Disposal of POPS Waste and Obsolete Pesticides in Mozambique

GCP /MOZ/100/GFF
GEF ID: 3986

Mid Term Review Report

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ACRONYMS AND ABBREVIATIONS

AGP	Plant Production and Protection Division
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
DANIDA	Danish International Development Agency
DINA	Direction National the Agriculture
EMP	Environmental Management Plan
HQ	Head Quarter
MADER	Ministry of Agriculture and Rural Development
MINAG	Ministry of Agriculture
MICOA	Ministry of Coordination of Environmental Affairs
MWS	Matola Waste Station
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
REA	Rapid Environmental Assessment
SAICM	Strategic Approach to International Chemicals Management
SC	Stockholm Convention
STAP	Scientific and Technical Advisory Panel
SWAP	UN System-Wide Action Plan on Gender Equality and the Empowerment of Women
TA	Technical advisor
TCI	Investment Centre Division
UTF	Unilateral Trust Funds

1 INTRODUCTION

This Mid Term Review report of the GEF project "Disposal of POPs waste and Obsolete Pesticides in Mozambique -(FSP) (GCP /MOZ/100/GFF) has been prepared, in compliance with TOR requirements, to identify the operational bottlenecks in Mozambique that hinder the project implementation and achievement of results. The MTR examined the project management and adaptive management, reviewed the progress being made by the project towards achievement of results, identified weaknesses and gaps, and recommended corrective actions as required. The Mid Term Review envisaged one mission in Mozambique, meetings and interviews at both FAO CO in Maputo and FAO HQ in Rome, and the examination and assessment of all available documents related to the GEF project or to the associated co-financing projects.

1.1 NOTES ON PROJECT HISTORY

The FAO - POPs project in Republic of Mozambique "Disposal of POPS waste and Obsolete Pesticides in Mozambique - (FSP) (GCP /MOZ/100/GFF)" was launched on August 2011. The table below summarizes the key project dates.

KEY PROJECT STEPS	DATES
PIF Approval Date	2009-04-24
Approval Date	2009-06-24
CEO Endorsement Date	2010-12-23
Project Start Date	2011-08-07
MTR in-country visit	12 – 18 March 2016
Anticipated Project Closing Date	2016-09-30 (from PIR)

As described below, the project is articulated in 3 components, which are logically concatenated and well-structured in clear outcomes and outputs, which with few exceptions comply with SMART criteria (Specificity, Measurability, Achievability, Relevant and Time Bound). The project has to be considered very relevant to the GEF 4 focal area objectives on POPs, as its key objective is to "*reduce the risks posed by POPs and pesticides wastes in Mozambique through the development of a national risk profile of contaminated sites and other POPs / pesticide contaminated materials*".

1.2 PROJECT CONTEXT AND PROJECT SUMMARY

A first big program on obsolete pesticide disposal was carried out in Mozambique with DANIDA support in 1996. Under the DANIDA project, 900 tons of pesticides were shipped to Denmark for disposal.

At that time, DANIDA intended assist to the Government of Mozambique in upgrading the cement kiln located at Matola, to have the capacity to destroy pesticide waste and other toxic substances. This proposal faced significant NGO and civil society opposition. Led by Green Peace, NGOs cited the risk of release of toxic

by-products of incomplete combustion such as dioxins and furans to the atmosphere as the main objection to the proposed project. As a result, the proposal to use the cement kiln to destroy toxic waste was abandoned. In late 2001, DANIDA funded the disposal of 900 tonnes of obsolete stocks, in a dedicated incinerator in Europe, at a total project cost of US$9.5 million. Minimal coordinated or complimentary action was undertaken, and therefore pesticide stocks continued to accumulate.

In 1996, during the Danish project, there was a huge outbreak of locusts. In 1999 the government of Mozambique, with technical and financial assistance of Japan bought a large quantity of specific pesticide to control locust. The procurement did not however consider the limited experience of the farmer and the lacking of specialized equipment. Most of these pesticides where indeed Ultra Low Volume (ULV) pesticides requiring special sprayers, which were obviously not accepted by the farmers. These pesticides therefore were stored and rapidly expired, becoming obsolete. From 2003 to 2005, an inventory was prepared under Japanese funds. The inventory was completed by national staff with FAO training.

600 tons of pesticides were identified. At that time, the legislation on pesticide management was not in force. Many containers were without expiration and manufacturing data. The labels were not in Portuguese, and for these reasons, all these products were considered as obsolete. When the inventory was finished, it was clear that there was the need to develop a project for safeguarding the obsolete pesticide. This project was prepared and submitted to the Japan government, which supported it, also because most of the identified obsolete pesticides where imported into Mozambique by Japan. During the implementation of the project, Japan decided to support also the safeguarding, but not the disposal. Japan placed 1.2 million USD for the safeguarding, and asked FAO to be the budget holder to improve management of the funds. That was the so-called Phase 1 project.

The chair of the steering committee of the Phase 1 project was at that time the Ministry of Agriculture, co-chaired with the Ministry of Environment. When Mozambique started that project, the name of the Ministry of Agriculture was MADER (Ministry of Agriculture and Rural Development). Under MADER there were national directorates. One is DINA (Direccion National de Agricultura). Under DINA, again, there were departments, one of which is PPD (DSV) Plant Protection Department. Finally, the fourth hierarchical level is the section level. One of the sections in that time was called Pesticide Registration and Control Section (RRCP). The chair of the steering committee was the director of DINA; co-chaired with the Ministry for coordination of environmental affairs (MICOA).

Phase II project, which concerned collection and safeguarding of pesticides, was chaired by Ministry of environment, (MICOA – DNAIA – National Directorate for Environmental Impact Assessment), co-shared with the Ministry of Agriculture. When the project started, Mr. Khalid Cassam – the current National Project Coordinator (NPC) of the GEF project - was head of the RRCP. In that project, DNAIA nominated a NPC (National project coordinator) and Mr. Khalid Cassam was appointed as the NPM (National project manager). Phase II project run from 2006 to 2008. There were 6 months of gap during which pesticides were intensively used. Therefore, when the project carried out the safeguarding in phase II, only 384 tons of obsolete stocks were found– the rest being used by the farmers. That project identified three contaminated sites with pesticide storages, one in Maputo, one in Beira and one in Nampula. Under Phase II a new legislation was developed. The legislation was approved after the project.

For the Phase III project (FAO GCP/MOZ/080/JPN) 1.2 million USD were allocated. In this project, government people were hired to make collection and safeguarding. Phase III lasted from 2009 to 2010. The Ministry of Agriculture (new name MOA) chaired the project. The new name for DINA was National Directorate for Agrarian Services. The name of PPD remained the same. The RRCP name changed to RRCA (agrochemicals).

The Phase IV project with funds (1,819,000 USD) that originated from the Government of Japan (UTF/MOZ/107/MOZ Prevention and Disposal of Obsolete Pesticides and Associated Wastes in Mozambique) is being implemented in conjunction with this GEF funded project "Disposal of Persistent Organic Pesticides (POPS) and Obsolete Pesticides in Mozambique" (GCP/MOZ/100/GFF) ("the GEF project") and the Strategic Approach to International Chemicals Management (SAICM) project "Reducing Risks of Highly Hazardous Pesticides in Mozambique" (the SAICM project). The GEF and SAICM projects started in August 2011 and April 2012, respectively. Both projects are complimentary to the Unilateral Trust Funds (UTF) project.

Actually the UTF, the GEF project and SAICM Phase IV projects share the same steering committee. The budget holder of the UTF project is FAO Representative in the country (FAOR) , whilst Rome HQ (Plant Production and Protection Division manages the GEF budget. The GEF project was halted waiting for availability of more storage from the Japanese project. The project extension was approved by the FAO-GEF coordination unit, however as the FAO system was not updated there was the need to use some of the Japanese fund to cover GEF project activities pending disbursement of FAO resources.

The GEF project was implemented in parallel with the first phase of the GEF supported Africa Stockpiles Programme (ASP) and adopted the same operational standards as the ASP. The GEF project under review, with a budget of 1.9 million, builds on the aforementioned work and consists of three technical project components:

- Component 1 (disposal) focus on the areas of disposal of approximately 70 tonnes of pesticides identified as part of previous initiatives plus the excavation and treatment of pesticide burial sites (100 tonnes), and treatment of contaminated pesticide containers remaining from past projects;
- Component 2 (life cycle management) further examines how to improve pesticide life cycle management by using FAO-developed systems for registration and distribution of pesticides, the drafting and adoption of waste management regulations for pesticide wastes and the development of a sustainable system for management of pesticide containers;
- Component 3 (project management) focus on the development of additional capacity for project management, monitoring and evaluation in Mozambique government departments.

1.3 SUMMARY OF PROJECT IMPLEMENTATION

Component 1: Disposal of buried pesticides, contaminated soils and contaminated containers

Detailed Remediation Plans have been completed and approved by the government for three selected contaminated sites (Matola Waste Station, Lamego Farm and Muziva site) as agreed during a stakeholder meeting in 27/6/2014)). The project is carrying out the tender for demolition of one contaminated storage facility In Lamego. However, due to military operation taking place in some part of the country , FAO security rules do not allow to access some of the project operation in that area.

After the demolition, the project would start the tender for clean-up of the three sites. This activity is too delayed to be completed within 2016. The remediation plans involve sending the contaminated soils to the Mavoco hazardous waste landfill site in Maputo or building a new dedicated landfill; while the most highly contaminated soils with high POPs levels will be shipped abroad for disposal with other obsolete pesticide wastes.

The PIR (Project Implementation Review) 2014-2015 advised that due to the revised US EPA thresholds for soil contaminant- levels, the project is required to review and update methodologies outlined in the Environmental Management Plans EMPs. Indeed the main issue on this component is that the amount of POPs and pesticide waste identified is ten times larger than envisaged in the project document, and moreover, the technical documents are not enough detailed to start with the preparation of bidding documents. For this reason, the disposal of POPs contaminated material did not start yet.

Component 2: Strengthening of Pesticide life-cycle management

A study tour to Brazil was conducted in 2013/4, an international consultant visited Mozambique in September 2014 and a draft container management feasibly report has been submitted in August 2015 to inform the development of a pilot scheme in Mozambique.

Whilst a draft regulation on pesticide management has been developed, have been already examined by the technical council of the Ministry of Agriculture, and are being translated, the waste management guidelines are still on hold as these are linked to the development of a national strategy on hazardous waste which has still to be developed. An international consultant has been recruited to conduct this task, however he based on interview with NTC he did not deliver the expected outputs.

Component 3: Management

The project is administered by staff from the Ministries of Agriculture (MINAG) and Coordination of Environmental Affairs (MICOA) based in Maputo. Project oversight is provided by a national project steering committee chaired by the responsible national director of MINAG with inputs from all involved line ministries, national NGO partners, the pesticide industry, local academia, and FAO. Day-today project implementation is coordinated by a Project Management Unit (PMU) established at MINAG and headed by a national project manager.

The management is in line with the original design established in the project document, with few issues:

1) Delay in the transfer of GEF grant fund form FAO HQ;
2) Need to improve the co-financing accounting
3) Reduction (agreed at SC) of the reporting frequency, from monthly to biannual.

2 METHODOLOGY

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

The MTR required the analysis of all the relevant project documents, meetings in Mozambique 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 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 close 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 outputs. Then the 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 Term 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.

The Government of Mozambique has demonstrated a constant commitment to address POPs and other obsolete pesticide issues with its commitment and contributions to the inventory, safeguarding and disposal projects from 2003 to the GEF project under review. During these activities Government vehicles, logistical services, storage facilities, offices, and many other resources were made available to the project. The past government contributions to the Phase 1 – 3 projects plus the estimated contribution to this project are included as co-financing in the project budget tables.

Mozambique has ratified the Stockholm Convention on Persistent Organic Pollutants (31 December 2005), the Basel Convention on transboundary movement of hazardous waste (20 January 1992), and the Rotterdam Convention on the Prior Informed Consent process for trade in certain hazardous chemicals (29 October 2009).

Mozambique completed its Stockholm Convention National Implementation Plan (NIP) in March 2008. The National Implementation Plan lists the following as top priorities for the country:

- Establishing environmentally sound technologies to manage POPs and PIC pesticide wastes;
- Developing mechanisms for promoting proper management of stockpiles of PIC and POP Pesticides wastes and contaminated sites.

Mozambique's NIP highlights the need for "urgent remedial measures" to address POPs-contaminated sites. Priorities outlined in the NIP include: disposal of POPs wastes, capacity building in terms of human resources

and technical infrastructure, remediation of contaminated sites, the establishment of POPs monitoring schemes, strengthening policy and regulatory regime and awareness raising.

Based on the above, it may be affirmed that the relevance of project general objective and with 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 long term objective of the GEF 4 Persistent Organic Pollutants focal area strategy 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 POPs FOCAL AREA IMPACTS	MAIN GEF INDICATORS	PROJECT RELEVANCE (AS FROM THE PROJECT DOCUMENT)
GEF-supported countries have strengthened capacity for POPs management and consequently strengthened capacity for the general sound management of chemicals.	Regulatory and enforcement capacity in place.	**High. Component 2 of the project (Improved pesticide life cycle management)** with sub component 2.1 (Sustainable container management) sub component 2.2 (Legislative Framework) and sub component 2.3 (Pesticide stock management) are addressed to strengthen the capacity of the country in dealing with pesticides and POPs pesticides.
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.	**High. Component 1 of the project deal with the disposal of obsolete pesticide (sub component 1.1** *Buried pesticides and contaminated sites; Sub-component 1.2: Contaminated pesticide containers)*. This component establishes a target of around 70 tons of obsolete pesticides.
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.	**High. Component 1 of the project deal with the disposal of obsolete pesticide (sub component 1.1** *Buried pesticides and contaminated sites; Sub-component 1.2: Contaminated pesticide containers).* The packaging and disposal of POPs pesticides (at least 70 tonnes) , and the cleanup of sites contaminated by POPs pesticide will generate environmental benefit at both global and local scale.

3.2 ANALYSIS OF THE PROJECT FRAMEWORK

The analysis of project result framework has been carried out based on the 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 *"reduce the risks posed by POPs and pesticides wastes in Mozambique through the development of a national risk profile of contaminated sites and other POPs / pesticide contaminated materials, [..] the development of detailed site specific waste*

management plans followed by the development and implementation of a national strategy for effective POPs waste management for existing and potential future wastes."

This objective is pursued by means of demonstration approach structured in 7 technical outcomes (management outcomes not being considered in this analysis):

- Outcome 1.1: The containment and removal of buried pesticides at prioritized high risk locations so preventing continuing environmental contamination and public health risks
- Outcome 1.2 The removal and safe treatment of all old pesticide containers produced as a result of implementation of past projects
- Outcome 2.1 The development of a sustainable system for container management in the future in collaboration with pesticide industry
- Outcome 2.2 Institutional capacity will be developed and national pesticide management policy will be strengthened to ensure the risk to the environmental and public health from obsolete pesticides and associated wastes is minimized in the future
- Outcome 2.3 Improved management of pesticides imported into Mozambique for agricultural and public health uses through all stages of the pesticide life-cycle that institutionalization of the PSMS
- Outcome 3.1 Monitoring and evaluation systems put in place to ensure project components are implemented effectively and efficiently. National staff trained in the application to allow their use in other projects
- Outcome 3.2 Project personnel from line ministries trained in the principles of project management which are applicable to a wide range of future challenges.

Specificity (S of SMART). In general, all the component and associated outcomes of the project are sufficiently specific. Component 1 deals with disposal of buried pesticide at prioritized site location and with the disposal of obsolete pesticide containers. The specificity of this component and of the associated outcomes allows for the unambiguous design of outputs and activities. Outcome 2.2, may be considered clear in its objectives and allowing a certain level of flexibility in its implementation. Outcome 2.3 refers to a very standard FAO activity, which is implementation of PSMS. Outcome 3.1 and 3.2 are standard activities related to project management.

Measurability (**M of SMART**) Although at the outcome level quantitative target are not established, these are more precisely established at output level. This occurs in particular for Outcome 1.1. and Outcome 1.2. and for Outcome 3. Outcomes under component 2 are 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. The level of measurability of the project is 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. The amount of pesticide stockpile, of buried pesticides and of containers to be safeguarded and disposed of are not high compared with the budget available for this component (70 tons of obsolete pesticides, an estimated number of 6000 containers, and 100 tons of buried pesticides). The achievability of approval of new regulation and the

implementation of a pesticide container strategy are more uncertain and more related to the commitment of the government and private stakeholders.

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 may be considered as having a direct impact on the release of POPs (all outcomes related to the characterisation, safeguarding and disposal of obsolete pesticides and POPs waste); whilst other, like the development of strategy for pesticide container, guidelines and legislation 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	Site specific environmental management plans (EMPs) prepared and disclosed	√	√	√	√	√
	Tender for remediation of high risks sites awarded	√	√	√	√	√
	At least 3 high risk sites remediated and disposal certificates issues in accordance with Basel Notification procedures	√	√	√	√	√
	Container treatment equipment delivered to Mozambique and commissioned	√	√	√	√	√
	All containers treated and clean material entered into local recycling chain	√	√	√	√	√
2	Report on container recycling options for new pesticide containers published and disclosed	√		√		√
	Pesticide regulation on container management submitted for government review and adoption	√			√	√
	Industry sector waste management plan for pesticide distributors prepared and submitted for review by govt	√			√	√
	Pesticide management guidelines published		√		√	√
	Waste management guidelines published		√		√	√
	PSMS installed and operational in MINAG and all registered pesticides loaded into the system. All waste inventory data from Outcomes 1.1 and 1.2 also entered	√	√		√	√
	Training certificates issued for all pesticide and customs inspectors	√	√		√	√
3	Monthly M&E reporting based on FAO component level M&E system. Reports entered onto project web page	√	√	√	√	√
	Health surveillance records (used to quantify if any pesticide exposure has occurred to workers)	√	√	√	√	√
	Training records available for inspection to ensure all staff are competent	√	√	√	√	√
	Component logical frameworks and critical path analyses approved and submitted as part of the annual work planning process	√	√	√	√	√

OUTCOME	INDICATORS	S	M	A	R	T
	Quarterly progress reports completed and available for review	√	√	√	√	√
	FAO 6-monthly reports completed and available for review	√	√	√	√	√
	SMART Total	16	15	12	17	18
	SMART %	88.9	83.3	66.7	94.4	100.0

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

Although not explicitly mentioned as baseline, in section 2.3 of the project justification (page 15 of the project document) is said that "*Assistance is required to dispose of the final 70 tonnes of disused pesticides, excavate and remediate contaminated sites, decontaminate containers and institute a system of container recycling*." In section 2.4 of the project document it's stated that "*The safeguarding of the remaining estimated 70 tonnes of pesticides stored at localities around the country, coupled with the excavation of POPs and other pesticides from eleven contaminated sites will remove particularly serious risks of old and deteriorated POPs pesticides and other pesticides that are threatening the environment and hence contaminating food, water, land and animals, as well as people who are directly exposed to the chemicals"*. Therefore it is assumed that the baseline consists of 70 tonnes of pesticides plus an indefinite amount of POPs and other pesticides to be excavated from contaminated sites.

In addition, the project document mentions that "*is estimated that over 6000 old pesticide containers of varying sizes and types are currently stockpiled in Mozambique.*" These figures come likely from the results and inventories of the various projects carried out in the country (the so called phase I, phase II and phase III projects) however in the project document the information on how these data are estimated are very limited.

A similar approach has been found in the project document for the definition of the baseline related to component 2. The project simply stated that the previous legislation is "outdated" but little if any elaboration on the gaps of the existing regulation is brought in the project document. As far as the need for PSMS is concerned, in the project document it is simply stated that "currently the MINAG uses an excel spreadsheet to account for and manage pesticide use".

Although it is understood that under GEF4 POPs focal area objectives , both POPs and non-POPs pesticides may be considered as Global Environmental Benefit, the project does not establish a specific target on POPs and the consistency of baseline figures and targets appears rather weak.

4 IMPLEMENTATION

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

In the latest PIR, the following issues are listed for the achievement of the expected project outcome and outputs:

- **Outcome 1.1 The containment and removal of buried pesticides at prioritized high risk locations thus preventing continuing environmental contamination and public health risks** *"Due to the revised US EPA thresholds for soil contaminant- levels, the project is required to review and update methodologies outlined in the EMPs. "Field work to determine the quantities of soil to be removed or decontaminated is on target and should be completed by the end of 2015. "*
- *"The remediation work cannot start before March 2016 to allow for the rainy season to end. The rainy season in Mozambique starts in November and ends in March/April. A request for a no cost extension of the project is necessary to allow for adequate time for the remediation. "*

Indeed, based on the outcome of the site visited and of the analysis of the technical documents made available, with specific reference to Environmental Management Plan and Remediation Plan, it appears that two main constraints are hindering the achievement of outputs under this outcome:

1) The Environmental Management Plans contain indication on the proper technology to be adopted, and the amount of waste to be disposed of. However, they do not contain engineering detail that could allow the preparation of bill of quantities and bidding documents for the procurement of excavation and disposal services. In addition, the amount of contaminated soil which should be excavated and sent to incineration or to a landfill (Mavoco landfill is proposed) appear still not consolidated or not supported by sufficient soil characterisation as in some of the EAs it is reported that sampling was limited due to budgetary constraints . Detailed site characterisation plans, which should be a key part of the remediation plans, are also missing in the EMPs. Therefore, it seems that a substantial work has to be done for the preparation of practical remediation plans which may be used as starting point for procurement of disposal services. Likely, site remediation activities cannot start before late 2016, however this will again overlap with the rainy season. On this basis, it appears reasonable to assume that the project should last at least until mid 2017 to achieve the expected results of remediation of the contaminated sites.
2) In the project document, an amount of 100 tons of buried pesticide waste has been assumed as target for component (Output 1.1.3). However, the EMPs drafted by the consultant identified an amount of contaminated to be disposed of in excess of 1100 tons, out of which at least 460 are POPs. Based on the data reported in the EMP, most of these soil is contaminated at a concentration of POPs (Endosulfan) largely exceeding 50 ppm, and should be therefore incinerated or disposed in such a way that the POPs contained therein are irreversibly destroyed. There are obvious budgetary consequences, as from similar activities, excluding excavation, the cost of shipment and disposal abroad spanned from 2.5 to 5 USD/kg. On this aspect therefore it is considered urgent to at least assess the financial implications of the uncertainty associated with the amount of pesticide waste to be disposed.
3) Based on information reported by FAO CO and the national project manager, there are security issues related to the military operations in the area of Lamego. The situation prevents FAO personnel to travel to the area. On this aspect the project has little control.

Outcome 1.2 Removal and safe treatment of all old pesticide containers produced as a result of implementation of past projects

The PIF states the following: *"A drum crusher has been procured to prepare the containers for export under the revised plan to export them under the Government of Mozambique co-financing project (UTF/MOZ/107/MOZ), which started in late 2014. However, the procurement of the materials and equipment for safeguarding under the UTF project was delayed thereby compromising the intended synchronization with the safeguarding that would have allowed for easier handling of all the generated empty containers".*

"The Safeguarding under the UTF project has started and will be completed by February 2016. The project team visited and inspected all old drums and recommend that about 50% of the containers be disposed of together with other obsolete pesticide waste since they hold significant amounts of pesticide residues that are now compacted and cannot, at this stage be removed through triple rinsing".

Based on site visits and interview, it resulted the drum crusher was never delivered to the safeguarding team, which is now packaging empty containers "as they are", even without rinsing due to the high cost of disposal of the rinsing water which is considered as an hazardous waste. The delay in the procurement of the crusher (under the UTF project) has therefore financial consequence on the implementation of safeguarding and shipment activities.

From the visit at the Boane storage site it was clear that the safeguarding activity was moving fast and was in a pretty advanced state. However, that activity was still going on in March 2016. Again, the security issue for the operation in other sites is of concern.

Outcome 2.1 The development of a sustainable system for container management in the future in collaboration with pesticide industry

"Following a study tour to Brazil in 2013/4, an international consultant visited Mozambique in September 2014 and a draft container management feasibly report has been submitted in August 2015 to inform the development of a pilot scheme in Mozambique. This draft is under evaluation by the project unit and will be discussed with the project management unit. Proposals are to initiate pilot testing of an empty container management strategy starting in October 2015".

During the site visit carried out by the MTR consultant in March 2016, the testing of the strategy was not started yet. The consultant had a meeting with Tecap (a distributor of pesticides and agricultural equipment) who proposed the implementation of a comprehensive strategy allowing not only the minimisation of the generation of empty container, but also the reduction of import of pesticides. Further meetings should be undertaken by the PMU with Tecap staff to verify the feasibility of their proposal.

Outcome 2.2: Institutional capacity developed and national pesticide management policy strengthened to ensure the risk to the environmental and public health from obsolete pesticides and associated wastes is minimized in the future

"The National Hazardous Waste Management Strategy is being drafted by an international consultant, who completed the national assessment during a mission in August 2014".

Actually the consultant has been informed by FAO CO and the NPM, in the course of meeting in Maputo, that the international consultant in charge of the National Hazardous Waste Management Strategy left without

completing his assignment, and that FAO CO and the PMU are considering recruiting a national expert for completing this activity.

Outcome 2.3: Improved management of pesticides imported into Mozambique for agricultural and public health uses through all stages of the pesticide life-cycle and institutionalization of the PSMS *"The internet connection available in Mozambique is not sufficient to fully operate PSMS, and the Steering Committee decided to cancel this activity in 2014". "The training courses for regulators and customs inspectors is awaiting the final approval of the revised pesticide management guidelines (Outcome 2.2)".*

The issue of PSMS is common to what has been found in other two similar FAO projects in the South African region (Eritrea and Botswana). Whilst it is evident that the government should invest in ensuring a better internet connection, the situation should trigger FAO to review some of the technical aspect of PSMS, creating a version which can be also run locally or with reduced bandwidth.

Even the issue of training on regulation linked to the new proposed regulation and therefore being delayed due to delay in the approval of the new regulation has been faced in other FAO projects. A general suggestion would be not to create link with activities (for instance endorsement of new regulation by the government) which are not under the complete control of the project.

Component 3: Monitoring and evaluation systems put in place to ensure project components are implemented effectively and efficiently

"The originally planned field impact monitoring by a national NGO was cancelled by the Steering Committee, as there were no community-relevant activities within the project. Regular reporting is in place. Cholinesterase testing to monitor chemical exposure was conducted on eight members of the project team prior to starting work on site remediation ".

The Cholinesterase testing is a very useful activity for measuring the exposure of workers to POPs and other toxic substances and should be adopted as a model for other projects"

As far as the field impact monitoring, the consultant indeed receive an impact assessment report drafted by the national NGO Livaningo. Although that report is not in line with the expectation (is not an impact evaluation report) there is still the need to understand whether it has been supported by the project.

4.2 PROGRESS IN GENERATING PROJECT OUTPUTS AND DISBURSEMENT STATUS

4.2.1 Progress with reference to key indicators

The project started in August 2011.The project progress as of March 2016 are 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 Mozambique, 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 "S".

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 an extension is granted.

Component 1: Disposal of buried pesticides, contaminated soils and contaminated containers. This component envisages the following sub-components**:**

- *Sub-component 1.1: Buried pesticides and contaminated sites;*
- *Sub-component 1.2: Contaminated pesticide containers:*

Under this component, the following outcome have been achieved: on an initial large number of sites (18 sites listed in the "Contaminated Environmental Assessment (EA) and Environmental Management Plan Core Document"), a quick investigation was carried out. The investigation followed the procedures of Rapid Environmental Impact assessment, and involved site visits, collection of samples, analytical determination of pesticide concentration on the collected samples, site prioritisation. This basically comply with the FAO Environmental Management Toolkit steps 1 to 5 as following:

1. Identification of prospective contaminated sites by national team members or by an output from the Pesticide Stock Management System (PSMS) or Environmental Management Tool Kit volume 1 (EMTK)
2. Initial site visit and completion of Rapid Environmental Assessment (REA) Questionnaire and basic soil sampling
3. Sample Analysis
4. REA Prioritization stage 1 - Prioritization of sites for Detailed Risk Assessment
5. Review of Prioritization

In October of 2011 a visit was made to each of the 18 candidate sites during which time the REA questionnaire was completed. At each site 3 composite samples of soil in the top 100mm of the site was taken to establish the range of pesticides at the site and the average concentration of pesticide. In addition to that, prioritisation was made by means of a priority setting model developed by FAO, making use of both objective information (sampling and analysis results) and subjective information (gathered through questionnaires). On this basis, 5 sites were prioritized: these were the Nacala, Muziva A and Muziva B Unango_Burial and Lamego. The ranking proposed in the consultant report was only partially adopted, as three highly contaminated sites (Matola Waste Station (MWS), Lamego Farm and Muziva site) were selected for cleanup during a stakeholder meeting in 17 June 2014. A Draft Environmental Management Plan was prepared for the 4 sites of Matola Waste Station, Matola SDAE, Muziva Site and Lamego Farm. However, due to the security situation in the country, FAO security rules do not allow to work in Lamego.

After the demolition, the project would start the tender for cleanup of the 3 sites. This activity is too delayed to be completed within 2016. The remediation plans involve sending the contaminated soils to the Mavoco hazardous waste landfill site in Maputo; while the most highly contaminated soils with high POPs levels will shipped out for disposal with other obsolete pesticide wastes.

PIR 2014-2015 advised that due to the revised US EPA thresholds for soil contaminant- levels, the project is required to review and update methodologies outlined in the EMPs.

The remediation started in March 2016 at the end of the rainy season although flood was reported further delayed the on-site activities. Because of security reasons under the FAO standard requirements, remediation works at the Lamego site have been halted. A request for a no cost extension of the project to allow for adequate time for the remediation was recommended in the 2014-2015 PIR.

Under the Government of Mozambique co-financing project (UTF/MOZ/107/MOZ), which started in late 2014, activities are being carried out concerning the removal and safe treatment of all old pesticide resulting from implementation of past projects. The MTR consultant undertake a visit to one of the storage (Boane) where the packaging and shipping activity is being carried out. In the course of the site visit, the consultant interviewed the personnel in charge of operation on the safety rules and use of PPE. The following was found:

- The workers at the site are very competent and work professionally, demonstrating good knowledge of the use of PPE, spill prevention kits and other safety measures;
- The site and the pesticide repacked and stored therein are well organized, as may be easily observed from the photographic documentation;
- No equipment for shredding / compacting empty container was available at the site; the containers were packed without shredding in big bags and without rinsing, as the rinsing water has to be shipped as hazardous waste and the disposal cost would be too high.

Reportedly, the safeguarding activities have been completed in Nampula and put on hold in Beira and Sofala due to security issues associated with fighting in that part of the country.

Component 2 Improved pesticide life cycle management.

Sub component 2.1: Sustainable container management.

Concerning the development of a sustainable system for container management, (outcome 2.1) a study tour to Brazil was conducted in 2013/4, an international consultant visited Mozambique in September 2014 and a draft container management feasibly report has been submitted in August 2015 to inform the development of a pilot scheme in Mozambique. The consultant had a meeting with the TECAP company (a retailer of pesticide and agricultural equipment who operates all over the country). TECAP is proposing to adopt an integrate strategy for the reduction of empty container, based on the development of a market policy envisaging the selling of pesticides to small farmers together with the service of application. In other words, the farmers would not buy pesticides, but a treatment service. This would imply a certain amount of saving, as in that case farmers would not be forced to buy excessive amount of chemicals, and will relieve farmers from the need to manage the empty pesticide containers. The scheme would strongly rely on the capillary network TECAP has on the territory, however poses some practical and legal issues related to the responsibility of the service providers in case the pesticide application proves wrong or ineffective. This outcome also envisages the development of a specific regulation on container management to be submitted to the government for review and adoption, and the preparation of a waste management plan for pesticide

distributors. This second activity is however currently on hold as it is linked to an hazardous waste management strategy to be developed.

Sub-component 2.2: Legislative framework.

This component envisages the development of waste management guidelines and pesticide management guidelines. Whilst a draft regulation on pesticide management has been developed, have been already examined by the technical council of the Ministry of Agriculture, and are being translated, the waste management guidelines are still on hold as these are linked to the development of a national strategy on hazardous waste which has still to be developed. An international consultant has been recruited to conduct this task, however he based on interview with NTC he did not deliver the expected output, although, based in information reported in the PIR, he completed the national assessment during a mission in 2014.

Sub-component 2.3: Pesticide stock management.

Based on interview with FAO CO and the NTC, confirmed by the PIR, the installation of PSMS was abandoned due to the unreliability of the internet connection in the country and the lacking of computer at the custom offices. This appear to be a common issue to other African countries and should be addressed with a joint effort between FAO (to design a PSMS version which can be run locally) and the government (to invest on secure and reliable internet connection).

Component 3: Project management

The analysis of this component is detailed under chapter 5 (Project Management) of this report.

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

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Project objective:	National environmental risk asse ssment for all POPs and pesticide waste completed. All sites categorized by risk	Risks from pesticide contaminated sites, buried pesticides and pesticide contaminated containers quantified using FAO risk assessment systems	National risk profile generated in FAO pesticide stock management system (PSMS) and available for independent evaluation	Aide memoire developed by Mark Davis - Dec 2012 (portuguese and english) Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	There are issues in the implementation of PSMS due to the low reliability of connection and the lacking of computer in key offices					

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
To reduce the risks posed by POPs and pesticides wastes in Mozambique through the development of a national risk profile of contaminated sites and other POPs / pesticide contaminated materials. The project will result in the development of detailed site specific waste management plans followed by the development and implementation of a national strategy for effective POPs waste management for existing and potential future wastes.	Strategy for remediation of high risk sites developed and implemented	Risk reduced by 50% and long term strategy for further reduction to 80% developed	Reduction in national risk profile in PSMS and publication of risk reduction strategy document	Aide memoire developed by Mark Davis - Dec 2012 (portuguese and english) Steering committee minutes - 03/2014 (in portuguese) Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	There are issues in the implementation of PSMS due to the low reliability of connection and the lacking of computer in key offices					

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
	Pesticide container management strategy developed and operational	All legacy contaminated containers treated and long term strategy for new pesticide containers developed	Containers enter local recycling chain and are removed from circulation and a system for longer term container management adopted by Govt. of Mozambique	Interviews with NTC and private sector during the MTR. Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	A strategy is being developed with the partiipation of industry / retailers. Based on PPR, An international consultant visited Mozambique in the first week of September 2015. The drafting of report is underway					
	Legislation for future management of pesticide wastes drafted and adopted by government	Specific legislation for pesticide container management and small scale disposal of pesticides drafted and reviewed by government for adoption by Parliament	Publication of legislation in national parliamentary bulletins		Pending due to the absence of a regulation on hazardous waste which is linked to the management od pesticide containers					

Outcome 1.1: The containment and removal of buried pesticides at prioritized high risk locations so preventing continuing environmental contamination and public health risks	Site specific environmental management plans (EMPs) prepared and disclosed	11 plans developed and disclosed by end of year 1	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Contaminated Environmental Assessment (EA) and Environmental Management Plan Core Document (June 2014) Environmental Management Plan for Obsolete Pesticide Contaminated Sites (June 2015) Site Specific nvironmental Assessment (EA) Lamego Farm, Moçambique (March 2014) Site Specific Environmental Assessment (EA) Matola SDAE, Moçambique (June 2014) Site Specific nvironmental Assessment (EA) Muziva, Moçambique (Feb. 2015) Site Specific Environmental Assessment (EA) Matola Waste Station, Moçambique (June 2014)	Environmental assessment has been done (5 sites). On 11 sites the project did a quick investigations. (collection of soil samples from the top, samples shipped to the lab. 5 sites selected for additional investigations and 3 selected for cleanup.	S	4	4	4	4.0

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
	Tender for remediation of high risks sites awarded	Tender documents developed and contract awarded via FAO procurement service by end of year 2	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Based on interview with NTC during MTR mission.	The project is carrying out the tender for demolition of one store. Bidding document to be advertised . FAO security rules do not allow to work om Lamego. After the demolition the project will start the tender for cleanup of the 3 sites. **This activity is too delayed to be completed within this year.**	MS	4	2	3	3.0
	At least 3 high risk sites remediated and disposal certificates issues in accordance with Basel Notification procedures	Wastes excavated and sent for disposal in accordance with site specific EMPs by end of year 3	Milestone met in component specific M&E plan and PSMS national risk factor reduced – data accessible to independent NGO monitor	see above	see above	S	4	3	3	3.3

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Outcome 1.2: The removal and safe treatment of all old pesticide containers produced as a result of implementation of past projects	Container management technical feasibility report issued and disclosed. All container data entered and verified in PSMS	Completed by end of year 1	Milestone met in component specific M&E plan – data accessible to independent NGO monitor. PSMS not functional.	Based on interview with NTC during MTR mission. PIR Jul 2014 to June 2015.	PSMS not functional. Activities on PSMS cancelled	MS	4	2	2	2.7
	Container treatment equipment delivered to Mozambique and commissioned	Completed by end of year 2	Milestone met in component specific M&E plan – data accessible to independent NGO monitor.	Based on interview with NTC and site visit to Bone during MTR mission. PIR Jul 2014 to June 2015.	The treatment/sending of containers for disposal was covered by the resources of UTF project (co-financing). This has been completed in in Nampula; Boane is on the way and Beire in Sofala are in stand-by because of security issues. The shredder was not delivered to the site	S	4	3	4	3.7

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
	All containers treated and clean material entered into local recycling chain	Completed by end of year 3	Movement of cleaned containers tracked my movement forms in line with Basel notification requirements	Based on interview with NTC and site visit to Bone during MTR mission. PIR Jul 2014 to June 2015.	The containers will be incinerated. Cannot be sent for recycling. These will be crushed and send for incineration, of even shipped uncrushed in big bags. The crushers has not been delivered. Options on the crusher has to be discussed.	MS	3	2	3	2.7
Outcome 2.1: The development of a sustainable system for container management in the future in collaboration with pesticide industry	Report on container recycling options for new pesticide containers published and disclosed	Completed by end of year 1	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	PIR Jul 2014 to June 2015. Container strategy not made available.	A preliminary strategy has been developed by an international consultant after a study tour in Brazil. implementation of the pilot stage is starting – possible inputs from TECAP for involvement of	S	4	2	4	3.3

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
					retailers. At least one year needed					
	Pesticide regulation on container management submitted for government review and adoption	Completed by end of year 2	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Based on interview with NTC and FAO CO. PIR Jul 2014 to June 2015 .Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	Part of the new guidelines hve been developed under UTF. These are under translation for approval. 4 months are needed for completion.	MS	4	2	3	3.0

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
	Industry sector waste management plan for pesticide distributors prepared and submitted for review by govt	Completed by end of year 3	Milestone met in component specific M&E plan – data accessible to independent NGO monitor		Initially it was realized that we do not have strategy for hazardous waste. First to develop the strategy and then the regulation. An international consultant was recruited. However he did not finished the task. At least three months are needed for completing this task.	S	4	3	3	3.3

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Outcome 2.2: Institutional capacity will be developed and national pesticide management policy will be strengthened to ensure the risk to the environmental and public health from obsolete pesticides and associated wastes is minimized in the future	Pesticide management guidelines published	Completed by end of year 2	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Based on interview with NTC and FAO CO. PIR Jul 2014 to June 2015 .Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	Guidelines have been developed. (co-financed By UTF) Under translation for future approval by the govt	MS	3	3	3	3.0

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
	Waste management guidelines published	Completed by end of year 3	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Based on interview with NTC and FAO CO. PIR Jul 2014 to June 2015 .Six months reports (Jul Dec. Jun 2011; Dec Jun 2012; Jul-Dec 2013; Jan-June 2014; Jul.Dec 2014; Jan-June 2015)	Initially it was realized that there were not strategy for hazardous waste. Therefore, it was agreed to develop the strategy and then the regulation. An international consultant was recruited. However he did not finished the task. The system is blocked as the project has been already extended once. Three months are needed for completing this task.	MS	3	3	3	3.0

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Outcome 2.3: Improved management of pesticides imported into Mozambique for agricultural and public health uses through all stages of the pesticide life-cycle that institutionalization of the PSMS	PSMS installed and operational in MINAG and all registered pesticides loaded into the system. All waste inventory data from Outcomes 1.1 and 1.2 also entered	All completed in year 1	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	Based on interview with NTC and FAO CO. PIR Jul 2014 to June 2015	Not installed- NTC reported taht PSMS cannot be installed as for instance in the custom because the phytosanitary inspectors at borders are not equippend with PCs.	MS	4	2	2	2.7
	Training certificates issued for all pesticide and customs inspectors	All completed in year 2	Milestone met in component specific M&E plan – data accessible to independent NGO monitor		The project is still waiting – guidelines being translated and approved. At least one month to complete the translation and at least 3 months for approval. At MTR it has been proposed to extend the training to Inspectors of the Ministry of Labor	S	4	3	3	3.3

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Outcome 3.1: Monitoring and evaluation systems will be put in place to ensure project components are implemented effectively and efficiently. National staff will be trained in the application to allow their use in other projects	Monthly M&E reporting based on FAO component level M&E system. Reports entered onto project web page	All completed at project inception and thereafter	Milestone met in component specific M&E plan – data accessible to independent NGO monitor	INTERNATIONAL CONSULTANT FOR M&E COMPONENT Impact-focused M&E framework development and NGO training GCP /MOZ/100/GFF	At inception it was agreed that the monthy reporting was not feasible. A six month reporting period was approved	S	4	3	4	3.7
	Health surveillance records (used to quantify if any pesticide exposure has occurred to workers)	Completed prior, during and post implementation of Outcomes 1.1. and 1.2 according to work plan	Milestone met in component specific M&E plan – data accessible to independent NGO monitor		Under the project this has been done once before the site investigation. Three additional Health Surveyance carried out under the UTF project.	S	4	4	4	4.0
	Training records available for inspection to ensure all staff are competent	Completed at project inception and reported thereafter	Milestone met in component specific M&E plan – data accessible to independent NGO monitor			MS	4	2	2	2.7

Project Goal	**To evaluate and reduce the risk posed by POPs and pesticide contaminated sites and associated wastes in Mozambique and to strengthen institutional capacity to manage similar risks in the future**									
	Indicator	Target	Source of Verification	Available source of verification	MTR outcomes / comments	Rate at MTR	Rel.	Effc.	Efct.	Avg
Outcome 3.2: Project personnel from line ministries will be trained in the principles of project management which are applicable to a wide range of future challenges.	Component logical frameworks and critical path analyses approved and submitted as part of the annual work planning process	Completed at project inception and quarterly thereafter	Milestone met in component specific M&E plan – data accessible to independent NGO monitor			S	4	4	4	4.0
Project overall rating						S	3.8	2.8	3.2	3.3

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 a site visit to a safeguarding area (see also the photographic annex).

The consultant visited the storage site in Boane where safeguarding activities were being carried out under the supervision of the NTC.

During the visit, the consultant had the opportunity to check the situation inside the storage; the presence of emergency response equipment; the presence and use, by the staff, of proper Personal Protective Equipment (PPE); and the procedure adopted for the packaging of the waste. The consultant noted the presence of barrels containing contaminated water from rinsing activities. That was explained with the fact that empty containers were triple rinsed to prevent their shipment for disposal as hazardous waste; however in the end it was found that the procedure was too expensive and therefore it has been decided to pack and ship empty containers without shredding, considered also that the shredder was not yet delivered by the project.

The consultant also interviewed the safeguarding staff on the use of PPE and received correct answers regarding the use, wearing and removal of PPEs.

The consultant was also informed that the working shift were kept very short due to the climatic conditions of the area, allowing workers to rest frequently.

The consultant received quite a large number technical documents to be analysed / reviewed as part of the MTR. Therefore the detailed analysis of this documentation is provided in Annex 11.1 The main conclusions from that analysis are as following:

Technical documents relevant to component 1: Desk Studies, Mission Reports, Environmental Assessment Reports, Environmental Management Plans.

The reports testify the big effort made by the FAO and local technical project team in conducting site sampling, characterisation, assessment and prioritisation. A wide set of methodological studies is provided, together with conceptual modelling, analytical data and preliminary surveys.

The reports, with specific reference of the EAs and EMP, however also bring to evidence some key issues of the project:

1) The budget allocated for site characterisation was limited, therefore in many cases the sample taken were not subsequently analysed, and the estimation of the amount of contaminated material to be disposed is therefore affected by uncertainty.
2) The amount of POPs and pesticide waste (contaminated soil and building material) is largely (around 10 times) in excess of the project target, and therefore cannot be treated under available project budget.

3) Due to budgetary constraints, the disposal options selected for at least part of the identified material (POPs contaminated soil with concentration of Endosulfan in the order of 520 ppm) is landfilling in a national landfill. This disposal option should not be selected on a purely budgetary consideration, The EMP report also identifies financial risks associated to the presence of only one authorized landfill in Mozambique.

Technical **Documents relevant to Component 2**. A document concerning the Study tour undertaken in Brazil for assessing the system for the management of empty pesticide container in the Federative Republc of Brazil has been made available and assessed. This is the document representing the initial stage of the development of the strategy for empty pesticide container, and basically included consideration on the strategy adopted in Brazil for the management of these containers. The report concludes with some generic recommendations on the development of pesticide containers strategy in the country, which appears however not very detailed.

Technical Documents relevant to Component 3. The MTR consultant received **training reports, communication strategy report,** and assessed the report, prepared by the NGO Livaningo, related to the Project Monitoring and Impact Assessment of the project. The communication strategy reports identified the needs for communication and awareness raising; provided consideration on the selection of the proper Communication for Development (C4D) partner; identified the target audience; analyse the baseline study; however it lacks indications of two key areas of communication: how the issue of POPs pesticides are communicated , and how gender issue are mainstreamed into the communication strategy.

As far as the Livaningo impact assessment report is concerned, this report, although containing a wide survey among pesticide users, dealers, authorities, (74 persons interviewed) and bringing interesting information related to the situation of pesticide use and the presence of obsolete pesticide in the country, seems completely independent from the project activities, and should not therefore be considered as a report on the monitoring of project impact. The study indeed does not bring any conclusion or recommendation specifically related to the implementation of the GEF project.

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

The project closure was initially set, in the project document, at February 2014. Subsequently, due to delay in project implementation, the proposed date of project closure was set at August 2015, then to September 2016. The possible causes for project delay are described in detail in section 4.1. These causes are summarized below:

Component 1: more details compared to those available in the EMP are necessary for preparing TORs and bidding document for site clean-up activities. In addition, military operations prevent the access to some of the project areas. By September the new raining season will start. Therefore, to complete this part of the project a further extension of at least one year, until June 2017, is necessary.

Component 2: changes in the government was the cause of delay of the approval of the regulatory guidance developed under the project. The consultant in charge of the waste management strategy resigned without finishing his task. The strategy for the management and recycling of empty container is still at an early stage

although a consultant travelled to Brazil to study the Brazil policy on the matter, and to draft a tentative strategy based on the Brazilian example. With some efforts, these outputs can be achieved within the year 2016.

5 PROJECT MANAGEMENT

5.1 SET-UP OF THE PROJECT (STEERING COMMITTEE, PROJECT TASK FORCE, STAKEHOLDERS ENGAGEMENT)

FAO is the implementation agency and budget holder for the project. As detailed in section 5.3, FAO provides both administrative and technical backstopping for the project throughout its whole implementation.

The project is administered by staff from the Ministries of Agriculture (MINAG) and Coordination of Environmental Affairs (MICOA) based in Maputo. Project oversight is provided by a national project steering committee chaired by the responsible national director of MINAG with inputs from all involved line ministries, national NGO partners, the pesticide industry, local academia, and FAO. Day-today project implementation is coordinated by a Project Management Unit (PMU) established at MINAG and headed by a national project manager and technically supported by FAO AGP.

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

PMU is basically run by the NTC Mr. Khalid Cassam, with the help of one assistant. Mr. Khalid Cassam was the former head of the Pesticide Registration and Control Service (Government). The fact that the NTC is full time recruited by the project, that he has specific experience on the management of similar project in the past, and that he has specific background on pesticide management was an obvious asset for project implementation. The NTC direct the safeguarding team in charge of packaging and preparing waste for shipment, not only through supervision, but by practically carrying out safeguarding and packaging activities with the team.

5.3 ADMINISTRATIVE AND TECHNICAL SUPPORT NEEDED AND RECEIVED FROM FAO

FAO CO is the budget holder of UTF funds, whilst FAO HQ act as budget holder of the GEF funds. FAO HQ supported the project implementation through:

- Closely monitor the project and provide technical support (through FAO's Agriculture and Consumer Protection Department) and carry out supervision missions.
- As the GEF IA, FAO administered the GEF resources in accordance with FAO's rules and procedures and strove for the timely delivery of project inputs and outputs, in close consultation with MICOA and MINAG.
- Report on the project progress to the GEF Secretariat;
- Provide technical backstopping through the **Pesticide Risk Reduction Group** in the **Plant Production and Protection Division (AGP)** of the **Agriculture and Consumer Protection Department** in FAO

headquarters. FAO HQ also recruited ad supervised international consultants in charge of specific project outputs.

- The FAO Lead Technical Unit provided also clearance to: i) the Terms of Reference of consultancies and contracts; ii) the selection of the consultants and firms to be hired with GEF funding; iii) all technical reports; iv) project progress reports monitoring outputs as established in the project Results Framework, implementation reviews and financial reports.
- The LTU developed the annual Project Implementation Review (PIR) to be cleared by the GEF Coordination in the Investment Centre Division (TCI) and submitted to GEF.
- As the Budget Holder FAO AGP will in close collaboration with the FAO Representative in Mozambique has been responsible for the operational, administrative and financial management of the GEF resources. On this aspect, it has to be mentioned that serious delay on the disbursement of GEF funds to the project have been however reported by FAO CO. The MTR consultant was informed that the last disbursement from FAO HQ was received in the end of 2012. After that, no more GEF money were received and basically the project run on the UTF budget, which is however almost finished.
- FAO CO carried out most of the procurement activities and provided budgetary analysis of the project arranged by component, which is very useful for the purpose of project management.

5.4 MONITORING SYSTEM

The project initially envisaged the preparation of monthly project progress reports. However, this was changed in the course of project implementation, and it was opted for a more reasonable 6 months frequency.

The project holds 3 steering committee per year. The government is fully involved in the management of the project, thanks also with the good connection of the NTC with key department of Ministry of Agriculture, which ensures a good ownership of the project.

Under the project, in addition to the six-month progress report (most of them made available to the consultant), project work plan were also developed. These work plans, which have been shared with the consultant, are extremely useful for understanding the status of implementation of the project, future steps and challenge.

Another interesting aspect of the monitoring of the project concerns the involvement of a local NGO in the supervision of the project. After Green Peace – represented in Mozambique by the NGO Livaningo – substantially blocked the activities of the DANIDA cooperation intending to support the upgrade of a local cement kiln for co-processing of pesticides, there was a concern that without involvement of an NGO the GEF project could face strong opposition. That was reflected in the “source of verification” entry of the project logical framework: for all the outputs, is required to make “data accessible to independent NGO monitor”.

The NGO indeed drafted in 2012 a report on Monitoring and Evaluation of impact for the project (Monitoria & Avaliação do Impacto do Projecto Mozambique GEF FS Project - GCP/MOZ/100/GFF – Relatorio do Observador Nacional- 12/2012). Indeed the report seems most focused on the problems associated with the

use of pesticide in Mozambique rather than being a Monitoring and Evaluation of the impact of the GEF project, and as such is of limited usefulness for understanding the impact of the GEF project. In the course of an interview with Livaningo staff, it was evident to the MTR that the NGO missed an opportunity to play a more proactive role in the monitoring and supervision of the project.

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

The consultant received the following project monitoring reports

1) The revised project result framework developed at inception;
2) The following Six-months project reports: Aug-Dec 2011; Aug-Dec 2012; Aug-Dec 2013; Jul- Dec 2014; Jan-June 2014; Jan-June 2015:
3) The following PIRs: 2012, 2013, 2014, 2015;
4) The following work plans: 2012, 2013 and 2015.

In addition to that the consultant received the Back to Office Mission Report of the project FAO LTU (Mr Richard Thompson) and of the key national and international consultants of the project since the starting of the project.

All the reports were clear, concise and useful. PPR and PIRs follow a common format, whilst the work plan did not follow a common template. Possible improvement in the quality of the report could be:

1) The progress report does not contain any information relevant to the disbursement status of GEF and co-financing grants. This is a key information which should be always included in the reports, and indeed the progress report templates contain a field for this information. It should be also noted that the project document specifies in detail the criteria for co-financing accounting, including the fact that an annual report on co-financing should be prepared annually. Unfortunately, these reports did not materialize / were not made available.
2) There were some issues in the uploading and consolidation of the M&E reports. Some of the report are still in a draft stage; there were some initial difficulties in finding the location were the report were saved.

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

The review of the project progress reports in PIR is discussed in detail in Chapter 4.1

6 ASSESSMENT OF FINANCIAL RESOURCES

6.1 RATE OF DELIVERY

The relative contribution to the overall project budget of GEF grant and co-financing sources, as from the financial planning section of the project document, is reported in the table below.

Financing Plan:	**(USD)**
PROJECT PREPARATION	
GEF Grant	50 000
FAO (in kind)	30 000
Government of Mozambique (in kind)	20 000
Sub-Total	**100 000**
PROJECT	
GEF FINANCING	
GEF grant	**1 950 000**
PROJECT CO-FINANCING	
FAO (in kind)	50 000
Government of Mozambique (in kind)	350 000
Government of Japan through FAO (in cash)	3 482 836
Government of the Netherlands through FAO (in cash)	175 000
USAID through FAO (in cash)	197 000
Private Sector (CropLife International) (in Cash)	
Sub-Total Co-financing	4 254 836
Total Project Cost	**6 204 836**

The Co-financing is substantially represented by the total cost of the three previous project phases including all capacity building pesticide lifecycle review, adjustment of legislation and development of awareness and communications materials with national NGO partners. This amounted to approximately USD3.4 million.

In the table below, a summary of the GEF grant budget allocation and disbursement as of end of 2015 by Outcome and Output are reported (data from FAO CO – may 2016). Based on that table, it can be observed the following:

1) The overall disbursement of GEF money is low (around 800,000 USD against an overall budget of 1,950,000) considering that the project is in its last year of implementation;
2) Most of the remaining budget is allocated for covering disposal and clean up services at the contaminated sites: 700,000 USD for excavation, 134,000 USD for the disposal of existing stocks, 80,000 USD for site remediation. Very likely this budget will be not enough for covering the clean up and disposal activities at the tree sites;
3) The budget allocated for project management and monitoring is almost completely disbursed – this will represent an issue in case of further extension of the project.

Summary of GEF grand budget disbursement as of 2015 (from FAO CO Mozambique)

	Outcome 1: Disposal - Babby 1						
			Needs				
	Budget	Expenses up 2015	Output 1.1. - Contaminated sites	Output 1.2 Container Disposal	Sum	Revision	Deviation
Prof Salaries	88,000	23,153	40,785	0	40,785	63,938	-24,062
General Service Salaries	0	0	0	0	0	0	0
Locally Contracted	7,500	1,421	8,000	3,000	11,000	12,421	4,921
Consultants	104,000	**115,027**	6,000	7,000	13,000	**128,027**	24,027
Contracts	900,000	9,896	914,000	0	873,186	883,082	-16,918
Travel	115,000	**63,073**	55,000	0	55,000	**118,073**	3,073
Training	10,000	3,990	0	0	0	3,990	-6,010
Non Exp Equip	0	54,290	0	0	0	54,290	54,290
Exp Equip	30,000	70,562	0	0	0	70,562	40,562
Gen Operating	42,500	**21,787**	0	**4,830**	4,830	**26,617**	-15,883
TSS	0	0	0	0	0	0	0
Sub-total	1,297,000	363,199	1,023,785	14,830	997,801	**1,361,000**	64,000

	Outcome 2: Life-cycle management - Baby 2							
			Needs					
	Budget	Expenses up 2015	Output 2.1. Container Management	Output 2.2. Pesticide Policy	Output 2.3. Pesticide Management	Sum	Revision	Deviation
Prof Salaries	49,500	**-18,911**	0	0	38,789	38,789	**19,878**	-29,622
General Service Salaries	0	0	0	0	0	0	0	0
Locally Contracted	7,500	5,432	2,500	0	0	2,500	7,932	432
Consultants	129,000	**67,198**	7,000	7,000	7,000	21,000	88,198	-40,802
Contracts	10,000	38,593	25,000	0	0	25,000	63,593	53,593
Travel	52,500	43,752	4,000	4,000	4,000	12,000	55,752	3,252
Training	40,000	18,028	0	0	0	0	18,027	-21,973
Non Exp Equip	5,000	0	0	0	0	0	0	-5,000
Exp Equip	2,500	629	0	0	0	0	629	-1,871
Gen Operating	15,000	6,246	**1,900**	**1,900**	**1,944**	**5,744**	**11,990**	-3,010
TSS	0	0	0	0	0	0	0	0
Sub-total	311,000	160,967	40,400	12,900	51,733	105,033	265,999	-45,001

	Outcome 3 - Baby 3						
			Needs				
	Budget	Expenses up 2015	Monitoring and Evaluation	Project Management	Sum	Revision	Desviation
Prof Salaries	139,500	**105,255**	0	0	0	105,255	-34,245
General Service Salaries	0	0	0	0	0	0	0
Locally Contracted	0	0	0	0	0	0	0
Consultants	80,000	**76,135**	**21,000**	6,000	27,000	103,135	23,135

Contracts	0	36,880	0	0	0	36,880	36,880
Travel	50,000	31,757	**14,728**	0	14,728	46,485	-3,515
Training	10,000	0	0	0	0	0	-10,000
Non Exp Equip	44,500	16,081	0	0	0	16,081	-28,419
Exp Equip	8,000	79	0	0	0	79	-7,921
Gen Operating	10,000	**9,643**	3,442	2,000	5,442	15,085	5,085
TSS	0	0	0	0	0	0	0
Sub-total	342,000	275,830	39,170	8,000	47,170	323,000	-19,000

6.2 ADEQUACY AND REALISM OF BUDGET ALLOCATIONS TO ACHIEVE INTENDED RESULTS

Based on the target figures established under the project document, the budget allocation seemed realistic and adequate. In the course of project implementation, however, it become evident that the amount of GEF budget allocated will not be enough for covering some of the expected outputs:

1) The amount of POPs contaminated soil and waste identified in the three selected sites (Matola Waste Station (MWS), Lamego Farm and Muziva site) was found exceeding 460 tons, and the overall amount of pesticide contaminated soil and waste is in excess of 1100 tons. Considering that large part of the POPs waste cannot be disposed in landfill to ensure compliance with Stockholm Convention requirements, and that the market price for shipment and destruction of POPs waste is in the range of 2.5 to 5 USD/kg (excluding excavation, pre and post monitoring, site closure) the budget of 900,000 USD allocated for cleanup and disposal is not sufficient for covering this activity.
2) The budget for Project Managent and project M&E has been already almost completely spent. In case of project extension, there will be the need for allocating budget from other components to cover project management expenses.

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

The project did not undergo budget revision. However, based on the consideration above, it has to be considered whether resource available under other components may be partially moved to component 1.1 to ensure that at least the highly contaminated waste are treated properly and the risk containment measures for most hazardous sites are put in place.

6.4 DELIVERY AND USE OF CO-FINANCING INCLUDING TIMING ASPECTS

In the project document is stated that *"Co-financing activities were carried out over 6 years (2003 – 2008). The contributions from the Governments of Japan, Netherlands and USAID, form the cash co-finance to the GEF contribution to this project."* Nevertheless, in the course of the MTR mission report, the consultant was verbally informed that:

1) The latest GEF grant funds were released by FAO HQ as budget holder in late 2012;
2) After that, most of the activity of the project are being carried out using UTF (co-financing) funds, managed by FAO CO (for instance, safeguarding and disposal of waste at Boane).

Therefore, at least financially it seems that the activities related to co-financing projects are still going on.

It should be noted that the consultant was not provided with details related to the level of information on co-financing availability and disbursement. In the project document, a detailed reporting on co-financing accounting was envisaged as following:

"An annual report on co-financing will be prepared and will include, to the extent possible, the following information: Amount of co-financing realized, compared to the amount of co-financing committed at the time of project approval, and Co-financing reporting by source and type "

Co-financing cash includes grants, loans, credits and equity investments. In-kind resources are required to be:

- *dedicated uniquely to the GEF project;*
- *valued as the lesser of the cost and the market value of the required inputs they provide for the project; and*
- *monitored with documentation available for any evaluation or project audit undertaken by FAO.*

As apparently these co-financing report were not prepared, FAO as budget holder of both co-financing and GEF grants should to perform a check of the co-financing disbursement and status, not only for the verifying the compliance with co-financing commitments, but also for purely management issues.

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 the information gathered in the course of the MTR mission, and on the analysis of project document and project reports, it is clear that the issue of gender mainstreaming has not been considered either at project design or project implementation. Lacking of attention to gender mainstreaming are also evident in the Communication for Development summary report, and in the Monitoring report for the Impact of the project. It is therefore recommended to include - in future projects to be developed by FAO, as well as in the remaining activities (training, awareness raising) of this project – activities and actions aimed at ensuring gender mainstreaming and equal opportunities at all levels.

8 GOOD PRACTICES AND IMPROVEMENT NEEDS IDENTIFIED.

It is likely too early to identify lesson learned and success stories out of this project due to its still incomplete implementation. However, it's possible to identify good practices that may be considered as examples for future project or for the completion of this project. At the same time, some bad practices needing to be correct may be also identified.

Good practice on Co-financing. FAO has the capacity to mobilize co-financing from bilateral donors to ensure a better and more effective accomplishment of complex and expensive activities. In the current project, the co-financing was not in-kind, parallel co-financing but was instead real cash co-financing associated to a project linked to the activities being carried out under this GEF project. More specifically, the co-financing UTF/MOZ/107/MOZ project was designed based on the same standard of the GEF project, and in such a way to perfectly complement the GEF project activities. The GEF and UTF project were managed under the same Project Management structure, to save resources and to ensure effective coordination and absence of overlapping activities. The UTF project had components dedicated to safeguarding and disposal of pesticides, whilst the GEF project was more addressed toward remediation of selected high risk contaminated sites and management of empty pesticide containers. This modality should be considered an example in project management and financing to ensure that different resources are jointly and consistently channelled toward the successful achievement of common environmental objectives.

Improvement needs on co-financing. The lacking of an effective system for the joint accounting of GEF Grant and co-financing, as proposed in the project document, can reduce the project efficiency and create management issues, and need therefore to be addressed.

Good practice on Technical assistance. FAO HQ has delivered, through direct intervention of FAO staff or by means of international consultants, a continuous and significant technical assistance to the project on the aspects related to the prioritization and environmental management of contaminated sites. The approach adopted followed a logical and consequential methodology to arrive at a decision on site to be treated, allowing at the same time the best use of the available resources. The technical documentation produced represent a good basis for starting the remediation design of the selected site, although there is still a step needed to arrive at a complete design which could serve for the actual implementation of site remediation.

Good practice on Project management. The fact that the NTC is full time recruited by the project, that he has specific experience on the management of similar project in the past, and that he has specific background on pesticide management was an obvious asset for project implementation. The NTC direct the safeguarding team in charge of packaging and preparing waste for shipment, not only through supervision, but by practically carrying out safeguarding and packaging activities with the team, which was very effective in team building. That was reflected in the very well condition of the site under safeguarding activities which was visited during the MTR. The competence of the NTC and safeguarding team allowed for a more focused contribution of FAO backstopping.

Improvement needs on project design. The lacking of a detailed and scientifically supported baseline in the project document, with specific reference to the amount of POPs and pesticide waste to be disposed of, is

creating budgetary difficulties for achieving the target set under the project. Moreover, the limited budget allocated for site characterisation prevented a more detailed assessment of the level of contamination of the sites. This is a technical issue affecting many projects dealing with reduction or disposal of POPs, which however need to be addressed as much as possible since the project preparation stage.

9 PROJECT OVERALL RATINGS

In the table below are the ratings 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	***rating***	**2. IA& EA Execution**	***rating***
M&E design at entry	S	Quality of FAO Implementation	MS
M&E Plan Implementation	MS	Quality of implementation by the GoB	MS
Overall quality of M&E	S	Overall quality of Implementation / Execution	MS
3. Assessment of Outcomes	***rating***	**4. Sustainability (Risk)**	***rating***
Relevance	S	Financial resources:	M
Effectiveness	S	Socio-political:	M
Efficiency	MS	Institutional framework and governance:	L
Overall Project Outcome Rating	S	Environmental	L
		Overall risk for sustainability:	L

10 RECOMMENDATIONS

The following recommendations may be put forward as a result of the MTR.

1) **Co-financing aspects: increase transparency and accounting**

The project document lists very clearly what are the reporting requirement for co-financing. It should be considered that in this case, co-financing plays a structural role in project implementation. In other word in this project the co-financing is not a "parallel" co-financing but are mostly resources allocated by bilateral donors for conducting safeguarding and disposal activities. The accounting of co-financing is therefore an important aspect. This is testified by the fact, for instance, that UTF and GEF project work plans drafted by the project team were integrated. The following is therefore recommended:

Recommendation 1: FAO Representation in Mozambique, the PMU in cooperation with FAO HQ to draft an integrated budget revision of the two projects (the UTF and GEF projects) to understand which project activities intended to be carried out with GEF funds were in the end covered by the UTF funds, and what are the budgetary needs until project completion.

2) **Budget Delivery efficiency.**

In the course of the MTR debriefing meeting, the consultant was informed that the latest GEF grant disbursed by FAO HQ as budget holder were released in late 2012. After that, all the project activities were covered by the budget of the UTF project. The following is therefore recommended:

Recommendation 2: FAO AGP, as Budget Holder of the GEF grant, to urgently verify if it is true that GEF grant were not disbursed to the project since late 2012, and if that was the case, to solve urgently the situation of funding blockage.

3) **Component 1: site clean-up and budgetary issues.**

In the project document, the following targets for disposal of POPs were established:

- Output 1.1.3: Safeguarding and disposal contract (awarded by FAO) for implementation of the EMPs resulting in excavation of buried pesticides **(estimated at 100 tonnes)** and remediation of selected high risk contaminated sites (by a specialist waste management company) using a combination of in-situ and ex-situ treatment options (identified by independent consultants);
- Output 1.2.4: Final recycling or disposal of decontaminated containers **(estimated at 6,000 units to be confirmed at inventory stage)** via entry into the existing plastics / scrap metal recycling chain or by inclusion in the safeguarding and disposal contract highlighted in Output 1.3;

However, based on the Environmental Management Plan, it was found that 1121 tons of contaminated soil / buried pesticides (out of which around 460 tons is soil heavily contaminated by POPs) exist at the selected sites.

In addition, the uncertainty associated with the estimation of contaminated volume represent a very high risk for the project, as following:

- financial risk associated with the treatment cost of the additional waste that would be found during excavation, if more contamination is found as anticipated in some of the EA reports;
- environmental risk if, due to contractual reasons, the removal and disposal of contaminated waste is limited only to the estimated amount, and then any additional contaminated material is left behind.

Beside any consideration related to the opportunity to dispose in landfill material with a concentration far higher (ten times) than the Stockholm Convention limits, the EMP anticipated very clearly the risk of monopoly of the only landfill existing in Mozambique. If the disposal in the existing landfill in Mozambique would be not sustainable, remaining options are 1) either transport abroad if a suitable landfill in Mozambique cannot be found, or 2) building a new landfill, both options representing a financial risk and high probability of further delay for the project.

The following is therefore recommended:

Recommendation 3: Based on the existing EAs and EMPs, FAO HQ in cooperation with FAO Representation in Mozambique, and in the course of bidding document preparation, should assess the uncertainty of the estimates related to the disposal of contaminated material with specific reference to the 144 tons of pesticide waste proposed for incineration and the 985 tons planned for landfilling, and calculate the financial consequences associated to that uncertainty.

Recommendation 4: Considering that the contaminated material coming from inside the Lamego storage (144 tonnes) including the building material has not been analysed, both the options of incineration and non-destructive disposal should be financially and technically assessed for that material by FAO HQ.

Recommendation 5: FAO HQ to make an estimate of the cost and time associated to the building of a new landfill in comparison with the disposal of 985 tons of POPs by landfilling in an existing landfill, as suggested in the EMP.

Recommendation 6: If from the analysis above it is evident that the budget under component 1.1 is not enough for disposing and containing the estimated amount of 1121 tons, a budget reallocation from other project components, if available, should be considered. If this is not possible, then FAO HQ and FAO CO, in cooperation with the Government of Mozambique should identify what are the highest priority actions to be undertaken under the allocated budget.

4) PSMS

In the project under MTR, similarly to other two projects reviewed (Eritrean and Botswana) it was found that the PSMS system is not functional (and therefore cancelled) because of lacking of a reliable internet connection. The following is therefore recommended:

Recommendation 7: Government of Mozambique should understand the importance and benefits of sharing data with FAO and the global community to improve the management of pesticide and to

prevent the generation of obsolete pesticides. Therefore, the Government of Mozambique should invest in reliable internet connection at least for covering key offices and institution where the PSMS could be installed.

Recommendation 8: FAO HQ to consider the development of a "lighter" version of the PSMS software that can be run with limited interned bandwidth locally.

Recommendation 9: FAO HQ, FAO Representation in Mozambique and the Government of Mozambique to verify if other issues hinder the successful use of the PSMS tools in the country – for instance, confidentiality issues.

5) Gender Mainstreaming

Based on the information gathered in the course of the MTR mission, on the analysis of project document and of project reports, it is clear that the issue of gender mainstreaming has not been considered either at project design or project implementation. Lacking of attention to gender mainstreaming are also evident in the Communication for Development summary report, and in the Monitoring report for the Impact of the project. The following is recommended:

Recommendation 10: FAO Representation in Mozambique and FAO HQ: to ensure that the GEF and FAO gender policies are integrated in future activities of the current project, and since the preparation stage of future projects.

Recommendation 11: The Government of Mozambique: to ensure gender mainstreaming in the implementation of GEF/FAO projects, with the purpose to ensure equal participation of women, equal access to information and opportunities generate by the project, and dedicated training events.

11 ANNEXES

11.1 ANALYSIS OF TECHNICAL DOCUMENTS RECEIVED UNDER MTR.

The consultant received quite a large number technical documents to be analysed / reviewed as part of the MTR. The detailed analysis is provided in this Annex 11.1

The most relevant are the following:

- **Documents relevant to Component 1:** ***Mission Report – Russel Cobban – Oct 7 to Oct 23, 2011.*** Conduct preliminary site visits; Collect soil samples; Fill out REA questionnaires for each site;
- ***Back to office mission reports: Russel Cobban, August 14th 2012 –September 20th 2012 with attachments****;* the report testifies the big effort made by project team in conducting on site sampling in the following sites: Matola SDAE, Matola Waste Station, Muziva, Lamego, Nacala. The consultant provide practical and useful suggestions on the use of sampling equipment, GIS and GHS which should be take into consideration in further surveys. The surveys confirmed the presence of POPs pesticides (DDT, endosulfan) in 3 sites: Matola Waste Station, Lamego;
- **Back to office Mission Report – Feb 2015.** Russel Cobban. Purpose of visit: confirmation of disposal methods. In that mission the consultant explored the option to bring contaminated soil below the SC level to an hazardous waste landfill;
- ***Desk Study of Background information (6 reports as following)***

- *Matola Provincial Agricultural Store, Maputo, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Analytical Strategy. Author: Russell Cobban. Consultant Technical Advisor UNFAO;*
- *Matola Waste Station, Maputo, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Analytical Strategy. Author: Russell Cobban, Consultant Technical Advisor UNFAO. Report Date: 25/04/12;*
- *Lamego Plantation, Lamego District, Sofala Province, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Analytical Strategy. Author: Russell Cobban. Consultant Technical Advisor UNFAO. Report Date: 25/04/12;*
- *Muziva A & B Sites, Zambezia Province, Mozambique Desk Study of Background Information, (Updated) Preliminary Conceptual Model (Updated) and Risk Assessment Author: Russell Cobban Consultant Technical Advisor UNFAO Report Date: 02/04/13;*
- *Matola SDAE, Maputo, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Risk Assessment. Author: Russell Cobban, Consultant Technical Advisor UNFAO. Report Date: 02/04/13;*
- *Nacala Port, Nampula Province, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Analytical Strategy. Author: Russell Cobban, Consultant Technical Advisor UNFAO. Report Date: 25/04/12;*
- *Unango Burial and Formulation Site, Tsanga Region, Mozambique. Desk Study of Background Information, Preliminary Conceptual Model, Sampling Strategy and Analytical Strategy Author: Russell Cobban. Consultant Technical Advisor UNFAO. Report Date: 22/03/12;*

These studies summarize the available information on the Matola, Lamego, Muzive and Nacala Port sites. They contain basic analytical data (presence or absence of pesticides and POPs), hydrology and geology information, conceptual models and sampling strategy. These studies confirm the presence of POPs (Lindane, DDT, Endosulfan, Dieldrin) in the following sites: Lamego, Matola Waste Station, Muziva A and B.

Environmental Management Plan (EMp) and Environmental Assessment

The following documents have been carefully read and assessed:

- *Contaminated Environmental Assessment (EA) and Environmental Management Plan Core Document. Moçambique. Author: Russell Cobban, International Consultant. Version III. 27th June 2014;*
- *Environmental Management Plan for Obsolete Pesticide Contaminated Sites. Moçambique. Author: Russell Cobban, International Consultant. Version: V. Date: 12th May, 2015;*
- *Site Specific Environmental Assessment (EA) Lamego Farm, Moçambique. Author: Russell Cobban, International Consultant. Version: II 25th March 2014;*
- *Environmental Assessment (EA) Matola Waste Station, Moçambique Author: Russell Cobban, International Consultant Version: IV Date: 27th June 27, 2014;*
- *Site Specific Environmental Assessment (EA). Matola SDAE, Moçambique. Author: Russell Cobban, International Consultant. Version: III Date: 27th June 2014;*
- *Site Specific Environmental Assessment (EA) Muziva, Moçambique Author: Russell Cobban, International Consultant Version: III Date: 5th February 2015;*

This Document responds indeed to the UTF/MOZ/107/MOZ project subcomponent 1.2 and 1.3, co-financing the GEF project under review. These are therefore to be considered as the co-financing contribution to this project.

Contaminated Environmental Assessment (EA) and Environmental Management Plan Core Document. This is an overarching document providing the regulatory and technical framework, baseline information , and the principles and criteria for risk assessment and site prioritization. The document describes the prioritization model used to select 5 priority sites among the 18 sites visited. The initial list of 5 sites prioritized (Nacala, Muziva A, Muziva B, Unango Burial and Lamego) was subsequently revised. The report states that *"the International Consultant and National Project Coordinator then reviewed the list according to political priorities "* The final list was then made of the following sites: Muziva A and B; Unango_Burial and Formulation; Lamego; Matola SDAE; Matola Waste Station(WS). The environmental assessment reports made available however do not include the Unango site. It has to be mentioned that consensus was reached on the selection of three sites (Matola Waste Station (MWS), Lamego Farm and Muziva site) during stakeholder meeting 27/6/2014).

Environmental Assessment of Muziva site. The EA includes a preliminary conceptual site model, showing the most likely pathways leading to exposure and the endpoints. Muziva site is divided in four areas: A, B, A1 and B1. Of particular interest is the finding that contaminated soil is used for fishing, creating then a high risk for both the population and the environment. The detailed

investigation consisted in hotspot sampling and grid sampling. The analytical report includes results concerning 7 samples taken in Area A, 16 samples in Area B1 and B2, and 2 samples in Flood Area. Only one samples in area A resulted contaminated above the 470 ppm US-EPA Residential level for Endosulfan (520 ppm), whilst 3 other samples in Area A resulted contaminated over the 50 ppm Stockholm Convention level. All the other samples resulted not contaminated. Based on the above, the preliminary estimation volume of soil exceeding FAO 2 level is 144 .24 m3. This has however to be considered a very approximate estimation.

Environmental Assessment of Lamego Farm. The EA includes a preliminary conceptual site model, showing the most likely pathways leading to exposure and the endpoints. In addition it includes the summary of the detailed investigations. The detailed investigation consisted in a hotspot soil sampling (5 boreholes judgementally sited) layered at 3 depths, an overlaid grid of 3.95 m over an area of 39.5 by 39.5 m, at three different depths down to 2 m. and in visual inspection inside and outside the storage (showing leaking containers stored at the site). Samples from inside the store were not taken for analysis as the working conditions were judged to be too dangerous . Analysis were made to identify polar and non-polar compounds. The analytical results concern 18 samples, out of which 2 were found contaminated by Endosulfan (7400 ppm and 16000 ppm).

Based on this, the report concluded that "*The estimated depth of the penetration of grossly contaminated FAO Category 1 Soils is 1.0m deep giving a volume of 80m3. Soils breaching the Stockholm Convention Limit are shown to penetrate to 2m in depth giving an estimated quantity of 80 m^3.*"

Based on visual inspection, the report assess that the contaminated building material sum up to 57.6 m^3

In term of weight, the report estimate the following amounts of contaminated material:

Category	Tons (te)	Volume (m^3)
Category 1	144	80
Category 2	144	80
Contaminated building materials	57.6	32
Total	**318.6**	**192**

This amount has been calculated based on 2 contaminated soil samples and on visual assessment of the contaminated storage.

The report itself warns that *"Because of difficulties in taking of samples in highly contaminated location, samples taken were from outside the store only and not directly beneath. It is therefore it is possible that soils found directly beneath the store are even more highly contaminated".*

Environmental assessment of Matola site. The survey did not found analytical evidence of contamination of the site, therefore it concludes that *"The absence of a source of contamination precludes the necessity of risk management measures. However as the site observations of the detailed investigation conflict with the analytical results it is recommended that 2 rounds of samples of drinking water are taken from 2 wells up and down gradient of the Matola SDAE site. These should be analysed for Endosulfan content".*

In other words, the recommendation of the technical consultant in charge of the EA was to undertake more sampling and analysis of the site aimed at a better measurement of Endosulfan concentration.

Environmental assessment of Matola waste station site. Similarly to the other EA reports, the EA for this site includes a preliminary conceptual site model, showing the most likely pathways leading to exposure of the endpoints. Sixteen samples were taken judgementally from eight locations around the stockpile from three depths, but not analysed due to budget constraints. Five soil samples were taken along the length of the stockpile and from similar depths and analysed. Two of the five samples analysed were found exceeding the Stockholm Convention level for Endosulfan, and the US EPA target level for industrial sites for Trifluralin. One of these samples also exceeded the USEPA target level for Prometryn and the SC limit for Toxaphene. All the samples resulted contaminated by arsenic at a level 2 order of magnitude larger than the USEPA level. Based on the above consideration, the report concludes that *"The single issue affecting the site is the presence of the stockpile of contaminated soils which according to the above classification would be a FAO Category 1, higher risk soil."* However, in the table attached to the report, the estimated amount of 441 tons of contaminated soil is classified as FAO category 2.

Environmental Management Plan. This is the document based on which a tender should be issued for the disposal and decontamination services in compliance with Output 1.1.3 of the project document:

The environmental Management Plan lists disposal options for an overall amount of 1129 tons of contaminated soil and material. Of these, the EMP indicates that 144 highly contaminated soil from Lamego farm need High Temperature Incineration, whilst for the remaining 985tons, disposal to national landfill is suggested.

It should however be considered that:

1) As stated in the EA report for Lamego, the material inside the storage has not been sampled due to very hazardous conditions. Therefore, the assumption that 144 tons of building material need to be treated landfilling is not supported by analytical data and there is the concrete risk that more material will need to be incinerated;

2) For the Muziwa site, although the estimated concentration (based on only one sample) is well above the Stockholm Convention limit of 50 ppm (520 ppm) the disposal technology suggested is landfilling.

Concerning landfilling option, the EMP report states the following: "*as this (the Mavoco landfill) is the only site in Mozambique currently suitable for the disposal of hazardous wastes, the operating contractor is in a position to take advantage of an effective monopoly. For this reason the project will have to consider the construction of a landfill specific for the care of contaminated soils and/or the other methods of disposal in the event that pricing at tender stage precludes the use of this facility*."

Documents relevant to Component 2. *República de Moçambique. MINISTERIO DA AGRICULTURA RELATÓRIO DA VISITA DE ESTUDO AOS SISTEMA DE GESTÃO DE EMBALAGENS VAZIAS DE PESTICIDAS NA REPUBLICA FEDERATIVA DO BRASIL- Brasil, 02 à 11 de Março de 2013.* (Reupublc of Mozambique, Ministry of Agriculture. Report of the study tour related to the systme for the management of empty pesticide container in the Federative Republc of Brazil) This is the document representing the initial stage of the development of the strategy for empty pesticide container, and basically included consideration on the strategy adopted in Brazil for the management of these containers. The report concludes with some generic recommendations on the development of pesticide containers strategy in the country, which appears however not very detailed.

Documents relevant to Component 3

INTERNATIONAL CONSULTANT FOR M&E COMPONENT. Impact-focused M&E framework development and NGO training. GCP /MOZ/100/GFF. Final activity report (no date – likely delivered by December 2012). This report concern the training for the NGO in charge of the independent supervision of the GEF project, as per project framework requirement.

Mozambique Communication for Development Strategy (Final Summary Report).Prepared by: Birgitte Jallov International Communication Consultant. FAO Consultant (date missing – likely developed in late 2014). The strategy outlined (i) Priority Audiences, (ii) Communication Objectives, (iii) Communication Approaches, (iv) Prioritized Content and (v) Methods and channels prioritized by audience. The Communication strategy report identified the needs for communication and awareness raising; provided consideration on the selection of the proper Communication for Development (C4D) partner; identified the target audience; analyse the baseline study. In the final summary report there are no indication of two key areas of communication: how the issue of POPs pesticides are communicated , and how gender issue are mainstreamed into the communication strategy.

Monitoria & Avaliação do Impacto do Projecto Mozambique GEF FS Project - GCP/MOZ/100/GFF – Relatorio do Observador Nacional- 12/2012) (Project Monitoring and Impact Assessment of the Mozambique GEF FS Project GCP/MOZ/100/GFF)**.** This report, developed by the NGO Livaningo, is intended as the monitoring report for assessing the impact of the GEF project. It responds to the requirement, established under the project document, to have the project monitored by an independent NGO. The report is structured in the following chapters:

- Methodology;
- Risk reduction associated to the existence of obsolete pesticides;
- Risk reduction for the normal use of pesticides;
- Final consideration.

Interestingly, this report, although containing a wide survey among pesticide users, dealers, authorities, (74 persons interviewed) and bringing interesting information related to the situation of pesticide use and the presence of obsolete pesticide in the country, seems completely independent from the project activities, and should not therefore be considered as a report on the monitoring of project impact. The study indeed does not bring any conclusion or recommendation specifically related to the implementation of the GEF project.

11.2 MTR MISSION AGENDA AND LIST OF PERSON MET

List of person met and interviewed:

- Geneviève Braun, Richard Thompson, Toufic El Asmar (LTU)
- Castro Paulino Camarada(FAO Representative)
- Khalid Khassam, PMU NPC (Project Management Unit – National Project Coordinator)
- Silvia Cuambe, Carla Cuambe (FAO Country Office, Maputo)
- Prof Dominigos Cugala, (Univ. Eduardo Mondlane, Fac. De Agronomia e Eng. Forestal)
- Alberto Francisco Buque, Rul Brandao, Antonio Facilde (TECAP SA)
- Mahomed Rafik Valà (Ministry of Agriculture, National Director)
- Anna Paula Cardoso, (Ministry of Health, department of Environmental Health, Head)
- Xavier Domingo (Ministry of Labor)
- Maruricius (Livaningo)
- Egidio Bacalhau, site manager and other Safeguarding Operators at the Boane site

Agenda of the MTR meetings and site visits

- Meetings in Botswana – 21 03 to 26 03
- Arrival on sat. 19 in the afternoon
- Meeting at the airport with the National Project Coordinator Collen Mbereki and with professor Motshwari Obopile, national MTR consultant.
- Sunday 20 – meeting with Prof Motshwari Obopile. – Briefing on evaluation methodology.
- Monday March 21 Meeting at Ministry of Agriculture (9.00)
- Welcome meeting with the Director of Crop Production Galeitsiwe Ramokapane
- Meeting with David Tibe. (9.15) introduction to the system of FAO in Botswana.
- Meeting with prof. Obopile to arrange project agenda.
- Skype call with Ivy Saunyama on Monday 21 at 12:00
- Tuesday 22 - morning. Visit to the Sebele site

- Tuesday 22 – afternoon Meeting at the Department of Plant Protection with director Hendricks Modiakgotla to discuss the situation of the site
- Tuesday 22 – afternoon Meeting at the Department of Plant Protection with NPC Collen Mbereki and Moagaledi Monamati – Procurement officer to discuss procurement and co-financing issue
- Wednesday 23: Meeting at Ministry of Agriculture with Galeitsiwe Ramokapane.
- Meeting with Trainees working on the sites. Participants: Carlo Lupi, , Motshwari Obopile
- Thursday 24: De-briefing at Plant Protection Department. Participant: Hendricks Modiakgotla (PPD, director); David Tibe (FAO, deputy representative); Collen Mbereki (NPC); Carlo Lupi (MTR consultant); Motshwari Obopile (MTR consultant)

11.3 PHOTOGRAPHIC DOCUMENTATION

Storage facility in Boane

Storage facility in Boane

Endosulfan stored in Boane

Barrel with contaminated water ready for disposal

Safeguarding containers

ULV pesticides empty containers

11.4 LIST OF DOCUMENTS REVIEWED

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Cobban, R. (February 2015). *BTO- Back to Office Report- Mission 14 (February 4th 2015- February 7th 2015).*

Cobban, R. (February 2015). *Site Specific Environmental Assessment (EA) Muziva, Moçambique.*

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Helps, K. (September 2011). *BTO- Back to Office Report- Mission 132 (1-14 august 2011).*

Jallov, B. (2014). *BTO- Back to Office Report- Mission to Maputo, Mozambique (August 20- September 3, 2014).*

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Touni, E. (s.d.). *Guidance for developing a framework to monitor impact of obsolete pesticide projects. Case Study. Mozambique disposal of buried pesticides project 2011-2014.*

Touni, E. (s.d.). *INTERNATIONAL CONSULTANT FOR M&E COMPONENT. Impact-focused M&E framework development and NGO training. GCP /MOZ/100/GFF. Final activity report.*

Van der Valk, H. (April 2013). *Mission Report, Reducing risks of highly hazardous pesticides in Mozambique- 30 March- 7 April 2013.*

Van der Valk, H., & Comes, M. (November 2012). *Reducing Risks of Highly Hazardous Pesticides in Mozambique - Step 1 - Shortlisting highly hazardous pesticides.*