Officer/Backstopping Officer. FAO/AGP has been the budget holder of the GEF grant resources and of part of the co-financing resources until 2015, whilst since 2015 the budget holder is the FAO Representative in Eritrea. In this capacity, FAO/AGP authorizes the disbursement of the project's GEF resources, prepares financial reports and has the responsibility for the timely operational, administrative and financial management of the GEF resources.

The GEF Coordination Unit (TCI) at FAO reviews and approves project progress reports, implementation reviews and interim financial reports and budget revisions.

5.2 HOW PROJECT MANAGEMENT ARRANGEMENTS ENSURE OR AFFECT PERFORMANCE OF THE PROJECT

The project management structure envisaged in the project document has been only partially implemented. Ideally, the PMU should include a National Project Coordinator from RSD (Regulatory Service Department) of MoA, an Environment Coordinator from MoLWE, an M&E Officer from Planning and Stats, and 4 task teams (Disposal Task Team, Pesticide Management Task Team, IPM Task Team and information and communication Task Team). The National Project Coordinator (NPC) of the PMU (from RSD/MoA) is in charge of the day to day coordination of project activities, together with the Environmental Coordinator (from MoLWE).

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 project monitoring and reporting obligations of PMU have been mostly carried out by the international Technical Advisor and the chair of the Steering committee, whilst the NPC mostly dedicated to Component 1 of the project (stockpile safeguarding and disposal). The role and task performed by Environmental Coordinator are unclear. Reportedly, the TA drafted most of the minutes of the project steering committee meeting, project progress report, project work-plan and budget, input for the PIRs and both the Steering Committee and PMU are strongly relying on its contribution. The limited implementation of the project management structure was one of the cause of



the low level of ownership of the project, which to the MTR consultant is apparently perceived as an “external” activity carried out by FAO in the country. Another reason is that there is a very limited exchange of information between FAO (Budget Holder), the SC and the PMU about official budget statements, therefore the PMU and the SC miss the needed information for a good project planning. Notwithstanding the above, the project achieved significant results, and although late, may still accomplish most of its expected goals.

5.3 ADMINISTRATIVE AND TECHNICAL SUPPORT NEEDED AND RECEIVED FROM FAO (HQ, REGIONAL, SUB-REGIONAL AND COUNTRY OFFICES)

FAO HQ provided technical and administrative support to the project by:

- 1) mobilizing international consultants who assisted on the characterization of contaminate sites, implementation of pesticide inventory, training on PSMS and on pesticide management, general project backstopping;
- 2) assisting in drafting technical specification for the procurement of international contractors to carry out the disposal of pesticide;
- 3) supervising project activities;
- 4) administering project resources in accordance to FAO’s rules and procedures.

Initially, FAO AGP was the budget holder responsible for the management of the GEF grant. The budget holder responsibility was transferred to FAO Eritrea Country Office (FAO CO) in 2015. FAO CO therefore is taking care at procurement below 100,000 USD, whilst FAO HQ remain in charge of the procurement above 100,000 USD. FAO CO and the PMU are however involved in the evaluation of the biddings for procurement over 100,000 USD. Reportedly, the project experienced some delays on international procurement.

In the course of several meetings with the chair of the SC, including the debriefing meeting, strong complaint was raised concerning the lack of communication on the budgetary information. Apparently, the problem is that due to the differences between the FAO financial accounting, and the budget design of the project, FAO is not translating their budget into the project budget, therefore the local project institution (SC and the PMU) were only provided with summary statements which are not useful for project management. This substantially impedes SC and PMU to exert any management role, therefore limiting the ownership of the project. Incidentally, it should be noted that the Government co-financing is very limited. FAO is managing not only the GEF grant but also the co-financing grants from other donors. Given the above, an additional effort aimed at periodically communicating budget details and translating FAO budget into project budget, similarly to what has been done in other countries, could bring a significant benefit in term of increase of project ownership and better project planning.

On early 2016, the Eritrea FAO Representative resigned. This caused delay in payment of the safeguarding team and several service providers, which were not completely solved during the MTR mission.



5.4 MONITORING SYSTEM (ENSURE THAT A CONSISTENT M&E PLAN IS IN PLACE AND FUNCTIONAL; DATA QUALITY CHECK AND RELIABILITY)

Clear project monitoring, reporting and evaluation rules are established in the project document. In summary:

- The NPC is in charge of the day to day monitoring of implementation progresses, closely supported by the M&E evaluation officer and by the Technical Advisor;
- The definitive indicators, baseline and targets (including the timeframe for achievement of targets) have been confirmed in the inception workshop;
- Two Knowledge Attitudes and Practice (KAP) surveys (one at the beginning and one at the end of the project) will collect valuable baseline and comparative data on awareness and behaviour in relation to pesticides;
- The NPC, supported by the Technical Advisor, the M&E Officer and the Environmental Coordinator will report project progress at least quarterly.

5.4.1 Reporting (frequency and quality of the reports, clearance and uploading)

Reporting obligations, as from project document, are summarized below:

- Inception workshop and report: (within 2 months from project start)
- Annual Work Plan and budget: Yearly
- Project Progress Reports: Quarterly, Semi annual
- Project Steering Committee Meetings and reports: Semi Annual
- PIRs and QPIRs: Annual and quarterly

The following report have been received in the course of the Mid Term Review:

- Inception report (FAO, Isabelle Pierarrd, April 2013)
- PSC meetings: 6° (April 2015) and 7° (September 2015)(8° still in draft (December 2015))
- Most of the PIRs (covering June 2011 to July 2015) ((2012) (2013) (2014) (2015))
- PPRs (only the last 2 (January 2016) (March 2015), still in draft, without financial statement)
- BTORs from the beginning of the project and technical documents (listed in section 4.2.3)

In general, the monitoring reports are of good quality: they are written following a common standard format, are synthetic and really helpful to make project achievements, shortcomings and risks understandable to the reader. The PIRs appeared also detailed, providing an independent assessment of project status.



A general shortcoming affecting all the received PPRs is however that the budgetary information provided therein is limited and, when included (in PIRs, for which indeed is not a requirement to include detailed financial information), is not aligned with project budget structure, as it only contains the total of the expenditure not broke down to project outcome or output level. This is in striking contrast with the very detailed budget provided in the project document, written using an Oracle database.

The lacking of detailed budgetary information in the monitoring reports does not allow to understand what is the efficiency associated with specific project outcome/output, and also represents an obstacle for PMU and SC to be more effective in management and planning.

Moreover, most of the monitoring reports (PPRs and PIRs) have been made available as draft documents, not yet consolidated, and sometime with a number of unresolved comments or annotations.

5.4.2 Review and validated reported progress (e.g. in PIRs) towards in achieving project objectives

The reported progresses described in the last PIR (July – December 2015) are substantially in line with what was found during the MTR mission held in March 2016, with some updates which were communicated later on by mail by the international TA, testifying that the project, despite some delays due to procurement issues, is progressing towards the achievement of its objectives. Besides the safeguarding of 220 tons reported in the PIF (Debub, Anseba and Northern Red Sea regions) and the disposal of 92.3 tons of obsolete pesticides, after the MTR mission, the project achieved the shipment of further 68.5 tons of POPs and other obsolete pesticides that left Eritrea on April 12.

The issue reported in the PIR concerning the discussions with Ministry of Land Water and Environment (MoLWE) concerning actions for the Massawa site and more specifically, the rejection of the proposed sites for construction of a new landfill, was still found unresolved. It has been however reported that a 3rd site which was inspected jointly by TA and MoLWE was accepted, and in the PIR is stated that “The local administration will investigate the site further and report whether the site can be used for the construction of a landfill”.

The PIR also reported that “The revised ToR for establishing a new store for imported pesticides was completed and an acceptable offer was received. The contract with the design company will be signed early 2016”. This was confirmed at FAO CO during the meeting held in the course of the MTR mission, although the design of the site did not start yet. Due to this delay, it is unlikely that the central storage facility will be completed by the end of 2016.

Concerning the enacting of the legislation, based on the opinion of key stakeholders interviewed, the issues found on the translation from English to Tigrinya and Arabic appear at least partially related to the absence of agreement on the proposed draft from some stakeholders. However, the government confirmed its commitment and clarified that the delay is only due to the difficulty to solve translation issues.

On IPM, very good results were obtained on the training and demonstration of low impact agricultural practices on tomato. All the trainers and project stakeholders interviewed agreed on the outstanding performance of the international evaluator recruited for conducting training in Mendefera. At the same time,



as the consultant resigned, there is the urgent need to identify the way forward to complete the work on IPM (curricula, training manual, replication training) to ensure the sustainability of that valuable component of the project. This aspect did not emerge from the analysis of PIRs or PPR.

Concerning the communication strategy, the PIR reports that “to ensure that the outputs produced by communications company FAO requested confirmation from the GoE before signing a contract.” This request was discussed in meetings in Asmara (meetings with the SC chair and debriefing meeting). To the MTR consultants, this request from FAO seems the result of a certain level of mistrust between FAO and GoE. Although in the PIR is stated that “It was agreed that MoA and MoLWE jointly would prepare such a supporting letter”, from the outcome of MTR meetings held it was clear that the Ministries were not keen to sign such a letter. The MTR consultants considers that the request is, in the best case, useless: even in the signature of a commitment letter would have limited legal value. The government considers however that in case of issues in the implementation of the communication, these can be resolved case by case. Moreover, it is recommended to ensure that the communication strategy contains messages and actions specifically addressed for increasing awareness of the risk posed by POPs pesticide, and prevent their use or import.

The PIRs does not provide information on the shortcomings of the management arrangements established, which were observed during the MTR visit.



6 ASSESSMENT OF FINANCIAL RESOURCES

6.1 RATE OF DELIVERY

In the following tables, the GEF grand budget and co-financing budget as from the project document are reported. From the tables, it may be seen that the contribution of the GEF project is more on the side of upgrade of pesticide storages, safeguarding and packaging of pesticide stockpiles; whilst the contribution of co-financing projects is more on the side of final destruction of pesticides.

The distribution of all funding for the project is shown in the tables below (from project document):

Component	CLI	EC IPM	FAO in kind	GEF	GOE	Japan	TCP IPM	TCP Safe	Grand Total
1	322,976	0	20,000	1,205,978	140,000	1,317,190	0	483,484	3,489,628
2	0	78,616	15,000	556,745	55,000	0	411,500	0	1,116,861
3	0	0	0	141,228	0	0	18,000	0	159,228
4	0	0	5,000	75,524	15,000	42,140	3,000	6,516	147,180
5	57,024	21,384	10,000	170,525	40,000	134,823	12,500	0	446,256
Grand Total	380,000	100,000	50,000	2,150,000	250,000	1,494,153	445,000	490,000	5,359,153

	Co-finance	GEF	Grand Total
Component 1: Disposal of POPs/obsolete pesticides and contaminated material			
1.01 Critical stores safeguarded	562,688	0	562,688
1.02 Intermediate collection centres and central collection centre created	113,279	150,000	263,279
1.03 Remaining obsolete pesticides repacked into UN approved packaging	406,266	301,100	707,366
1.04 Shipment of POPs and other obsolete pesticides to a destruction facility	15,845	11,500	27,345
1.05 Destruction of POPs and other obsolete pesticides in an environmentally sound manner	1,097,412	120,000	1,217,412
1.06 Recycling/disposal strategy developed and demonstrated for 53 000 contaminated empty containers disposed of	3,000	298,398	301,398
1.07 Risk reduction strategy developed and demonstrated for sites with heavily contaminated soil and building materials	85,160	256,730	341,890
1.08 Recycling/disposal strategy developed and demonstrated for 5 400 contaminated sprayers	0	68,250	68,250
Component 1 Total	2,283,650	1,205,978	3,489,628
Component 2: Capacity building for pesticide life-cycle management			
2.01 New pesticides legislation approved	0	20,720	20,720
2.02 Capacity built to implement new legislation	5,000	9,420	14,420
2.03 Biological control established for key citrus pests	92,700	0	92,700
2.04 IPM approaches for citrus developed and adopted	341,966	136,665	478,631
2.05 Opportunities and next steps identified for IPM in priority crop(s) other than citrus	60,450	51,965	112,415
2.06 FAO's Pesticide Stock Management System (PSMS) operationalized in Eritrea	0	53,405	53,405
2.07 Regulatory staff from MoA and MoLWE trained in pesticide risk management and regulation	5,000	37,575	42,575
2.08 MoA staff trained in needs assessment and procurement of pesticides, stock management and equipped to provide necessary training to storekeepers	0	33,615	33,615



	Co-finance	GEF	Grand Total
2.09 Empty container scheme piloted in Zoba Maekel	0	88,385	88,385
2.10 Plan developed and implemented to upgrade pesticide quality control laboratory at RSD	55,000	124,995	179,995
Component 2 Total	560,116	556,745	1,116,861
Component 3: Information and Communications			
3.01 Mass awareness campaign on pesticide risk reduction implemented	18,000	103,652	121,652
3.02 Raised awareness of IPM amongst policy-makers	0	37,576	37,576
Component 3 Total	18,000	141,228	159,228
Component 4: Monitoring and Evaluation Total	71,656	75,524	147,180
Component 5: Project Management	275,731	170,525	446,256
TOTAL	3,209,153	2,150,000	5,359,153

The financial status of the GEF project, based on the official financial statement made available from FAO CO, as of March 2, 2016 is as following:

GEF Grant allocation (USD)	2,150,000
Funds received (USD)	500,000
Actual expenditures (USD)	714,083
Commitment & Actuals (USD)	1,213,034
Project balance including Commitment & Actuals g (USD)	936,966
Project Balance (actual) (USD)	1,436,966

6.2 ADEQUACY AND REALISM OF BUDGET ALLOCATIONS TO ACHIEVE INTENDED RESULTS

Considering the availability of significant cash co-financing for the disposal of pesticide stockpile, which apparently will even not reach the 365 tons contractually agreed with the provider of disposal services, the budget allocation for Component 1 seems realistic. Budget allocation would not however be sufficient to cover the actual implementation of contaminated site remediation, including the building of a central storage facility for hazardous waste. Indeed, the objectives declared in the project document (para 2.4 project benefit) clearly talk about POPs and obsolete pesticides. As far as the strategic objective of the GEF 4 focal area is concerned, it is “to reduce and eliminate production, use and release of POPs”. Indeed, the very name the GEF 4 focal area strategy is “Persistent Organic Pollutant Focal Area Strategy”. The project document indeed specifies clearly that only in the case of POPs the benefit is global (GEB). Therefore, the building of a landfill for non-POPs pesticide waste and contaminated soil is of limited effectiveness with reference to the key objectives of this GEF project. Giving the fact that in the contaminated site POPs have not been identified, the project efforts should be limited to the countermeasures aimed at preventing exposure of people to the contaminated material. No issues have been identified concerning the budget allocation for the other project components.



6.3 ADEQUACY AND REALISM OF BUDGET REVISIONS ON MATCHING IMPLEMENTATION NEEDS AND PROJECT OBJECTIVES

The project did not undergo budget revisions. Based on the available information, need for budget restructuring or reallocation among components is not necessary.

6.4 DELIVERY AND USE OF CO-FINANCING INCLUDING TIMING ASPECTS

Based on the report “Briefing Note for GEF Evaluation Mission to Eritrea 4-8 February 2013 FAO’s POPs Projects in Eritrea Co-financing projects” (FAO Project Management Unit, February 2013), the co-financing projects that were operational before the CEO approval of the GEF Projects have now been completed. The only exception is GCP/ERI/017/JPN Disposal of Obsolete Stocks in Eritrea. This project is the major co-financer for the GEF project and is being operated contemporaneously. The project is operational and has a budget of USD 1.5M.

The other co-financing projects, that directly contributed to the implementation of specific project activities, and which have been already completed, are:

- TCP/ERI/3203 – Safeguarding Critical Sites. The project completed the repacking of obsolete pesticides at some of the most critical stores in Eritrea including Daeropaulos, Paradizo, Ghinda and Sheka Eyamo. Approximately 90 tonnes was repacked including Diedrin.
- TCP/ERI/3204 – Capacity building in IPM in Citrus. The project undertook capacity building in IPM in Citrus including the bio-control of woolly whitefly (WWF). The project attempted to introduce a parasitoid of WWF into the country but was unsuccessful. This activity should have been followed up by the GEF project, however the IPM in Citrus was eventually replaced by the IPM in tomato crops for fighting the *Touta absoluta* pest.
- GCP/ERI/015/EC – Food Facility Project. The project also had a component on capacity building on pest management. It included a study tour of IPM practices in the Philippines for high level policy makers, the aim of which was to sensitize senior staff of the Ministry of Agriculture to the effectiveness of IPM in controlling pests, reducing costs and reducing exposure of farmers, consumers and the environment to harmful pesticides. The project also trained in Tanzania 6 Experts from the Ministry of Agriculture as IPM and Farmer Field School (FFS) master trainers to assist in the diffusion of the approaches through the Extension department. The University of Wageningen undertook an IPM and FFS in Eritrea for a wider group of staff from the Ministry of Agriculture. The GEF project undertook a second study tour in Jordan.
- Croplife International. Croplife International have signed a framework agreement with FAO and will contribute to the disposal of stocks originating from their member companies. The value of their contribution is expected to be USD 280k. As of now, croplife contributed with 100k USD for the technical advisor of the TCP project.



7 ANALYSIS OF GENDER MAINSTREAMING FOR GENDER EQUALITY

At the time of project drafting, there were no mandatory requirements either from the GEF or FAO to include gender mainstreaming among project criteria, activities and indicators. Therefore, gender mainstreaming was not considered in the project design, and there is little evidence of the adoption of gender mainstreaming policies in project implementation.

FAO has established in 2013 a policy on gender equality which is in alignment with UDHR (Universal Declaration of Human Right), CEDAW (Convention on the Elimination of all Forms of Discrimination Against Women) and SWAP (UN System-Wide Action Plan on Gender Equality and the Empowerment of Women). The goal of FAO'S policy on Gender Equality is to achieve equality between women and men in sustainable agricultural production and rural development for the elimination of hunger and poverty.

Based on that, FAO will work with countries, other UN agencies, civil society organizations (CSOs) and bilateral and private sector partners to make progress toward achieving these objectives by 2025:

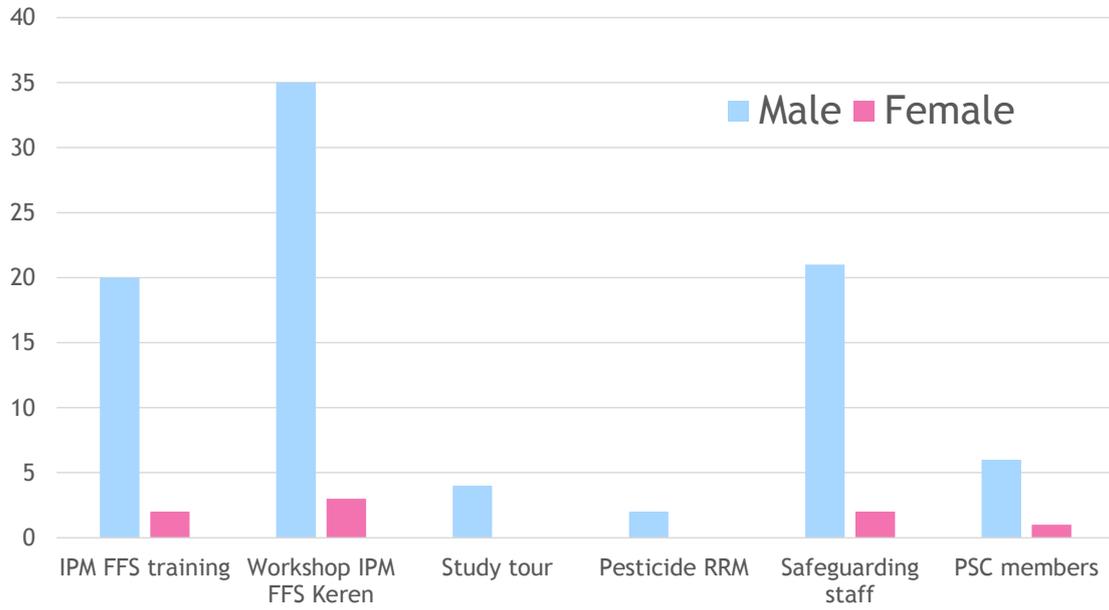
- 1) Women participate equally with men as decision-makers in institutions and in shaping laws, policies and programmes.
- 2) Women and men have equal access to and control over decent employment and income, land and other productive resources.
- 3) Women and men have equal access to goods and services for agriculture development and to markets.
- 4) Women's work burden is reduced by 20% through improved technologies, services and infrastructure.
- 5) The share of total agriculture aid committed to projects related to women and gender equality is increased to 30%.

These policies are of outmost importance for the completion of remaining project activities, with specific reference to training, communication strategy and awareness raising activities which are still pending. It is expected therefore that FAO would disseminate the above at the national level to give the team the opportunity to integrate the pending activities and to consider the same in the preparation of new projects.

Based on the data of training attendance, an analysis of participation of women in project implementation activities is reported below, showing that there is the need to increase gender mainstreaming in all project activities. It is acknowledged that at this stage there are areas in which the project may have little control. However, suggestion and best practices from other projects and countries should be introduced, including how gender issues may be introduced in international legislation on occupational health.



Partecipation in project activities





8 LESSON LEARNED AND SUCCESS STORIES.

8.1 SUCCESS STORIES

There are two potential success stories in at least 2 important fields – safeguarding and disposal of pesticides and training on IPM.

The safeguarding and disposal is being carried out by a competent staff which is often operating in difficult conditions. Until now the project achieved the shipment abroad for disposal of around 150 tons of pesticides, whilst around 220 have been safeguarded in the Daeropoulos site. Beside the achievement in terms of amount of POPs treated, the experience gained by the safeguarding team in the selection and use of proper PPE and in safeguarding procedures will remain an important asset to safeguard other stockpiles that may be found in the future.

IPM/FFS on tomatoes was perceived by all the trainees like a successful and very useful experience. All the trainees interviewed reported enthusiastically about the training. Notwithstanding the sensitivity of the tomato crops, the training demonstrated practically the effectiveness of IPM implementation in preventing attack by parasites and strengthening the plants. The result which were obtained through the adoption of the recommended IPM practices demonstrated that these have the potential not only to reduce the impact of agriculture on the environment, but could also significantly increase the income of farmers.

8.2 LESSON LEARNT

The key lesson learnt concern safeguarding and disposal of pesticides, training in IPM and communication on financial management.

On IPM, in spite of the good results achieved through the training conducted by the international consultant, the interruption of training activities due to the resigning of the international consultant prevented the project to achieve the final goal in this sector – including the development of IPM manuals. The project so far failed to identify an alternative international consultant (based on information gathered through interviews and meetings, although the government asked FAO to hire an international consultant to replace the one who resigned. A more continuous communication among parties (international consultant, the Government and FAO) could have probably helped to avoid this issue.

On the safeguarding activities, the well-motivated team (the National Project Coordinator, the Technical Advisor and the safeguarding staff) faced often issues related to the difficulties in the procurement of safeguarding equipment and the payment of DSA and hazardous allowance of the safeguarding staff, this latest issue mostly due to the resigning of the Country representative. The lesson is that there is the need for a stricter interaction among technical and administrative staff, the former in trying to anticipate as much as possible the procurement and financial needs, the second to speed and give priority to procedures which if not timely completed may hinder project result and even put at risk the safety of the operations (for instance, in case of unavailability of PPE).



Finally, an important lesson learnt concerned the need to regularly communicate the financial status of the project. Based on the result of two meetings at MoA/RSD and the final discussion during the debriefing meeting, it became clear that the lack of communication among partners on this aspect indeed may have as consequence a reduced ownership of the project by the Government. The lesson to be learnt is that an improved communication on budgetary issue may also increase the ownership of the project. Most of the stakeholders interviewed, with specific reference to the chair of the Steering Committee and PMU staff complained about the lack of information on the budget which, although officially requested, was never communicated by FAO .



9 PROJECT OVERALL RATING

In the table below the rating for the project, based on field mission, interview with key stakeholders and examination of the key documentation is proposed.

Evaluation Ratings:			
1. Monitoring and Evaluation	<i>rating</i>	2. IA& EA Execution	<i>rating</i>
M&E design at entry	S	Quality of FAO Implementation	S
M&E Plan Implementation	MU	Quality of implementation by the GoE	MU
Overall quality of M&E	MS	Overall quality of Implementation / Execution	MS
3. Assessment of Outcomes	<i>rating</i>	4. Sustainability (Risk)	<i>rating</i>
Relevance	HS	Financial resources:	L
Effectiveness	MS	Socio-political:	L
Efficiency	MS	Institutional framework and governance:	M
Overall Project Outcome Rating	S	Environmental	M
		Overall risk for sustainability:	M



10 RECOMMENDATIONS

The following recommendations may be put forward as a result of the MTR. The addresses are clearly identified in each recommendation.

Recommendation 1:

On the **management** side, the following are recommended:

- FAO CO to prepare budget at least at component level, to be shared with the next SC meeting and then periodically at each SC meeting;
- FAO CO to ensure that safeguarding staff are paid appropriately and timely;
- RSD/MOA and MOLWE to agree on a common PMU office (with internet connection) where PMU staff meet regularly to manage the project;
- RSD/MOA, MOLWE, FAO and TA to hold a plenary meeting of the SC with the task to provide feedback to this MTR report, decide on pending activities (IPM, legislation, landfill site) and draft an annual workplan including budget;
- SC chair to set the date for at least other 3 SC meeting before project closure, and take care of the organization and reporting concerning SC meeting (this cannot be the duty of the TA);
- NPC to take the lead the drafting of PPRs and the next WPs with TA support;
- NPC to ensure that the other project components (IPM, legislation, communication) are managed with the same attention of safeguarding activities.

Recommendation 2:

On **IPM (component 2)**: the project should recruit urgently another consultant to complete the work of the previous IPM consultant, with specific reference to the drafting of curricula and guidance documents. The project should ensure that enough material (with specific reference to pheromone traps) is made available for the replication of IPM activities. A replication plan, where the contribution of FAO and MoA is clearly identified, should be agreed.

Recommendation 3:

On **Safeguarding of pesticide stockpiles (component 1)**: although late, there is still the need to have the new storage facility built, both for the completion of the safeguarding activities of this project, and for future sustainability of pesticide management in the country. Therefore there is the need to speed up the design and building of the temporary storage. The pesticides and contaminated waste in the contaminated storage in Daeropaulo should be packaged and removed. FAO CO and TA should continue working together on the procurement of packaging materials.



Recommendation 4:

Concerning the **demonstration of contaminated site clean-up (component 1)**: It is likely that the building of a safe landfill for contaminated soil cannot be completed within project timeframe and resources. The project should however at least cover the design and environmental impact assessment of the landfill.

Recommendation 5:

Based on the information received, the issue of **pesticide contaminated sites** is very likely not limited to the Massawa site, but concern at least the Daeropoulos storage and a number of unreported sites throughout the country. By project closure it would be very useful for future programming and follow-up to achieve at least a preliminary inventory of sites contaminated by pesticide, with specific reference to POPs pesticides.

Recommendation 6:

The **Communication Strategy (component 3)** should include specific actions aimed at increasing the awareness related to POPs pesticides, mostly for importers and retailers of pesticides, and for final users. 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 all the remaining project activities.

Recommendation 7:

The **Concept Note on the management of Empty Containers (component 3)** should be further developed to include an estimation of the mass flow in term of containers and water, measures aiming at preventing exposure of workers and the environment, options for the collection and disposal of pesticide residues after evaporation of water in the evaporation tanks is completed.



11 ANNEXES

A. LIST OF PERSONS MET

List of person met and interviewed:

- Genevieve Braun, Programme Officer, FAO-GEF Coordination Unit (FAO/HQ)
- Richard Thompson, Toufic El Asmar, Technical Officers, Plant Production and Protection Division (Lead Technical Unit)
- Christine Blunt (FAO Representative)
- Paulos Andemariam, Ghenet Testfazion (representation of FAO in Eritrea)
- Mr. Tekleab Misghina (RSD, DG) head of PSC
- H.E. Minister of Agriculture Arefaine Berhe
- Heruy Asghedom DG Agricultural Extension Department and Bereke Okbamicael
- Mogos Weldeyohannes DG, MOLW and Kibron Asmeron (Env. Dep.)
- Trainees at Zoba Maekel
- Teklu Sium (head of the crop and livestock div.) and Keleab Haile (NPC)
- Michael Hansen (Project Chief Technical Adviser, FAO) (Skype conference call)
- Doct Adugna Haile (IPM task leader)
- Kuen Morebotsane (Funding Liaison Officer, FAO-GEF Coordination Unit)
- Farmers in Mendefera



B. MTR MISSION AGENDA AND AND SITE VISITS

NO.	DATE	TIME		ORGANIZATION	PERSON TO BE MET
Day 1	29/2/16	9:30 - 10:15	A.M.	FAO	MS. GHENET TESFAZION, MR. PAULOS ANDEMARIAM
	29/2/16	10:30 - 11:00	A.M.	FAO	MS. CHRISTINA BLUNT, FAO-REPRESENTATIVE
	29/2/16	11:15 - 12:00	NOON	RSD, MOA	MR. TEKLEAB MISGHINA, DG-RSD MR. KELEAB HAILE, NATIONAL PROJECT COORDINATOR
	29/2/16	2:00 - 6:00	P.M.	FAO	REVIEWING PROJECT DOCUMENTS AND REPORTS
Day 2	01/03/16	8:30 - 9:00	A.M.	MOA	H.E. MR. AREFAINE BERHE, MINISTER-MOA
	01/03/16	9:30-10:30	A.M.	APDD	MR. HURY ASGEDOM, DG, PROMOTION & DEVELOPMENT MR. BEREKE OKBAMICHAEL, DIRECTOR-CROP & LIVESTOCK DIV.
	01/03/16	11:00-12:00	NOON	RSD, MOA	MR. TEKLEAB MISGHINA, DG-RSD
	01/03/16	2:00-3:6:00	P.M.	FAO	REVIEWING PROJECT DOCUMENTS AND REPORTS
Day 3	02/03/16	8:30-9:30	A.M.	MOLWE	MR. MOGOS WELDEYOHANES, DG, DEPARTMENT OF ENVIRONMENT MS. ASTER REDAE, DIRECTOR MR. KIBROM ASMEROM
	02/03/16	10:00-10:30	A.M.	HAC	Dr. Adughna Haile
	02/03/16	10:30-12:00	NOON	Daeropaulos pesticide store	SITE VISIT
	02/03/16	2:30-3:00	P.M.	ZOBA MAEKEL	IPM-FFS TRAINEES
	02/03/16	3:30-6:00	A.M.	FAO	PREPARE MINUTES AND NOTES
Day 4	03/03/16	8:00-2:00	P.M.	FIELD VISIT TO MENDEFERA	IPM-FFS ON TOMATO
	03/03/16	3:30-4:30	P.M.	FAO	MR. MICHAEL HANSEN, PROJECT TECHNICAL ADVISER
	03/03/16	4:30-6:00	P.M.	FAO	PREPARING MINTUES AND NOTES
Day 5	04/03/16	9:00-11:00	A.M.	DEBRIEFING MEETING	WITH CONCERNED PROJECT STAKEHOLDERS
	04/03/16	2:00-6:00	P.M.	FAO	PREPARING MINTUES AND NOTES

C. PHOTOGRAPHIC DOCUMENTATION



The Daeropaulos pesticide storage site near Asmara



Pesticide stockpiles pending shipment for disposal in Daeropaulos site



Plastic containers stored in Daeropaulos site



Empty containers found in a section of Daeropaulos site during the visit of the MTR consultants



Use of pheromone traps against *Tuta absoluta* in Mendefera site



The Massawa site (courtesy of PMU)



The Massawa site (Courtesy of PMU)



D. LIST OF DOCUMENTS REVIEWED

- Cobban, R. (April 2015). *BTOR - Back To Office Report - Mission 2nd March - 4th April 2015*.
- FAO. (2012). *PIR- Project Implementation Review 2012-1 July 2011 to 30 June 2012*.
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- FAO. (2014). *PIR-Project Implementation Review 2014 - 1 July 2013 to 30 June 2014*.
- FAO. (2015). *PIR- Project Implementation Review 2015-1 July 2014 to 30 June 2015*.
- FAO. (April 2009). *PIF-Project Identification Form*.
- FAO. (December 2009). *Project Document-Prevention and Disposal of Persistent Organic Pollutants (POPs) and Obsolete Pesticides in Eritrea Phase II*.
- FAO Project Management Unit. (April 2015). *Actions required for initiating Demonstration Project for Remediation of Contaminated Sites*.
- FAO Project Management Unit. (December 2012). *Specification for the establish of fence at the Massawa old Airport*.
- FAO Project Management Unit. (December 2014). *Mission Report December 2014*.
- FAO Project Management Unit. (December 2015). *Mission Report September 2013 (draft)*.
- FAO Project Management Unit. (February 2013). *Briefing Note for GEF Evaluation Mission to Eritrea 4-8 February 2013 - FAO's POPs Projects in Eritrea*.
- FAO Project Management Unit. (February 2014). *Concept Paper for Empty Pesticide Container Management in Eritrea*.
- FAO Project Management Unit. (February 2014). *Mission Report January 2014*.
- FAO Project Management Unit. (February 2016). *Mission Report January- February 2016*.
- FAO Project Management Unit. (January 2014). *INVITATION TO BID- Supply of a series of Multimedia Products supporting the Prevention & Disposal of POPs & Obsolete Pesticides Project Information and Communication (IC) Strategy (draft)*.
- FAO Project Management Unit. (January 2014). *Prevention & Disposal of POPs & Obsolete Pesticides Projects - Communication Strategy*.
- FAO Project Management Unit. (January 2016). *Project Progress Report (January - June 2015; July- December 2015)*.
- FAO Project Management Unit. (June 2014). *Mission Report June 2014*.



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FAO Project Management Unit. (May 2014). *Mission Report May 2014*.

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FAO Project Management Unit. (September 2014). *Mission Report September 2014*.

FAO, Isabelle Pierarrd. (April 2013). *Inception Report - Prevention and Disposal of POPs and Obsolete Pesticides in Eritrea - GCP/ERI/014/GFF & GCP/ERI/017/JPN*.

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Hansen, M. (June 2013). *BTOR - Back To Office Report - Mission 27 May- 7 June 2013*.

Impiglia, A., & Awamdeh, A. (June 2014). *BTOR - Back To Office Report - Mission 9-14 June 2014*.

Nyambo, B. (September 2015). *BTOR - Back To Office Report - Mission 18th August- 10th September 2015*.

PSC - Project Steering Committee. (April 2015). *Minutes of the Meeting - 6th Steering Committee Meeting*.

PSC - Project Steering Committee. (December 2015). *Minutes of Meeting - 8th Steering Committee Meeting (draft)*.

PSC - Project Steering Committee. (September 2015). *Minutes of Meeting - 7th Steering Committee Meeting*.

Saunyama, I. (November 2015). *Technical backstopping to support the Integrated Pest Management (IPM) Farmer Field School (FFS) component and FFS Trainer of Trainers (ToT) Training workshop - GCP/ERI/014/GFF*.

Thompson, R. (July 2011). *BTOR - Back To Office Report- Mission 23-30 June 2011*.