FAO/GLOBAL ENVIRONMENT FACILITY

PROJECT DOCUMENT

PROJECT TITLE:	Disposal Of Obsolete Pesticides Including Pops And Implementation Of Integrated Pest And Pesticide Management Programme In Morocco (FSP)
PROJECT SYMBOL:	GCP /MOR/041/GFF
Recipient Country: Morocco	
Resource Partner: Global Environment Facility	
FAO project ID: 613563	**GEF Project ID:** 4738
Executing Partner(s): Ministries Of Agriculture, Environment And Public Health	
Expected EOD (starting date):	
Expected NTE (End date):	
Contribution to FAO's Strategic Framework	Strategic Objective 2: Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner
GEF Focal Area: Chemicals (Persistent Organic Pollutants – POPS)	
GEF Strategic Objectives: CHEM-1 Outcome 1.4 POPs waste prevented, managed and disposed of, and POPs contaminated sites managed in an environmentally sound manner	
Environmental Impact Assessment Category: B	

Financing Plan: GEF allocation:	USD 3,500,000
Co-financing:	
CropLife International (Grant)	USD 1,814,500
CropLife International (in-kind)	USD 1,005,000
Government of Morocco (Grant)	USD 1,250,000
Government of Morocco (In-kind)	USD 18,900,000
FAO (Grant)	USD 1,277,126
Subtotal Co-financing:	
Total Budget:	**USD 24,246,626**
	USD 27,746,626

EXECUTIVE SUMMARY

As well as food security for its 30 million inhabitants, Morocco's agricultural sector contributes significantly to the country's GDP and to job creation. The agricultural sector relies heavily on export markets. About 1 million tonnes of fruits and vegetables are exported primarily to the EU annually.

Agriculture is faced with a number of challenges one of these being crop losses due to pests and disease with an estimated 40 % of total production lost annually. To deal with this challenge, the sector relies heavily on chemical pesticides. Although conventional pesticides have contributed to the fight against pests and disease, weaknesses in key segments of pesticide life cycle management, from supply to storage, distribution, marketing and use, have led to the accumulation of large quantities of obsolete pesticide stocks including POPs, significant soil contamination, and illegal circulation of highly toxic substandard and banned products. All these pose a significant risk to human health and the environment.

Morocco was one of six countries (Ethiopia, Mali, Morocco, South Africa, Tanzania, and Tunisia) prioritized for early quantification and removal of their obsolete pesticide stockpiles under the GEF-funded Africa Stockpiles Programme (ASP). The project started in February 2007 and ended in June 2010. The project was terminated before progressing beyond the quantification of obsolete pesticide stockpiles. Hence there are still 790 tonnes deteriorating obsolete stockpiles and about 60 contaminated sites posing risks to human health and the environment.

The project aims to eliminate inventoried stocks of obsolete pesticides, including Persistent Organic Pollutants (POPs) and associated wastes, and to develop a program geared towards preventing further accumulation of stocks in Morocco through training and capacity building. Specific objectives of each of the four technical project components are to: safely destroy POPs and obsolete pesticides and remediate pesticide-contaminated sites (Component 1); implement a system of management of empty pesticide containers, including collection, storage, rinsing, and recycling (Component 2); strengthen the regulatory framework and bolster the Government of Morocco's institutional and technical capacity to ensure the sound management of pesticides (Component 3); and increase the successful uptake of alternatives to chemical pesticides on key crops (Component 4). These four components will be supported by horizontal project monitoring and evaluation (Component 5) and communication strategies which will inform project execution decisions and create the necessary conditions for beneficiary knowledge and participation in project activities. The proposed project essentially picks up where ASP-Morocco left off, but includes significant design modifications, drawing on lessons learned from the previous project.

The National Food Safety Board (ONSSA), under the Ministry of Agriculture will be the main executing agency responsible for the coordination and management of project activities through a Project Management Unit (PMU) which will be established in ONSSA. To allow for the involvement of other key ministries in the management of the project, the PMU will be supported by Liaison Officials representing the Directorate of Epidemiology and Disease Control (Ministry of Health) and the Directorate of Surveillance and Prevention of Risk (Ministry of Environment) and the National Agricultural Advisory Office (ONCA). The project will also work with a number of partners who will contribute to the execution of specific components through MoUs or Letters of Agreement. The partners will be part of component teams set-up to enhance engagement of key stakeholders, to access a variety of skills needed to implement the components, and to capitalize on networks and channels of communication already established.

FAO will be the GEF Agency responsible for the supervision and provision of technical guidance during the implementation of the project.

The project has a duration of four years and a budget of USD 27.7 million, of which USD 3.5 million is GEF financing and USD 24.2 co-financing.

TABLE OF CONTENTS

GLOSSARY OF ACRONYMS

ACP MEA	African Caribbean Pacific countries EC funded Multilateral Environmental Agreements project executed by FAO
AGP	Plant Production and Protection Division of FAO
APEFEL	Association Marocaine des Producteurs et Producteurs Exportateurs de Fruits et Légumes.
ASIMPH	National Moroccan Trade Association for Import, formulation and Distribution of Phytosanitary Products
ASP	African Stockpiles Programme
AWP/B	Annual Work Plan and Budget
BH	Budget Holder
BVL	German Federal Office of Consumer Protection and Food Safety
CEO	Chief Executing Officer (GEF)
CILSS	Comité Permanent Inter-Etats De La Lutte Contre La Sècheresse Dans Le Sahel
CLCPRO	FAO Commission for Controlling the Desert Locust in the Western Region
CNLAA	Moroccan National Centre for Locust Control
CPF	Country Program Framework
DL	Desert Locust
DNA	Designated National Authority (under Rotterdam Convention)
EACC	Autonomous Establishment for Export Control and Coordination
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
EMTK	Environmental Management Toolkit (obsolete pesticides management)
EP	Executing Partner
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FPMIS	Field Project Management Information System
GDP	
GEBs	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
GIZ	
GoM	Government of Morocco
IPPC	International Plant Protection Convention
IPM	Integrated Pest Management
LOARC	Official Chemical Analysis and Research Laboratory
LTO	Lead Technical Officer
LTU	Lead Technical Unit
MoH	Ministry of Health
M&E	Monitoring and Evaluation
NCESD	National Charter for Environment and Sustainable Development
NDLCC	National Desert Locust Control Centre (also CNLA in French acronym)
NEPA	Moroccan National Environmental Action Plan
NEPPO	Near East Plant Protection Organization
NGO	Non-Governmental Organization
NIP	National Implementation Plan (Stockholm Convention)
NRPC	National Pesticide Registration Committee
ONCA	National Agricultural Council Board and/or National Agricultural Advisory Office
ONSSA	Food Safety Authority , Ministry of Agriculture
OP	Obsolete pesticides
PIF	Project Identification Form (GEF)
PIR	Project Implementation Review (GEF)
POPs	Persistent Organic Pollutants
PPG	Project Preparation Grant (GEF)

PPR	Project Progress Report
PRODOC	Project Document
PSC	Project Steering Committee
PSMS	Pesticides Stock Management System
PY	Project Year
SEPS	Sustainable Environmental Protection System
STAP	Scientific and Technical Advisory Panel (of the GEF)
TCI	Investment Centre Division (FAO)
TCP	Technical Cooperation Programme
TOR	Terms of Reference
USD	United States Dollar

1 SECTION 1: RELEVANCE

1.1 GENERAL CONTEXT

As well as food security for its 30 million inhabitants, Morocco's agricultural sector contributes significantly to the country's GDP (15 to 20%), job creation (over 4 million jobs) and to macroeconomic stability, particularly the balance of payments[1]. The agricultural sector relies heavily on export markets. About 1 million tonnes of fruits and vegetables are exported primarily to the EU annually[2].

Agriculture is faced with a number of challenges one of these being crop losses due to pests and disease with an estimated 40 % of total production lost annually. To deal with this challenge, the sector relies heavily on conventional chemical pesticides. Quantities of pesticides imported between 2005 and 2009 rose from 14,000 tonnes to about 20,000 tonnes, worth about 1 billion dirhams (equivalent to approximately USD 122 million[3]). The increasing trend in the demand or use of pesticides could be explained by the shift towards the intensification of production systems characterized by high use of inputs including fertilizers and chemical pesticides. Unfortunately the intensified use of chemical pesticides is sometimes accompanied by the elimination of natural enemies and the appearance of secondary pests which lead to more use of pesticides.

Nearly all pesticides (96%) are imported as products ready for use in agriculture, public health and animal health. The rest are imported as technical grade for formulation in the country. At national level, the pesticide market consists of many actors, from large multinationals that manufacture, import and sell pesticides and formulations to distributors and local dealers who provide pesticides to end users (farmers, cooperatives, state institutions, etc). Nearly fifty companies share the market (import and distribution) through over 800 points of sale. Most are concentrated in irrigated areas or high production areas. The region that uses the largest share of agricultural pesticides (about 35%) is Souss-Massa in southern Morocco. Souss Massa is the major region for fruit and vegetable production, with about 90% of its total vegetable production exported to the EU market. The heavy use of pesticides in Souss Massa generates a substantial flow of agricultural waste including empty pesticide containers.[4]

Although conventional pesticides have contributed to the fight against pests and disease, weaknesses in key segments of their life cycle, from supply to storage, distribution, marketing and use, have led to the accumulation of large quantities of obsolete pesticide stocks including POPs, significant soil contamination, and illegal circulation of highly toxic substandard and banned products. All these pose a significant risk to human health and the environment. Pesticide poisoning is common in Morocco. The Laboratory of Toxicology and Pharmacology recorded nearly 12 000 cases of acute pesticide poisoning between 1989 and 2009, especially among young adults and women. With regard to the environment, some recent studies have indicated organochlorine groundwater pollution in the Triffa plain in North-East Morocco. Organochlorines, including DDT,

[1] Moroccan Agency for Agriculture Development website, accessed 11 July 2013 (http://www.ada.gov.ma/en/Plan_Maroc_Vert/plan-maroc-vert.php)

[2] Ibid

[3] 1 USD = 8.212 Moroccan Dirhams at 1 March 2014

[4] Hence proposed activities under two components of the project, described in section 2, will be implemented in Souss Massa.

have also been detected in the sediments of the Merja Zerga wetland, a protected area near Moulay Bousselham 100 km north of Rabat[5].

Legal, policy and institutional context

The legislation on pesticides is split across three separate instruments (for agriculture, animal health and public health). Pesticides in agriculture (plant protection) are governed by Law No. 42-95 enacted in 1997, which controls the manufacture, registration, import, sale and distribution of pesticides. Pesticides used in the animal and human health sectors are governed by different interim regulatory texts. There are some categories of pesticides such as plant protection products for gardening and household insecticides that are not covered by these instruments.

In Morocco pesticides are managed by two different governmental departments, depending on their intended use. Pesticides for plant protection and for animal health are controlled by the Ministry of Agriculture, and those for hygiene and public health by the Ministry of Health. There are a number of other government agencies involved in the regulation and management of pesticides, and implementation of international conventions ratified by the country. These include the Ministry of Environment, Transportation, Trade and others.

The National Food Safety Board (ONSSA), established in 2010 under the Ministry of Agriculture, is responsible for the review and implementation of laws and regulations for pesticides used in agriculture. Specifically they are responsible for the registration of pesticides, granting licences for import, and inspection and quality control of pesticides at import and throughout the national distribution chain. They are also in charge of supervising surveillance of pesticide residues in food and animal products in collaboration with the National Reference Laboratory. They are in charge of developing specific good agricultural practices for pest-crop-pesticide combination and organize training for extension agents and farmers.

The Ministry of Environment is the focal point for the Stockholm Convention, Basel Convention, Rotterdam Convention and Strategic Approach to International Chemicals Management (SAICM). They are responsible for developing and enforcing regulations related to the management of hazardous waste including obsolete pesticides and empty pesticide containers.

The Ministry of Health, through the Directorate of Epidemiology and Vector Control, is responsible for the implementation of regulations for pesticides used for public health. They provide training on pesticide application and management of stocks.

The National Desert Locust Control Centre (CNLAA) is responsible for Desert Locust (DL) monitoring, early warning and control in the country. CNLAA is also responsible for the registration and import of pesticides used in DL control, stock management and quality control, and empty container management from DL control operations.

The Customs Authority assists ONSSA and the Official Chemical Analysis and Research Laboratory (LOARC) in the inspection and sampling of pesticide products at entry ports.

An inter-ministerial committee for pesticide registration (NPRC) has been established to consider applications for the registration of pesticides. This commission meets 3 to 6 times a year.

[5] Fekkou A., Zarhloul Y., Boughriba M., Kabbadi A., Machmachi I. et Chafi A., 2011. Contamination par les pesticides organochlorés et les nitrates des eaux souterraines du système aquifère de la plaine des Triffa (Maroc Oriental). ScienceLib Editions Mersenne : Volume 3, N°110801, p 7

1.2 RATIONALE

a) Issues to be addressed

Under the GEF-funded Africa Stockpiles Programme (ASP) about 850 tonnes of obsolete pesticides including POPs and contaminated materials were inventoried nationwide. The inventory data was validated and entered into the Pesticide Stock Management System (PSMS) in 2010. These obsolete stocks are located in 359 sites in 8 regions of Morocco. Of the 850 tonnes, 60 tonnes of DDT held by the Ministry of Health were eliminated and 17 tons safeguarded in Casablanca. The rest of the stocks are still in their original location as they were inventoried in 2009-10. At the time of inventory some of the stocks were already in deteriorating leaking containers. These need urgent safeguarding and disposal.

Although there has not been any inventory update since 2010, there are additional new stocks generated after the 2003-2006 Desert Locust upsurge, and the remaining stock of new POPs (e.g. endosulfan). During project preparation, it was agreed that priority should be given to the safeguarding and elimination of the remaining 790 tonnes inventoried under ASP Morocco. Approximately 60 contaminated sites have been identified. During the preparation of this project ten priority pesticide-contaminated sites located in southern and south-eastern Morocco were prioritized based on the level of contamination. These include sites in Oued Zem, Settat, Casablanca, Marrakech, Meknes, Rabat and Tadla. Several of these sites were sites of intensive operations during the previous campaigns to control Desert Locust (associated with pesticide storage sites and areas where filling of terrestrial or aircraft spraying tanks was undertaken).

An analysis of key segments of pesticide life cycle was conducted to determine weaknesses or barriers that need to be addressed in order to improve the management of pesticides in accordance with the International Code of Conduct on Pesticide Management.

Legislation. As mentioned in the previous section, legislation on pesticides is split across three separate instruments and gaps remain over many aspects, both at the level of procedural texts regulating pesticides registration, as well as those regulating pesticides post-registration. For example, the procedural texts laying down the basic safety standards for compliance in specific fields are often either missing or incomplete in the areas of: toxicological classification, labelling, packaging, disposal, recycling or obsolete pesticide treatment, efficacy testing and assessment of potential impacts on human and animal health and on the environment etc. Without a comprehensive and robust regulatory framework, pesticide management in Morocco will remain piecemeal and ineffective.

Import, quality control and inspection. 80% of pesticides are imported through Casablanca port due to its relatively superior infrastructure including access to the only laboratory in Morocco conducting quality control of plant protection products – Official Chemical Analysis and Research Laboratory (LOARC) in Casablanca. The annual total import (~20,000 tonnes) is not evenly spread throughout the year but peaks in April, May and June. Combined with the current practice of sampling and analysis of every shipment, this leads both the customs authorities and the laboratory to be overwhelmed by the volume of imports leading to errors and major delays which affect crop protection and production and could encourage the illegal traffic of pesticides.

Pesticide inspection and control functions are currently provided by various actors for the export and non-export oriented producers. The key institutions with relevant activities include the National Pesticide Registration Committee, Etablisement Controle Exportations, ONSSA - LOARC – customs – police – “Repression de Fraude”. However, information exchange between these institutions is weak – for example, LOARC is not routinely informed when new pesticides are registered, and does not have the necessary reagents and data needed to perform quality control or residue testing for those active ingredients. The absence of formal information exchange between the various actors is an important barrier to the sound management of pesticides.

Management of pesticide waste including empty containers. Currently the Moroccan legislation does not place responsibility on pesticide producers and retailers to manage their pesticide products throughout their life cycle (including empty containers). So, while containers from locust control are more or less managed, there is no comprehensive system in place to ensure the adequate management of empty pesticide containers used for agricultural, and public health. An estimated 115,000 empty metal, plastic, paper and aluminium pesticide containers are produced annually through agricultural activity in Souss-Massa. Some of these containers are rinsed, punctured and stored on farms (particularly citrus fruit, and market garden produce for export) - 75% of certified export farms in Souss-Massa have been storing their empty containers for almost five years pending a solution to recycle them. Outside such farms, empty pesticide containers are sold to pesticide resellers. In informal networks they are reused for domestic purposes, representing an enormous risk for human health, particularly of women and children. Apart from having no comprehensive system to deal with the empty pesticide containers, there is also a general lack of awareness of both the general public and pesticide distributors of the health and environmental risks posed by pesticide containers.

Alternatives to chemical pesticides. Adequate management of pests and pathogenic agents remains a major challenge in Morocco. The agricultural sector relies heavily on conventional chemical pesticides to control crop pests. The number of brands or grades of marketed specialty pesticides rose by 29% in 10 years - in 2004 there were 666 (with 267 active ingredients) and in 2013, there are 860 (with 301 active ingredients). There are currently 38 biopesticides registered, representing only 11 percent of total registered pesticides. Driven by the need to reduce residues on export crops, the Ministry of Agriculture and Sea Fisheries, agricultural research and higher educational institutions, professional associations, and the private sector have contributed in recent decades to the development of Integrated Pest Management (IPM) through the introduction of alternatives to conventional pesticides, including cropping practices, pest monitoring techniques, auxiliary insects and bio-pesticides. But as shown by the increasing use of chemical pesticides, IPM has not yet been widely adopted. One of the main reasons is lack of access by farmers to information on the availability and use of alternatives. The main sources of information are companies marketing agricultural inputs (chemical pesticides, fertilizers, etc.). This has a negative effect on the adoption of IPM and only reinforces dependence on conventional pesticides.

Addressing all these issues is crucial in order to reduce current and future risks to human health and the environment.

b) Baseline and co-financing initiatives

Africa Stockpiles Programme (ASP)

Morocco was one of the six countries (Ethiopia, Mali, Morocco, South Africa, Tanzania, and Tunisia) prioritized for early quantification and removal of their obsolete pesticide stockpiles. In Morocco, the project started in February 2007 and ended in June 2010. The following results were achieved: An inventory data collection and validation was completed; training was provided to a national team to carry out the inventory and to develop a database on obsolete pesticides, to plan for safeguarding, and to prepare the bidding process for disposal. The project was terminated before progressing to other planned activities.

After the closure of the project, the Government has funded the construction of four storage facilities. GEF[6] and SAICM supported the Ministry of Health in the disposal of 60 tonnes of DDT.

[6] Regional project «Demonstration of Sustainble Alternatives to DDT in Disease Vector control in North Africa and the Middle East (GEF project ID 2546

Currently there are 790 tonnes of obsolete stocks inventoried in 2009 that are in unsecured storage awaiting a solution. The Government and CropLife International have made commitments to provide resources towards the safeguarding of these stocks and, with Croplife's further funding, any additional stocks that may have accumulated in the private sector since.

EU-funded "Capacity building for registration and control of pesticides products and fertilizers to improve crop production"

In 2009-2010, FAO provided technical assistance to ONSSA to take stock of the existing legislation and develop a new piece of legislation for pesticide management. The Government is currently working directly with the European Union to continue this legislative work under the capacity building project. The project will focus on three areas: bringing Moroccan pesticide legislation in line with EU requirements; improving risk evaluation procedures for pesticide registration; and enforcement of pesticide regulations.

IPM initiatives

Moroccan farmers involved in export-oriented agriculture were introduced to the concept of Integrated Pest Control (IPC) in the 1990s. Several projects have promoted this approach, inter alia: the disposal of methyl bromide project funded by the UN Industrial Development Organization (UNIDO); the Millennium Challenge Account Program (on fruit tree production); the GEF/WHO project on reducing the use of pesticides in agriculture in the Gharb region. With funding from the Government of Italy, FAO has also been assisting Morocco and other North African countries in further development of IPM. This project has led to increased interest in scaling IPM efforts in Morocco. The newly established farmer advisory service (Office regional mise en valeur agricole de sous messa) is taking on IPM and FFS as key tools to promote agriculture and add value to the production chain.

Desert Locust Control and Container management

The Government has established the National Desert Locust Control Centre (CNLAA), which is responsible for implementing the preventive locust control strategy adopted by the FAO Commission for Controlling the Desert Locust in the Western Region (CLCPRO) covering ten countries in West and North-West Africa, and of the FAO EMPRES Programme. The Government of Morocco contributes about USD 125 000 per year to the DL Commission/EMPRES, as well as to pesticides management for DL control. FAO has provided assistance to Morocco in the quality control of current stocks of pesticides for Desert Locust control, through training of staff in the use and continual updating of the Pesticide Stock Management System.

CNLAA has established a facility in Tiznit (80 km south of Agadir) for the management of empty containers from the Desert Locust control sector. Empty pesticide containers from locust upsurges have been collected, centralized, cleaned and compressed using barrel presses in Tiznit, pending a solution for recycling them. At the moment, this centre only deals with DL containers. In 2010, Bayer CropScience conducted an unsuccessful trial to collect empty containers from that company (Bayer-only empty containers). This failed due to the small volumes of empty containers recovered and the fact that farmers need a complete solution for all their empty containers.

Croplife Maroc and the GIZ have been conducting a farmer information campaign since November 2012 on 'Good Phytosanitary Practices' including on triple rinsing.

c) Incremental cost reasoning

The several past and ongoing baseline initiatives, although certainly contributing to the improvement of pesticides management in Morocco, do not sufficiently address some of the critical issues mentioned earlier. The deteriorating 790 tonnes of obsolete pesticides inventoried 5 years ago need to be safeguarded and disposed of urgently. The Government, Croplife International and other partners have committed some resources for safeguarding but these would not be enough for disposal, hence the need for additional GEF resources.

With regard to empty pesticide containers which, as long as pesticides are used, will always be generated, the existing infrastructure for the Desert Locust control containers offers an opportunity to be exploited for the management of empty metal containers from other sectors. But there is a need for technical assistance to design and pilot a sustainable system that covers agriculture and to provide training to actors who will be involved in the proper implementation of the system.

The EU project is dealing with the revision of the legislation and regulations. Incremental activities will focus on strengthening the capacity to enforce these starting with addressing inefficiencies in the quality control and inspection system and improving coordination between the various actors involved in pesticide management.

Incremental activities will also deal with the main barrier to the scaling-up of results from past and ongoing IPM initiatives – the lack of access to information on the availability and use of alternatives. An innovative approach based on monitoring actual farmer practices to identify alternatives and promoting these through a representative network of farmers will be implemented in Sous Massa. This approach will maximize peer-to-peer sharing and strengthen access to existing information and advice on alternatives. This "typology of farming systems" approach is currently being developed in Benin and the lessons learnt will be incorporated in the roll-out in Morocco.

Without the GEF-funded intervention, the already deteriorating stockpiles of obsolete pesticides including POPs and heavily contaminated sites will continue posing risks to human health and the environment. Not addressing capacity issues in key stages of pesticide life cycle, even if the stockpiles are eventually destroyed, will only contribute to the creation of new stockpiles and contamination in the future. This project is urgently needed.

1.3 FAO's COMPARATIVE ADVANTAGE

The mandate of FAO includes prevention and management of agricultural pests; reduced risk from distribution and use of pesticides including their disposal as governed by the International Code of Conduct on Pesticide Management (2012); and the control of international trade in particularly hazardous pesticide formulations as governed by the Rotterdam Convention on Prior Informed Consent. A specific mandate from the FAO Council instructed FAO to assist countries in reducing risks from pesticides. In addition, the Plant Production and Protection Division of FAO (AGP) provides guidance on the Sustainable Production Intensification of Crops with a particular focus on ecological approaches as embodied in Integrated Pest Management (IPM), which is able to reduce reliance on chemical pesticides, and on migratory pest control, which has been a major cause of obsolete pesticide stockpiles.

FAO has operated a programme for the prevention and elimination of obsolete pesticides since 1994. The experience gained by AGP in the area of obsolete pesticide prevention and disposal is unique among the Intergovernmental Agencies. The FAO programme that helps countries to deal with obsolete pesticides is currently supporting activities in 60 countries.

AGP has been advocating IPM for over three decades through the FAO Regular Programme and extra-budgetary funding from various financial support sources. The Global IPM Facility, established in collaboration with the World Bank in the 1990s, was hosted in AGP and significantly boosted the dissemination and uptake of IPM in many countries. IPM regional and national programmes are ongoing in the CILSS region with projects currently being implemented in 28 countries.

FAO is therefore ideally and uniquely positioned to support its member states in the development and implementation of projects for the comprehensive, safe and effective management of pesticides, disposal of obsolete pesticides, and promotion of alternatives to hazardous pesticides.

1.4 PARTICIPANTS AND OTHER STAKEHOLDERS

Several state and private sector institutions, civil society and NGOs are involved in the pesticide life cycle management. The following will participate in and benefit from the project.

The Ministry of Agriculture through the National Food Safety Board (ONSSA**):** is the lead executing partner in this project. ONSSA will coordinate the implementation of all project activities in collaboration with the Ministry of Environment and the Ministry of Public Health.

The Ministry of Environment: as the Government agency responsible for the development and enforcement of regulations related to the management of hazardous waste including obsolete pesticides will be responsible for the compliance monitoring of the safeguarding and disposal operations. The Ministry of Environment is currently developing specific regulations for the management of empty pesticide containers and therefore will also participate in the empty pesticide management scheme to be piloted under the project.

The Ministry of Health: will participate in the project through the project management unit as well as the Project Steering Committee (PSC). The Ministry will be involved in the finalization of the revised pesticide legislation, and participate in the monitoring of impacts of pesticides and empty containers on human health.

The National Desert Locust Control Centre (CNLAA): Given the centre's experience in pesticide stock management and management of containers from desert locust operations, CNLAA was involved in the preparation of the project and will be involved in the co-execution of the pilot container management scheme.

Customs Authority (including the Rotterdam Convention Designated National Authority): participated in the preparation of the project. During execution the Customs Authority will collaborate in the establishment of a national pesticide control network at import points.

The National Reference Laboratory, the Laboratory for Pesticide Residues in Food Commodities, and the Water Residue Control Laboratory: During the project laboratory Inspection staff will be involved in quality control and post-registration inspection activities.

Higher educational and agronomic research institutions: including the Hassan II Institute of Agronomy and Veterinary Medicine (Rabat), the National School of Agriculture in Meknes, the National Institute for Agronomic Research, will contribute in the development of training modules on alternatives to conventional pesticides.

Pesticide industry associations: (including National Moroccan Trade Association for Import, formulation and Distribution of Phytosanitary Products ASMIPH and Croplife Morocco and Croplife International), will be represented in the PSC. They will also contribute to the safeguarding of obsolete stocks and the design and implementation of the pilot container management scheme and the eventual hand-over of the scheme for long-term management beyond the life of the project

Non-Governmental Organizations (NGOs): as well as civil society organizations will be involved in the development and implementation of the communication strategy on the adverse impacts of chemical pesticide to human health and the environment. Key NGOs will be represented in the PSC.

Professional associations: including Association of Producers/Exporters of Fruits and Vegetables (APEFEL), Association of Citrus Producers in Morocco (APSAM), Association of Producers/Exporters of market gardening and early fruits in Morocco (ASPEM), and Export Groups, will assist in the design of and implementation of the pilot container management scheme as well as the promotion of IPM among farmers.

The PPG identified that there are two Moroccan firms currently recycling agricultural and plastic wastes located in Casablanca and El Gara respectively. Both will be consulted and involved in the execution of the container management project component.

1.5 LESSONS LEARNED FROM PAST AND RELATED WORK, INCLUDING EVALUATIONS

Participation in the Africa Stockpiles Program (ASP) was affected by execution challenges, and did not produce the expected results, but has enabled the proposed project to take into account the lessons

learned from ASP. These are notably the need for dedicated project staff, as opposed to relying entirely on already over-stretched national staff. The project therefore proposes a different execution arrangement with a dedicated Project Management Unit led by a full-time National Project Coordinator paid by the project. The PMU will be located within ONSSA. To make sure that other key Ministries (Environment and Health) are fully involved in project implementation, in addition to the Project Coordinator, the PMU will include a representative from each of the three ministries, who will support the project in accessing relevant technical expertise and informing government counterparts of the project's progress. Lessons have also been learnt relating to sustainability of obsolete pesticide disposal projects based on the turn-key approach, involving the signing of a pesticide disposal contract with a specialized firm which then assumes full responsibility for organizing, planning and implementing security, transport, storage and safe disposal. Experiences in Niger, Senegal, Mauritania and Cape Verde in 1996 and in Morocco in 2010 and 2013 (total of 60 tonnes of Ministry of Health stocks of DDT removed by TREDI, a company specializing in waste processing) demonstrated the need to highlight the economic impact of pesticide mismanagement. Effectively the MoH paid twice, once for the pesticide, and once for its disposal after it was left unused. In addition, the incorrect storage of the DDT resulted in several sites being contaminated. This points to the need to improve regulations related to the import of hazardous pesticides, as currently in Morocco pesticides used for health purposes are not subject to registration requirements.

Regarding remediation of pesticide contaminated sites, FAO has developed methodologies that quickly and econonomically identify potentially high risk sites, assess the risks and identify options for reducing the risks. The methodology ensures that limited resources are employed to the maximum benefit of the country and human populations and the environment impacted by contaminated sites. Methodologies for risk reduction include land-farming, bio-remediation (using organic fertilizer) and phytoremediation (using of local plants such as jatropha and vetiver), has produced promising results in Mali. This relatively low-cost approach has been found to offer a viable alternative to sending contaminated soils for high temperature incineration in Europe.

An independent evaluation of the regional IPM project (with Morocco one of the countries) made a number of recommendations for the successful promotion of IPM including: strengthening institutional collaboration at the local and national levels to help institutionalize IPM, strong involvement of the extension staff of the Ministry of Agriculture to facilitate up and out-scaling of IPM and participation of local and national NGOs, research institutes and agricultural universities as well as collaboration with ministries of health, education and economy. In Morocco, the key lesson is that collaboration between farmers associations, the private sector and governmental bodies is fundamental. This is why the project has sought participation of these stakeholders in all project activities from disposal of pesticide waste to the promotion of IPM.

1.6 LINKS TO NATIONAL DEVELOPMENT GOALS, STRATEGIES, PLANS, POLICY AND LEGISLATION, GEF AND FAO'S STRATEGIC OBJECTIVES

Alignment with national priorities The Morocco Green Action Plan aims to move towards making agricultural growth compatible with sustainable management of the environment, and to better protect the health of Moroccan consumers. The proposed project is fully in line with the aims of the sound management and use of pesticides in Morocco.

In 2009, the Ministry of Energy, Mining, Water and the Environment, subscribed to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). This project, which aims to improve the registration and post-registration of pesticides, is fully complimentary to the GHS.

a) Alignment to the Stockholm Convention National Implementation Plan

The Government of Morocco ratified the Stockholm Convention on Persistent Organic Pollutants on 16 June 2004. In May 2006, the Government submitted its National Implementation Plan (NIP) to the

Stockholm Convention Secretariat. This NIP outlines how the country plans to meet Morocco's obligations under the Convention including through the gradual disposal of POPs, and remediation of pesticide contaminated sites.

The proposed project will contribute towards achieving the priorities identified in the NIP including: (i) Updating the national legislation in order to take Stockholm Convention obligations into account; (ii) Development of a strategy for destruction of POPs pesticides and other obsolete pesticides; (iii) Development of an integrated strategy for the management of chemicals used in plant protection and the control of disease vectors; (iv) Development of a strategy for sensitization and communication with the public ; and (v) Development of national technical capacities regarding POPs management.

b) Alignment with GEF focal area and/or LDCF/SCCF strategies

The project contributes to the implementation of the GEF-5 Chemicals Strategy. It focuses on: CHEM-1, specifically the management, prevention and disposal of POPs wastes and sound environmental management of contaminated sites. The project will dispose of 800 tonnes of existing obsolete and remediate 10 heavily contaminated priority sites. To prevent future mismanagement, focus will also be on strengthening the institutional capacity to enforce pesticide regulations.

c) Alignment with FAO Strategic Framework and Objectives

The new FAO Strategic Framework is comprised of five Strategic Objectives (SOs) that represent the main areas of work of FAO. This project is linked to Strategic Objective 2 (SO-2), "Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner" particularly Organizational Outcome 2 under SO-2 " Stakeholders in member countries strengthen governance – the laws, policies and institutions that are needed to support producers in the transition to sustainable agricultural systems".

2 SECTION 2: PROJECT FRAMEWORK AND EXPECTED RESULTS

2.1 PROJECT STRATEGY

In designing the project, priority has been placed on what needs to be done urgently to address the current risks posed by the deteriorating existing obsolete stocks and heavily contaminated sites. The proposed project essentially picks up where ASP-Morocco left off, but includes significant design modifications, drawing on lessons learned from the previous project.

In addition to directly removing and remediating the remaining sources of obsolete pesticide the design includes three complementary components to improve pesticide management in Morocco, addressing the root causes for accumulation of these wastes and preventing future stockpiles.

The project is designed to be complimentary to key national activities related to pesticides management. In particular, the revision of laws and regulations will be completed by strengthening institutional capacities to enforce the revised regulations.

Another aspect incorporated is the use of technologies that are relevant to the climatic and ecological conditions of Morocco, in particular in the areas where the project will develop its activities. As such, the pilot activities on non-toxic alternatives will focus on affordable, low cost, readily available alternatives, aiming to demonstrate their efficacy and to ensure they are within reach of farmers.

Special consideration has been given to stakeholder participation in the strategy. There are two groups of stakeholders, in addition to Government agencies, who will be central to the achievement of project objectives. These are the suppliers (pesticide industry) and users of pesticides (farmers/producers associations). Their participation and role in project implementation is described in section 1.4 and section 4.1.

2.2 PROJECT OBJECTIVES

The overall project objective is to reduce POPs releases from obsolete pesticide stockpiles and contaminated sites and strengthen the capacity for the sound management of pesticides. The project will eliminate currently inventoried stocks of obsolete pesticides, including POPS and associated wastes, and develop a program geared towards preventing further accumulation of stocks in Morocco through training and capacity building in the integrated management of pests and pesticides throughout their lifecycle. Specific objectives of each component are to: safely destroy POPs and obsolete pesticides and remediate pesticide-contaminated sites (Component 1); implement a system of management of empty pesticide containers, including rinsing by users, collection, storage, segregation and volume reduction, and recycling (Component 2); strengthen the regulatory framework and bolster the Government of Morocco's institutional and technical capacity to ensure sound management of pesticides (Component 3); and to increase the successful uptake of alternatives to chemical pesticides on key crops (Component 4). These four components will be supported by horizontal project M&E (Component 5) and communication strategies which will inform project execution decisions and create the necessary conditions for beneficiary knowledge and participation in project activities.

2.3 PROJECT COMPONENTS

The project has been structured into five components. This section describes the scope of the components in terms of specific activities, outputs and outcomes expected to be achieved.

Component 1: Safe disposal of POPs and other obsolete pesticides, and remediation of contaminated sites

This component will focus on the safe disposal of 790 tonnes of stockpiled POPs and other obsolete pesticides, and the remediation of ten priority pesticide-contaminated sites. The hazardous

stockpiles will be safeguarded, repacked and disposed of in an environmentally sound manner overseas by an international disposal company. Croplife will perform a inventory validation in the early stages of the safeguarding process, including an outreach campaign to the private sector to identify any newly accumulated stocks since the inventory was completed in 2008. These are expected to be low, and if so will be included in the safeguarding exercise. Existing work has already identified 88 locations and 10 priority contaminated sites where the risks from leaked pesticides need further analysis. The project will engage and train a national team to confirm priority sites for screening, generating field sampling data which will be used to develop site specific remediation plans. Remediation will employ locally available, cost-effective techniques, ensuring it can be repeated on further identified sites by trained national staff, post-project.

Outcome 1: Risks to human health and the environment reduced through safe disposal of POPs and other obsolete pesticides and remediation of pesticide-contaminated soil

Output 1.1 Safeguarding and disposal strategy developed in line with national and international best practice

Main Activities: The main activities to be implemented under this Output are:

1.1.1 Outreach campaign by Croplife International to identify the newly accumulated stocks in the private sector and the validation of the inventory from 2008. Followed by Environmental Assessment (EA) and Environmental Management Plan (EMP) development: A task team led by ONSSA and supported by an international consultant will develop the EA and EMP based on guidance provided in the Environmental Management Toolkit (EMTK) for obsolete pesticides which was developed under the Africa Stockpiles Programme. The validated inventory data in the Pesticide Stock Management System (PSMS) will be used to define aspects such as the preferred safeguarding strategy, the preferred disposal strategy, risks and associated mitigation measures and the overall relationship of the obsolete stocks and the storage locations with the wider environment. The EA and EMP will undergo disclosure and approval based in line with national requirements.

1.1.2 Selection of a contractor for disposal: The EA and EMP will form the basis of the technical specification for a tender for services for safeguarding and disposal of the waste identified in PSMS plus the newly accumulated stocks in the private sector. The selection of the contractor and signing of the contract will be done by in full compliance with the necessary procurement and oversight procedures required by FAO.

Timeline for implementation: The EA and EMP will be developed, disclosed and approved in year 2 of project implementation.

Output 1.2: Safeguarding, export and destruction of inventoried wastes completed in environmentally sound manner

The selected contractor will be responsible for all aspects of safeguarding and disposal. The project task team will have an oversight and monitoring function based on the technical capacity for this developed during ASP.

Main Activities: The main activities to be implemented under this Output are:

1.2.1 Safeguarding of obsolete stocks: Safeguarding of obsolete pesticides covers all aspects related to stabilisation and repacking of obsolete pesticides at the point of storage, through transport and interim storage at a national collection point. The previously repackaged stocks (see Section 1) and remaining approx. 790t of hazardous stockpiles plus newly accumulated private sector stocks will be safeguarded and disposed of in an environmentally sound manner overseas by an international disposal company in line with the EA and EMP requirements set by the national team as part of their contract.

1.2.2 Disposal of obsolete stocks: The safeguarded stocks will be disposed of in an environmentally sound manner overseas by an international disposal company in line with the requirements set in the contract. Disposal will likely be in an overseas facility in compliance with Stockholm and Basel

requirements, and all transboundary movements will be fully compliant with the Basel Convention requirements

1.2.3 Contract monitoring: quality control will be achieved through the monitoring of compliance with the tender specifications by the client (GoM) to ensure standards are met in practice. In particular, compliance with EMTK standards for repackaging (volume 4), transport & interim storage (volume 2) and Basel and Stockholm convention technical guidelines on environmentally sound disposal.

Timeline for implementation: All safeguarding activities will be completed in year 3. Disposal will be completed in year 4.

Output 1.3: Contaminated sites remediated

Main Activities: The main activities to be implemented under this Output are:

1.3.1 Establish and train a national team and confirm 10 priority sites: a national team of experts will be trained in the application of Rapid Environmental Assessment (REA) tools and will collect data from 10 sites highlighted as contaminated during the inventory process and prioritized in PSMS. The REA will include the development of detailed site sampling plans;

1.3.2 Detailed site investigation: based on the findings from the application of the REA tool a number of highest risks (preliminary set as ten locations but may vary) will be subject to a detailed intrusive site investigation. Based on the results of the investigations, site-specific Conceptual Site Model (CSM) will be developed for the selected priority sites. The CSM will form the basis of a set of site specific remediation strategies which will include an analysis of alternative options for remediation;

1.3.3 Following review and approval by key stakeholders such as the Ministry of Environment, Implementation of site-specific remediation plans: based on the available budget the remediation strategies for up to ten high priority sites will be implemented. The strategies will be implemented over a period of 18 – 24 months to allow for a critical assessment of the risk reduction achieved over the lifetime of the project.

1.3.4 Remediation will be tracked by a monthly sampling and assessment programme implemented with national accredited laboratories (e.g. in Casablanca). The staggering of start-up of remediation activities will allow the project to learn in an adaptive way, including introducing new approaches based on the monitoring results if necessary. Quarterly reports will be integrated into the logframe M&E.

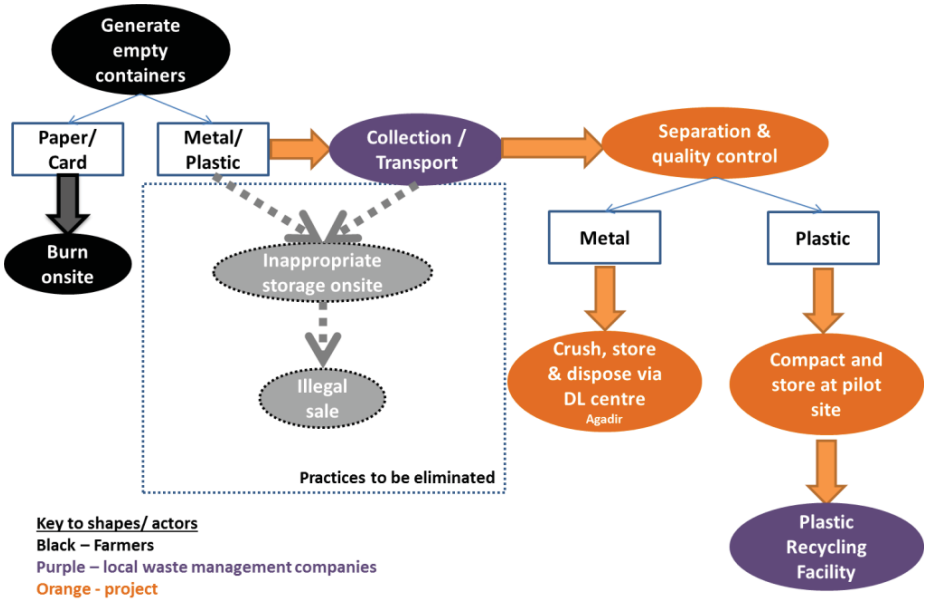
Timeline for implementation: The detailed site investigation and prioritisation will be completed in year one. Detailed site investigation will be completed in year two. The implementation of the remediation and risk reduction strategies will be completed in year three and four.

Component 2: Management of empty pesticide containers

Component 2 aims to mitigate risks to public health and the environment generated by empty metal and plastic pesticide containers, which constitute a significant source of pesticide contamination through reuse for the storage of food and water. This component will develop a management system including outreach campaign to users for triple-rinsing and safe storage, collection, segregation and volume reduction and recycling of all types of containers, firstly through a regional pilot in Sous Massa. As with other sustainable container management schemes around the world, the component will include a review of regulations to ensure that the roles and responsibilities of the pesticide suppliers, distributors and users are clearly defined including the responsibility for on-going funding and management of the scheme. The pilot will include a handover of the container management scheme to an appropriate partner to ensure sustainability. The achievements of the pilot scheme will then be extended nationally by means of an action plan to be developed and validated under the project.

A draft design for the pilot was developed during project preparation (PPG). In designing a feasible container management pilot scheme, the PPG[7] took into consideration: the partners involved in the project; the means and methods of collection; the potential processing/recycling; and the appropriate location of the collection sites. Three collection sites in Souss-Massa were selected, taking into account the spatial distribution of the most pesticide-intensive farms. Souss-Massa has been selected for this pilot because it is an agriculturally intensive area generating approximately 35 percent of empty pesticide containers in the country –estimated at minimum as 115, 000 empty containers of different volumes annually. The existing container management infrastructure for desert locust (DL) is also located in the region. The proposed design is presented in Figure 1 below.

Figure 1: Stages in the management of pesticide empty containers within the framework of Souss-Massa pilot project



Outcome 2: Reduced health and environmental risks associated with empty pesticide containers and their reuse

Output 2.1 Container management pilot implemented in Sous Massa

Main Activities: The main activities to be implemented under this Output are:

2.1.1 Update of the PPG study and develop a business plan for the pilot: The proposed design will be reviewed and updated as necessary. As part of the review a business plan for the pilot project including final recycling options and actors in the region, will be prepared.

2.1.2 Pilot strategy development: the design of the pilot scheme will be presented to a stakeholder workshop for their agreement on the design and roles/responsibilities of each of the stakeholders – this will help build ownership which is essential for a sustainable operation of the facility.

2.1.3 Establish and operate pilot facility: including any legally required Environmental Impact Assessment and/or environmental or other permits for operation of any new waste management facility; fitting out the pilot centre; and training actors involved in the management of equipment

[7] Madkouri (2013) Gestion des emballages vides des pesticides au Maroc, Projet GCP/MOR/042/GFF

and infrastructure for rinsing and recycling empty pesticide containers. Execute the pilot activities collecting, transporting, storing and treating empty containers according to the business plan.

2.1.4 Conduct farmer training and awareness programme on participation in the pilot. As with all container management schemes, the majority of the actual risk reduction is achieved by immediate and effective triple rinsing and puncturing of containers by the users, with collection and further treatment providing relatively less risk reduction than this first step. In addition, properly cleaning containers so they are no longer hazardous is essential to ensure that the transport of these wastes is in line with national legislation and permits. Hence the communication, training and awareness of farmers both to participate in the pilot but also to effectively triple rinse their containers is essential.

2.1.5 Annual review of the empty container management pilot scheme and consultation with the industry and government to inform and prepare for Outputs 2.2. and 2.3 – the results of these reviews will provide the M&E data needed for reporting.

Time line for implementation: The update and approval of the design of the pilot scheme will be completed in Year 1. The facility will be operated for at least 2-3 years during the project lifecycle.

Output 2.2: Handover of Sous Massa pilot scheme to a permanent operator completed

During the project preparation phase, the project invited the collaboration and commitment of all stakeholders in the management chain proposed in Figure 1 and this process will continue in order to identify and manage a transition to a permanent operation of the pilot scheme by the end of the project.

Main activities: The main activities to be implemented under this Output are:

2.2.1 The M&E system will play an important function in documenting and sharing lessons in order to achieve a sustainable long term solution, through regular reporting and consultation with all the identified stakeholders. This learning will feed into an options analysis and recommendation by the project for a sustainable way forward, which will be selected by the Project Steering Committee

2.2.2 An MoU or other appropriate agreement will be signed with a selected institution in order to hand over the facility, any equipment and operation for the future.

Time line for implementation: The results of the pilot will be disseminated in Years 2 and 3. The handover will be completed by Year 4.

Output 2.3: Approved national strategy for container management

This output will develop a strategy for the management of empty containers throughout Morocco. It will build on the results of the pilot project and national schemes in other countries. The pilot container collection scheme will operate on a voluntary basis, relying on certification needs and awareness raising to ensure farmer participation, but the national strategy will also consider legislative and regulatory mechanisms to promote compliance and participation.

Main Activities: The main activities to be implemented under this output are:

2.3.1 Needs and feasibility assessment: Based on the experience in developing the pilot, the project will conduct a baseline assessment of container management in the whole of Morocco including data on generation and management of empty pesticide containers, community level surveys of impacts on human health and environment from empty containers, the legal basis for the scheme, roles and responsibilities of stakeholders, sustainable funding mechanisms for the scheme and the potential for synergistic use of regionally based recycling and collection infrastructure.

2.3.2 The recommendations will be presented to a stakeholder workshop to agree a final strategy and action plan for endorsement and subsequent implementation by GoM

Time line for implementation: The assessment will be completed during Years 2 and 3 for presentation to the stakeholder workshop in Year 3. The strategy and action plan will be submitted and endorsed by GoM and stakeholders by Year 4.

Component 3: Institutional and technical capacities for registration and post-registration

Component 3 will focus on strengthening the capacities of key institutions in the enforcement of pesticide regulations, starting with addressing inefficiencies in the quality control and inspection system and improving coordination between the various actors involved in pesticide management. As discussed in Section 1, Moroccan law requires revision to be in line with both the new EU regulation (1107/2009) and the International Code of Conduct on Pesticide Management (the Code). Through EU co-finance, the Government of Morocco will revise pesticide regulations and legislation; update and improve the registration system; and address pesticide residues in agricultural products. As described in component 2, legislation will also be modified to support the sustainability of container management in the country.

To complement the EU financed activities, the project will help develop procedures for pesticide sampling at cross-border checkpoints, and work to enhance the analytical capabilities of the Official Chemical Analysis and Research Laboratory (LOARC). The project will establish a formal mechanism for information exchange on pesticide quality and food security among key institutions.

Outcome 3: Institutional and technical capacities for registration and post-registration system are enhanced

Output 3.1 Pesticide management legislation and registration system revised and improved in conformity with the Code and EU regulations

Main activities envisaged under the EU financed project include the finalization of legislation texts and regulations governing the management of pesticides used in agriculture, public health and hygiene and animal health. They also include an evaluation of the current pesticide registration system followed by enhancement of the system to bring it to international/EU standards.

Timeline: It is expected that this output will be delivered within the duration of the GEF-funded project. ONSSA as the lead executing agency for both projects will coordinate the activities and report on progress on the implementation of the activities to the Project Steering Committee.

Output 3.2: Pilot pesticide import control system implemented at Casablanca port

The existing extensive sampling programme for pesticides at the border will become more efficient by adopting a risk-based approach to sampling, requiring fewer samples be taken to identify the same number of non-compliances. This will ensure that the additional capacity for the lab (Output 3.3) will be able to be used.

Main Activities: The main activities to be implemented under this Output are:

3.2.1 Assessment of the existing system for sampling and analysis of pesticide imports), including control measures taken to prevent entry of sub-standard, counterfeit, or illegal pesticides. The assessment will analyse the cost of the full sampling programme (and identify sustainable funding mechanisms for control measures) and identifying high risk elements to focus on (products, companies, countries or origin, etc). The assessment will also review and propose new procedures for pesticide sampling at cross-border checkpoints in order to improve the effectiveness and efficiency of the system.

3.2.2 Train customs authority managers and inspectors on developing and implementing the risk-based approach to sampling. To increase ownership and sustainability, the training will be participatory and involve trainees in jointly developing the pilot sampling and inspection system.

3.2.3 Piloting the new sampling system and monitoring the approach (sampling frequency, analysis results, enforcement measures, cost).

3.2.4 Conduct annual evaluation of the pilot system and make recommendations for improvement and expansion to other points of entry as necessary.

Timeline for implementation: The assessment and training will be conducted in a parallel fashion in years 1 and 2. The pilot will operate in Years 3 and 4, with an annual evaluation report to allow the final report and recommendations to be produced by Year 4.

Output 3.3: Official Chemical Analysis and Research Laboratory (LOARC) analytical capacity enhanced

The analytical capacity of LOARC was assessed by WHO in 2008. LOARC is the sole institution for the quality control of pesticides, however its analytical capacity falls short of WHO and FAO specifications. An indication of this is the inability to safely dispose of samples post-analysis leading to a build up of hazardous waste. In addition, the laboratory is only equipped to conduct concentration analysis of pesticide products, but is not currently able to test shelf life or impurities.

Main activities: The key activities to be implemented under this Output are:

3.3.1 Assessment of needs standards for accreditation for full quality control of pesticide products including the potential to remove existing stocks of wastes from samples as part of the disposal under component 1.

3.3.2 Upgrade of facilities and training of staff in the new protocols.

3.3.3 Application for certification.

Time line for implementation: The assessment of needs for quality control will continue existing work in Year 1, to include the inventory by Year 2 in order if possible to link with the disposal component 1. The waste management plan will be complete by Year 3 and implemented in Year 4.

Output 3.4: Mechanism for information exchange on pesticide quality and food safety established

As well as the customs and laboratory services, a number of other government and private sector actors are active in conducting various compliance promoting and enforcement activities for sound management of pesticides. These include the police and Ministry of Agriculture pesticide inspectors as well as producer and export-oriented companies carrying out food residue monitoring. While all these organisations do have information the lack of coordination between them hampers efficient pesticide management.

Main activities: The key activities to be implemented under this Output are:

3.4.1 Assessment of activity (e.g. volume of sampling and analysis, compliance promotion and enforcement activities including training and inspections, etc) and information held (e.g. sampling results, data on pesticides used, impacts, etc.) by various stakeholders involved in pesticide quality and residue monitoring and enforcement; and prioritization of information exchange opportunities and needs in order to improve pesticide management at national level.

3.4.2 Information exchange system and procedures proposed and agreed by all relevant stakeholders, focusing on benefits to each stakeholder of more regular information exchange. These systems and procedures may include regular meetings throughout project lifetime and description of new cooperation or initiatives that spring from the meetings.

3.4.3 Roll-out of information exchange according to agreed system.

Time line for implementation: The output will be delivered in time with annual project meetings where many of the structures are represented anyway. The system/procedures will be proposed by Year 1, with meetings held and roll-out of agreed mechanism in Years 2, 3 and 4.

Component 4: Promotion of alternatives to reduce the use of conventional chemical pesticides

This component aims to reduce the use of conventional chemical pesticides through the promotion of low risk alternatives to hazardous pesticides. The component will build an evidence base for IPM by developing a network of farmers in the Sous Massa region and collecting robust data on actual practices in order to guide the work on alternatives. An innovative model of peer to peer promotion of IPM will be used in order to encourage adoption.

Because communication is vital for the successful promotion of IPM, a communication strategy will be developed under this component. The strategy will also serve the implementation of all other project components, particularly the container management component 2 (see Section 4.8).

Outcome 4: Reduced use of conventional chemical pesticides through promotion of alternatives

Output 4.1 Typology study conducted and alternatives identified in Souss Massa

While certified export farmers, who require stringent monitoring of practices and produce, may avoid use of highly hazardous pesticides (HHP) and POPs and already apply elements of IPM and alternative approaches, the same does not hold for smallholder farmers producing for the domestic market and themselves. This output will seek to confirm and quantify this effect; and use the results to guide the targeting of the communications and awareness-raising to the farmers who have scope to adopt alternatives and are able to do so.

Main activities: The key activities to be implemented under this Output are:

4.1.1 Typology study into the Sous Massa farming systems to identify and recruit a representative network of farmers, including both professional and small-scale women farmers, based on the different crops, orientation, size and type of farmers. The methodology will be based on that currently being piloted in Benin (incorporating any lessons learnt from the pilot).

4.1.2 Baseline data collection during the crop year at participating farmers plots.

4.1.3 Analysis of data to identify and describe potential alternative methods being currently used in the region; as well as segment farmers according to pest management practices and effectiveness for targeted communications and engagement.

Time line for implementation: The farmer networks will be identified in Year 1 with baseline data collected into Year 2 (depending on the cropping calendar). Alternatives will be identified in a parallel process by mid-Year 2.

Output 4.2: Alternatives tested and promoted to farmers and extension service providers

Main Activities: The key activities to be implemented under this Output are:

4.2.1 Recruit and prepare farmers currently using alternatives to host demonstration events for other farmers to present and discuss the viability of alternative practices for wider use in the region.

4.2.2 Design a protocol to combine and compare different alternatives currently used in isolation, to demonstrate compatibility and possible synergies; including identifying a volunteer farmer and/or state facility (e.g. research centre) to implement the protocol.

4.2.3 Promote best practices: Identify priority farmers who are the most likely to be able / interested to adopt new techniques, and organise farmer visits to both the above throughout the growing season. This activity will also target professional advisors including extension agents and agronomists, organising site visits but also disseminating existing information (guidance, training manuals, and data) on application of alternatives in Morocco, to professional farmer advisors in both public and private sectors.

Time line for implementation: Based on the practices identified in early Year 2, the existing practices will be demonstrated in Years 2 and 3. The combined measures will be designed (protocol) in year 2 for demonstration in year 3. Farmer visits will be continuous through Years 2, 3 and 4, with study visits in Year 4 (and possibly Year 3). Information dissemination to professional advisors will be constant in all years.

Component 5: Knowledge Management, Monitoring and Evaluation

The objective of component 5 is to ensure a systematic results-based monitoring and evaluation of project progress towards achieving project outputs and outcome targets as established in the Project Results Framework.

Output 5.1: Project monitoring system providing six-monthly reports on progress in achieving project outputs and outcomes.

Output 5.2**:** Midterm and final evaluation reports

Output 5.3: Project "best-practices" and "lessons-learned" disseminated via publications, project website and others.

Time for implementation: 5.1 and 5.3 will be continuous; a mid-term evaluation will be conducted at project mid-term (after two years of implementation) and a final evaluation at project completion.

2.4 GLOBAL ENVIRONMENTAL BENEFITS

The project will deliver the following significant global environmental benefits:

- 800 tonnes of POPs and other obsolete pesticides disposed of in an environmentally sound manner by the end of the project;
- risks from 10 pesticide contaminated sites reduced;
- Empty pesticide container management scheme pilot in Sous Massa and 90% of empty containers generated triple rinsed, collected and stored awaiting recycling and /or disposal.

Through the safe disposal of approximately 800 tonnes of POPs and other obsolete pesticides, and through the risk reduction of ten heavily polluted sites, and establishment of the empty container management system, the project will immediately and directly reduce sources of contamination and risks to human health and the environment.

2.5 COST EFFECTIVENESS

With regard to component 1 on disposal and risk reduction of contaminated sites, one of the things considered was to conduct an inventory update given that the last inventory was conducted about five years ago. This would mean some of the resources available would be allocated to inventory update and a delay in disposal to allow for the completion of the inventory update. The Government insisted that the component should focus only on dealing with the 2008 inventoried stocks and contaminated sites, because delayed disposal and increased environmental contamination through continued release of source chemicals will lead to higher future clean up costs. The project partner Croplife International intends to undertake an inventory verification and outreach exercise to identify newly accumulated stocks in the private sector. Contaminated soil will be treated locally instead of exporting it.

For component 2, in designing the container management scheme, it has been proposed to use existing infrastructure i.e. the Desert Locust Control empty container management facility in Tiznit for metal containers, and another facility for plastic containers in El Gara, instead of setting up all new infrastructure for empty containers from agriculture. Also, the pilot will be located in an area that generates the largest quantities of empty pesticide containers, therefore the highest potential impact on pesticide waste reduction in Morocco.

Overall, the strategy is to invest the resources on activities and areas where there will be a significant impact and the likelihood of sustainability and replication, with an understanding that the project alone would not be able to deal with each and every pesticide management issue in the country.

2.6 INNOVATIVENESS

The project includes several innovative approaches to pesticide lifecycle management that are likely to be scaled up and replicated in neighbouring countries. Specifically, the planned activities to develop, and roll-out a container management system are innovative for Morocco and the region. The problem of container management is ubiquitous in Morocco and in neighbouring countries and currently without a long-term sustainable solution. The project activities aim to address this. Pilot schemes in the West African region relate to the cotton sector which is more controlled through national cotton institutions, but this project will establish a pilot in horticultural crops which will require novel approaches in particular relating to communications and motivation of private farmers to participate and legislating responsibilities for pesticide suppliers and distributers for the sustainable funding and management of the scheme beyond the life of the project..

The institutionalization of a global Pesticide Stock Management System (PSMS) is also innovative. Such a system will allow for the control of Rotterdam Convention Prior Informed Consent (PIC) listed chemicals and POPs, allowing for a robust registration system for the first time. The project will also strive to achieve south-south cooperation through the possible use of the upgraded quality control laboratory by other countries in the region.

Finally, the project will implement and further develop an innovative mechanism to build an evidence base for project implementation by developing a network of farmers in the Sous Massa region and collecting robust data on actual practices in order to guide the work on alternatives and use an innovative model of peer to peer promotion of IPM in order to encourage adoption. This same network will also serve as an information conduit (to promote other components particularly the container management pilot) and as a monitoring mechanism to track project progress.

3 SECTION 3: FEASIBILITY

3.1 ENVIRONMENTAL IMPACT ASSESSMENT

The project is designed to have positive benefits to the environment through the removal of obsolete pesticides and risk reduction of contaminated sites together with the reduction in use of hazardous pesticides and the routine environmentally sound management of empty pesticide containers.

However in achieving these objectives, there is potential for environmental impairment particularly in the event of an accident in the removal and elimination of the obsolete pesticides. To mitigate these risks the project will follow FAO's Environmental Management Tool Kits (EMTK) for the assessment, safeguarding, transportation and disposal of obsolete pesticides. Environmental Management Plans (EMP) will be developed for the safeguarding activities that will consider all potential risks and develop mitigation strategies. The EMP will cover:

- repackaging of obsolete pesticides;
- safeguarding of stocks of obsolete pesticides
- collection, transportation and safe storage/handling of empty containers;
- transportation and intermediate storage of stocks of obsolete pesticides; and
- decontamination/risk reduction of heavily pesticide-contaminated sites.

The methodologies set out in the EMTK have been used in similar FAO projects since 2003 and no adverse environmental impacts have resulted. This project is therefore classified as Category B under FAO's guideline "Environmental Impact Assessment – Guidelines for FAO's field projects".

3.2 RISK MANAGEMENT

The following risks were identified during the preparation of the project. Mitigation measures are proposed, and where appropriate, mitigation measures for high risks, will be further elaborated in the EMP.

Description of risk	Ranking	Mitigation measures	Responsibility
Institutional arrangements pose challenges related to execution of the project	Low	The project was prepared in a participatory manner by the relevant ministerial departments, FAO and a national steering committee was set up. All partners agreed on the host institution to be ONSSA. Lessons learned from ASP in designing the execution arrangements. As such full-time staff will be funded by the project and assigned to the project.	Project Steering Committee,
Potential for political instability	Low	There is currently no apparent sign of political unrest.	Government, PSC
Environmental contamination from leakage of POPs and other obsolete pesticides due to poor conditions of containers.	Medium	Management measures to be included in the EMP include field procedures to ensure no further leakage occurs during the project activities. Chemical stores will be ranked according to leakage risk at the beginning of the project, and will be safe-guarded as a matter of priority.	PMU, Croplife

Monitoring staff being exposed to pesticides during collection and repacking of empty containers.	Low to medium	A national team was trained under ASP in safety, monitoring and handling procedures. Refresher training will be conducted prior to safeguarding and disposal operations, and Personal Protection Equipment (PPE) provided for all personnel involved in safeguarding.	PMU, FAO
Insufficient funds for safeguarding of major contaminated sites, the disposal of POPs and other project activities	Medium	Through the strategy and tender development, and close collaboration with Croplife who will be doing the safeguarding, the project will be able to respond to any changes to the existing inventory and ensure that priority sites are repackaged. Contacts with other donors (African Development Bank and Islamic Development Bank) will continue to avoid possible problems with financing.	PMU, PSC, Croplife
Insufficient national capacity in undertaking evaluation and decontamination of pesticide contaminated sites	High Medium	Capable institution(s) will be contracted to carry out decontamination operations working together with a national team in order to impart expertise on in situ soil remediation..	PMU, Project Implementation Committee
Climate risks such as floods, crop calendars disruption or increase of pest invasions	Medium	Emergency sites will be primarily safeguarded during the driest months with a view to reducing risks associated with torrential rainfall. Contingency plans, especially targeting removal of excess water accumulated in the holding areas, will be implemented in the event of torrential rains. Selection criteria for collection centres for safeguarded stocks will include an assessment of flood risk. Crop timing changes such as delaying planting dates and shortening crop production cycle might affect implementation of some activities planned under component 4. To monitor climate conditions and potential impacts on the project, the project will access regional agro-meteorological information from the National Meteorological Service and INRA.	Project Management Unit,
Low existing use and uptake of alternative technologies by producers.	Low	A large-scale information and awareness-raising campaign about the modes of application and effectiveness of the proposed alternatives will be undertaken to help promote uptake of alternatives. Another strategy is to employ existing farmer field schools networks. The promotion of IPM through FFS has been quite successful in previous related initiatives.	PMU, NGO partners, government extension partners.
Poisonings among the agents involved in the collection and re-grouping of un-rinsed empty pesticide containers.	Medium	Training modules revolving around technologies for the safe collection and re-grouping of these wastes will be specifically designed for the pilot project agents.	Project Management Unit, CNLAA, APEEFEL.

Pesticide companies/ distributors and farmers do not support the project.		The project has involved and will continue to involve the private sector and producers associations in all the processes related to the project implementation. The necessary advocacy actions will be undertaken in the context of the project communication strategy	Project Management Unit, CNLAA, APEEFEL.
Customs noncompliance as regards the implementation of the pesticides control system at entry points.	Low	Awareness-raising/ Obtaining the formal commitment of the Ministry of Finance (Customs). Customs' involvement into the development of the new control system.	Project Management Unit, Project Steering Committee.
Insufficient budget to meet the needs of LOARC so that it can undertake all the analyses of pesticides in accordance with the WHO / FAO specifications	Low	Commitment from the relevant ministry (Ministry of Agriculture) to bear the costs of the needed laboratory equipment.	Project Management Unit, Ministry of Agriculture, ONSSA.

4 SECTION 4: IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

4.1 INSTITUTIONAL ARRANGEMENTS

The institutional and implementation arrangements for this project are based on the mandates and experience of key institutions involved in the management of pesticides in Morocco. The institutions include those described in section 1.1 Legal, policy and institutional context and 1.4 Participants and stakeholders and participants. The National Food Safety Board (ONSSA), under the Ministry of Agriculture will be the main executing agency responsible for the coordination and management of project activities through a Project Management Unit which will be set-up in ONSSA. To allow for the involvement of other key ministries in the management of the project, in addition to the Project Coordinator, the PMU will include a representative from each of the three ministries, who will support the project in accessing relevant technical expertise and informing government counterparts of the project's progress. The Project Steering Committee will support the project by monitoring the quality and timeliness of implementation of project activities, and propose adjustments as necessary.

4.2 IMPLEMENTATION ARRANGEMENTS

The Food and Agriculture Organization (FAO) will be the GEF Agency responsible for the supervision, and provision of technical guidance during the implementation of the project. As mentioned above ONSSA will be the lead national executing partner and will host the Project Management Unit (PMU), which will be staffed by a dedicated Project Coordinator, supported by Liaison Officers from various line ministries.

The Ministry of Agriculture through ONSSA will chair a multi-stakeholder Project Steering Committee (PSC) which will bring together the key institutions including the Ministry of Agriculture, the Ministry of Health, the Ministry of Interior (the General Directorate of Local Governments and the Moroccan National Centre for Locust Control (CNLAA), the Ministry of Industry and Commerce, the Ministry of Equipment and Transport, farmers/producers organizations, NGOs, the civil society, and the private sector[1]. During project preparation, consultations were held with other UN agencies with related projects in Morocco. These agencies will be invited to participate in the PSC to ensure coordination of the project with key related initiatives.

The **Project Steering Committee**[2] will guide and oversee implementation of the project. Specifically the PSC will:

a) Provide guidance to ensure that project implementation is in accordance with the project document;
b) Review and approve any proposed revisions to the project - project results framework and implementation arrangements;
c) Review, amend (if appropriate) and endorse all Annual Work Plans and Budgets;
d) Review project progress and achievement of planned results as presented in six-monthly Project Progress Reports, Project Implementation Reviews (PIRs) and Financial Reports;
e) Advise on issues and problems arising from project implementation, submitted for consideration by the Project Management Unit or by various stakeholders; and
f) Facilitate cooperation between all project partners and facilitate collaboration between the Project and other relevant programmes, projects and initiatives in the country.

[1] Please see also section 1.4. stakeholders and participants.

[2] Detailed terms of reference of the PSC, including functions of Chairperson(s), meetings of the PSC etc, should be agreed during project inception.

The **Project Management Unit** will be established within ONSSA in Rabat. The PMU will be staffed by a dedicated Project Coordinator and short-term consultants paid by the project. The PMU will also be supported by ONSSA staff through part-time secondment, as necessary, as Government co-financing. The PMU, under the direct supervision of the Director General of ONSSA, will be responsible for the day to day management of the project and timely and efficient implementation of and monitoring of approved annual work plans. In close consultation with other partners involved in the execution of project components, the PSC and FAO, the PMU will:

a) Act as secretariat to the PSC;
b) Organize project meetings and workshops, as required;
c) Prepare Annual Work Plans and detailed Budgets (AWP/B) and submit these for approval by FAO and the PSC;
d) Coordinate and monitor the implementation of the approved AWP/B;
e) During project inception period, review the project's M&E plan and propose refinements, as necessary, and implement the plan;
f) Prepare the six-monthly Project Progress Reports (PPRs) and give inputs in the preparation of the annual Project Implementation Review (PIR) by the FAO Lead Technical Officer. Ensure that all co-financing partners provide information on co-financing disbursed during the course of the year for inclusion in the PIR;
g) Coordinate the project with other related on-going activities and ensure a high degree of inter-institutional collaboration; and
h) Assist in the organization of midterm and final evaluations.

As well as the Project Coordinator, the PMU will be supported by Liaison Officers from the Ministries of Health, Environment, and the recently established National Agricultural Advisory Office (ONCA). These government appointed officers will ensure a high level of integration with the relevant line ministries, ensuring among others that technical inputs are provided in an efficient and timely manner for the Task Teams as needed; that high level officials are briefed and able to participate actively in the Project Steering Committee; and that the appropriate government procedures are smoothly navigated in terms of compliance monitoring (especially Ministries of Health and Environment).

With regard to the execution of technical components, the Ministry of Agriculture (represented by ONSSA) and the Ministry of Environment will be in charge of execution of component 1. Both institutions participated in the inventory and development of the existing Pesticide Stock Management System (PSMS) database that will be used to develop the strategy for safeguarding and disposal. Personnel (including consultants) trained under ASP-Morocco will form a task team in charge of the supervision of safeguarding, transport, storage up to elimination. The development of the EA and EMP for disposal will be supported by a consultant working with the task team. It is envisaged that a capable institution will be contracted to train a national team and conduct remediation of contaminated sites under a Letter of Agreement.

The service for the registration of pesticides and the unit responsible for inspection and control under ONSSA, Customs Authority and the Official Chemical Analysis and Research Laboratory (LOARC) will be responsible for co-execution of component 3, supported by national/international consultants. Ministries of Health, Environment and Agriculture will also support the development and consultation of the new legislation.

ONCA will be instrumental in the execution of component 4. ONCA is responsible for providing agricultural advisory and public extension services. ONCA will support the promotion and scaling-up of alternatives in Sous Massa and the rest of Morocco.

Other executing partners

The project will work with a number of partners who will contribute to the execution of specific components/outputs through MoUs or Letters of Agreement. The partners will be part of component teams set-up to enhance engagement of key stakeholders, to access a variety of skills needed to implement the components, and to capitalize on networks and channels of communication already established. The partners include:

CropLife International will, as part of their co-financing to the project, lead the safeguarding of obsolete stocks under component 1. CropLife will also be involved in the container management scheme pilot - component 2.

The **Association of Producers and Exporters of Fruits and Vegetables (APEFEL)**, will be involved in the execution of the container management pilot scheme, working with the National Desert Locust Control Centre (NDLCC) with the support of a national and/or international consultant.

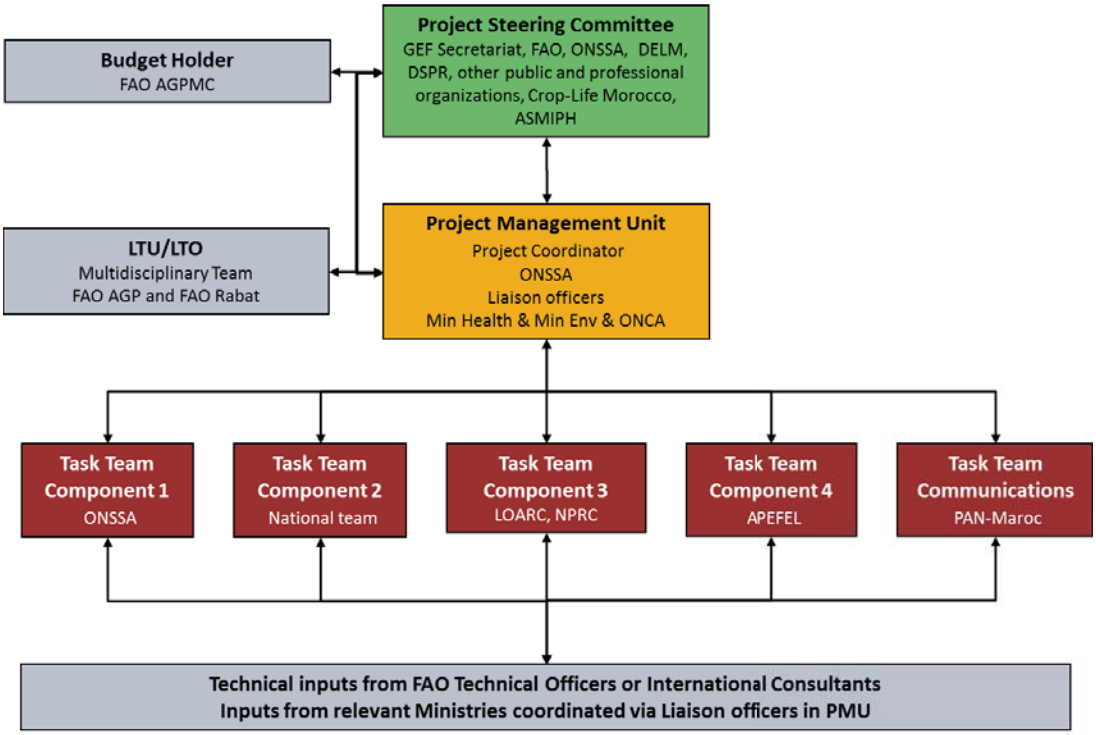
APEFEL, the Moroccan Association of Citrus Producers (ASPAM), the Association of Packagers and Exporters of Strawberries (AMCEF), the Moroccan Banana Producers Association (APROBA), will contribute towards the project's execution through raising awareness of their members about project activities and in the execution of component 4 on alternatives, particularly the establishment of the farmer network and demonstration plots.

Associations of phytosanitary firms (i.e. **CropLife and ASMIPH**) will be involved in the execution of the project through their financial contribution towards the collection, disposal and recycling operations of pesticide empty containers. Auxiliary production firms will also be involved in the activities linked to the development and promotion of alternative methods.

Pesticide Action Network (PAN) Morocco will collaborate in the development and execution of the communication strategy.

Letters of Agreement with partners will be based on specific activities in each annual work plan and budget approved by the Project Steering Committee.

The institutional arrangements of the components and project management mechanisms are schematized in **Figure 2: Organogram for project implementation** below.



FAO's Role

FAO will be the GEF Agency for the project. As the GEF agency, FAO will maintain project oversight to ensure that GEF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes in an efficient and effective manner. FAO will report on project progress to the GEF Secretariat; financial reporting will be to the GEF Trustee. FAO will closely monitor the project and provide technical support (through FAO's Agriculture and Consumer Protection Department and other technical divisions) and carry out supervision missions.

As the GEF agency for the project, FAO will:

- Manage and disburse funds from GEF in accordance with the rules and procedures of FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities;
- Carry out at least one supervision mission per year; and
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

FAO will also be responsible for the financial execution of the project. This means that FAO will be responsible for the procurement of goods and services for the project in consultation with project partners based on the annual work plans and budgets approved by the PSC.

The **FAO Representative in Morocco** will be the **Budget Holder** (BH) responsible for the timely operational, administrative and financial management of the project. She/he, working closely with the PMU, the FAO Lead Technical Officer and Lead Technical Unit, will be responsible for:

a) Management of GEF resources in accordance with the Project Document, and approved Annual Work Plans and Budgets;
b) Procurement of goods and contracting of services for the GEF component of the project and financial reporting in accordance with FAO rules and procedures;
c) Preparation of annual/six-monthly budget revisions, as required, for submission to the LTO/LTU and the GEF Coordination Unit;
d) Preparation of six-monthly financial reports to be submitted to the GEF Unit and shared with the executing partners and the PSC;
e) Represent FAO in the PSC.

The BH will also be responsible for reviewing and giving no-objection to Annual Work Plans and Budgets (AWP/B), Project Progress Reports and co-financing reports submitted by the Project Management Unit, in consultation with the FAO Lead Technical Officer (LTO), Lead Technical Unit (LTU) and the GEF Coordination Unit.

FAO Project Task Force (PTF): The BH will establish a multi-disciplinary PTF to support the project. Members of the task force will be responsible for supervision of activities in their area of technical competence in collaboration with the LTO and BH.

The FAO Lead Technical Unit (LTU): The Pesticide Risk Reduction Group in the Plant Production and Protection Division (AGP) of the Agriculture and Consumer Protection Department will be the FAO Lead Technical Unit (LTU) for this project. The LTU will support a Lead Technical Officer[1] (LTO), in providing technical advice and backstopping in consultation with other teams in AGP and FAO. The LTO, supported by the LTU, will :

[1] To be designated from FAO regional/sub-regional office or AGP in Headquarters.

a) Review and provide clearance to TORs for consultancies, LOAs and contracts, in consultation with the LTU and relevant technical officers in FAO;
b) Participate in the selection of consultants and firms to be hired with GEF funding;
c) Review and provide technical comments to draft technical products/reports and, as necessary, ensure clearance by relevant FAO technical officers of final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed;
d) Review and approve project progress reports submitted by the Project Management Unit to the BH;
e) Support the BH in reviewing, revising and giving no-objection to AWP/B to be approved by the Project Steering Committee;
f) Prepare the annual Project Implementation Review (PIR) report, with inputs from the Chief Technical Adviser, to be submitted to the LTU and the GEF Coordination (TCI) for clearance. The PIR will subsequently be submitted to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio;
g) Field annual (or as needed) technical support and backstopping missions;
h) With the LTU, review and clear TORs for the mid-term evaluation, participate in the mid-term workshop with all key project stakeholders, development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation;
i) With the LTU, review and clear TORs for the final evaluation, participate in the final project closure workshop with all key project stakeholders and the development of and follow up on recommendations on how to insure sustainability of project outputs and results after the end of the project.

The GEF Coordination Unit in the Investment Centre Division (TCI) will review and approve project progress reports, annual project implementation reviews (PIRs) and financial reports and budget revisions. The unit will also participate in the mid-term and final evaluations and the development of corrective actions to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will, in collaboration with the FAO Finance Division, request transfer of project funds from the GEF Trustee based on 6 monthly projections.

The FAO Finance Division will clear budget revisions, provide annual Financial Reports to GEF and, in collaboration with the GEF Coordination Unit, call for project funds on a six-monthly basis from the GEF.

4.3 FINANCIAL PLANNING AND MANAGEMENT

4.3.1 Financial plan (by component, outputs and co-financier)

SD												GEF		TOTAL
Output		GoM ONSSA in-kind	GoM ONSAA-EU Grant	GoM CNLAA in-kind	GoM Ministry of Health in-kind	GoM Ministry of Health Grant	Croplife Grant	Croplife inkind	FAO Grant	Total co-financing	% co-financing	Total GEF	% GEF	Grand Total
1.1	Disposal Strategy	500,000		4,800,000	800,000				149,800	6,249,800	99.0%	63,500	1.0%	6,313,300
1.2	Safeguard+ Disposal	2,000,000	1,000,000	780,000		250,000	1,814,500			5,844,500	76.4%	1,805,500	23.6%	7,650,000
1.3	Contaminated sites			1,040,000						1,040,000	84.4%	191,800	15.6%	1,231,800
2.1	pilot CMS	800,000		210,000				200,000		1,210,000	89.6%	140,500	10.4%	1,350,500
2.2	hand-over to operator	200,000						200,000		400,000	92.0%	35,000	8.1%	435,000
2.3	National CMS strategy			2,170,000				102,500		2,272,500	97.5%	59,500	2.6%	2,332,000
3.1	legislation	200,000			800,000			251,250	169,789	1,421,039	100.0%	0	0.0%	1,421,039
3.2	pilot import control	1,300,000								1,300,000	91.7%	118,500	8.4%	1,418,500
3.3	lab capacity enhanced	1,000,000								1,000,000	86.7%	153,500	13.3%	1,153,500
3.4	information exchange	500,000								500,000	82.2%	108,000	17.8%	608,000
4.1	Typology									0	0.0%	221,750	100.0%	221,750
4.2	Alternatives promoted	400,000							857,537	1,257,537	84.4%	231,750	15.6%	1,489,287
5.1	M&E								50,000	50,000	28.4%	126,000	71.6%	176,000
6.1	Project Management	1,400,000						251,250	50,000	1,701,250	87.4%	244,700	12.6%	1,945,950
d Tota		**8,300,000**	**1,000,000**	**9,000,000**	**1,600,000**	**250,000**	**1,814,500**	**1,005,000**	**1,277,126**	**24,246,626**	**87.4%**	**3,500,000**	**12.6%**	**27,746,626**

4.3.2 GEF inputs

The majority of GEF funds (USD 2,060,800) are allocated to the safe disposal of POPs and highly hazardous pesticides and the remediation of contaminated sites. To support the sustainability of the project's key results and prevent future accumulation of POPs and obsolete pesticides, GEF funds are also allocated to promoting less toxic alternatives (USD 453,500), building the capacity for enforcement of pesticide regulations (USD 380,000) and developing a sustainable container management strategy (USD 235,000).

4.3.3 Government inputs

The GoM will provide cash and in-kind co-financing in the form of - sites and stores for safeguarding and temporary storage of inventoried stocks awaiting their shipment for incineration; the preparation and facilitation of all paper work required under the Basel Convention for transboundary movement of hazardous wastes; the provision of national teams for the preparation of the EA and EMPs and the supervision of disposal; a national team for sites remediation; contribution to the container management infrastructure and operation through the National Desert Locust Control Centre including the provision of transport and intermediate and final collection centres for processing empty pesticides containers. For the enhancement of pesticide regulatory capacity, Government staff time, laboratory facilities and consumables, and operational costs of pesticide legislation enforcement and control. The government will host the PSMS system and ensure its ongoing maintenance and availability of up-to-date information on registered and banned pesticides. The Government will contribute to the promotion of alternatives to hazardous pesticides through National Agricultural Advisory Office (ONCA) in the form of in-kind staff time. In addition, GoM will provide in-kind cofinancing to support project management including office space for the Project Management Unit and M&E through the PMU Liaison Officers

4.3.4 FAO inputs

FAO is co-financing the project through its contribution to the quality control of current stocks of pesticides in DL control. These capacity building activities are ensuring the stocks are well-managed, through the Pesticide Stock Management System. FAO will provide in-kind co-financing comprising staff time to support capacity building/training activities under each of the four technical components.

4.3.5 Other co-financiers inputs

The **EU** through the Government of Morocco is financing the revision of the pesticide management legislation and registration system. **Crop Life International** is financing the safeguarding, with a significant increase since the PIF stage to almost USD 3 million in cash and in kind contributions.

4.4 FINANCIAL MANAGEMENT AND REPORTING ON GED RESOURCES

FAO will maintain a separate account in USD for the Project GEF resources showing all income and expenditures. Expenditures incurred in a currency other than USD will be converted into USD at the United Nations operational rate of exchange on the date of the transaction. FAO shall administer the GEF resources in accordance with its regulations, rules and directives.

Financial reports

FAO Morocco as the BH, supported by Operations and Administrative Officer, will prepare six-monthly Project expenditure accounts and final accounts for the Project GEF resources, showing

amount budgeted for the year, amount expended since the beginning of the year, and separately, the unliquidated obligations as follows:

- Details of Project expenditures on an output-by-output basis, reported in line with Project budget codes as set out in the Project Document, as at 30 June and 31 December each year.
- Final accounts on completion of the Project on an output-by-output cumulative basis, reported in line with Project budget codes as set out in the Project Document.
- A final statement of account in line with FAO Oracle Project budget codes, reflecting actual final expenditures under the GEF component of the Project, when all obligations have been liquidated.
- An annual budget revision will be prepared by the BH in consultation with the LTO and LTU and submitted for approval to the FAO GEF Coordination Unit.

The BH will submit the financial reports for review and monitoring by the LTU, and the FAO GEF Coordination Unit. Financial reports for submission to the GEF will be prepared in accordance with the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

Responsibility for cost overruns

The BH is authorized to enter into commitments or incur expenditures up to a maximum of 20 percent over and above the annual amount foreseen in the GEF component of the Project budget under any budget sub-line provided the total cost of the annual budget is not exceeded.

Any cost overrun (expenditure in excess of the budgeted amount) on a specific budget sub-line over and above the 20 percent flexibility should be discussed with the FAO GEF Coordination Unit with a view to ascertaining whether it will involve a major change in Project scope or design. If it is deemed to be a minor change, the budget holder shall prepare a budget revision in accordance with FAO standard procedures. If it involves a major change in the Project's objectives or scope, a budget revision and justification should be prepared by the BH for discussion with the GEF Secretariat.

Savings in one budget sub-line may not be applied to overruns of 20 percent in other sub-lines even if the total cost remains unchanged, unless this is specifically authorized by the FAO GEF Coordination Unit upon presentation of the request. In such a case, a revision to the Project Document amending the budget will be prepared by the BH.

Under no circumstances can expenditures exceed the approved total Project budget for the GEF resources or be approved beyond the completion (NTE) date of the Project. Any over-expenditure is the responsibility of the BH.

Audit

Project GEF resources will be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the governing bodies of the Organization and reporting directly to them, and an internal audit function headed by the Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO, which establish a framework for the TOR of each. Internal audits of imprest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

4.5 PROCUREMENT

Goods and services will be procured in accordance with FAO's regulations, rules, procedures, and administrative instructions for procurement and finance. A procurement plan shall be prepared following the approval of the project (inception phase).

4.6 MONITORING, EVALUATION AND REPORTING

4.6.1 Oversight and reviews

Project oversight will be carried out by the PSC and FAO. Project oversight will be facilitated by: (i) documenting project transactions and results through traceability of related documents throughout the implementation of the project; (ii) ensuring that the project is implemented within the planned activities applying established standards and guidelines; (iii) continuous identification and monitoring of project risks and risk mitigation strategies; and (iv) ensuring project outputs are produced in accordance with the project results framework. At any time during project execution, underperforming components may be required to undergo additional assessments, implementation changes to improve performance or be halted until remedies have been identified and implemented.

Project revisions

The following types of revisions may be made to this project document with no-objection from the PSC and the approval of FAO GEF Coordination Unit in consultation with the LTO, LTU and BH:

- Minor revisions that do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation. These minor amendments are changes in the project design or implementation that could include, *inter alia*, changes in the specification of project outputs that do not have significant impact on the project objectives or scope, changes in the work plan or specific implementation targets or dates, renaming of implementing entities, or reallocation of grant proceeds not affecting the project's scope.
- Revisions in, or addition of, any of the annexes of the project document.
- Mandatory annual revisions which rephase the delivery of agreed project inputs or take into account expenditure flexibility.

All minor revisions shall be reported in the annual Project Implementation Reviews (PIRs) submitted by FAO to the GEF Secretariat and Evaluation Office.

4.6.2 Monitoring responsibilities

Monitoring and evaluation (M&E) of progress in achieving project results and objectives will be done based on the targets and results indicators established in the project results framework and the annual work plans and budgets. M&E activities will follow FAO and GEF monitoring and evaluation policies and guidelines. The M&E plan, which has been budgeted at USD 126 000 will be reviewed and updated during the project inception phase. This will involve: (i) review of the project's results framework; (ii) refining of outcome indicators; (iii) identification of missing baseline information and action to be taken to collect the information; and (iv) clarification of M&E roles and responsibilities of project stakeholders. The project's M&E system will be put in place within the first 6 months of project implementation.

The day-to-day monitoring of the project implementation will be the responsibility of the Project Management Unit led by the Project Coordinator and driven by the preparation and implementation of annual work plans and budgets (AWP/B) and six-monthly project progress reports (PPRs). The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between main project partners. As tools for results-based-management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output targets to be achieved, and the PPRs will report on the monitoring of the implementation of

actions and the achievement of output targets. An annual project progress review and planning meeting should be organized by the Project Management Unit with the participation of representatives from key executing partners prior to the Project Steering Committee Meeting. The AWP/B and PPRs will be submitted to the PSC for approval (AWP/B) and Review (PPRs) and to FAO for approval. The AWP/B will be developed in a manner consistent with the project's Results Framework to ensure adequate fulfillment and monitoring of project outputs and outcomes.

4.6.3 Indicators and information sources

To monitor project outputs and outcomes including contributions to global environmental benefits specific indicators have been developed in the Results Framework (see Annex 1). The framework's indicators and means of verification will be applied to monitor both project performance and impact. Following FAO's monitoring procedures and progress reporting formats, data collected will be of sufficient detail to be able to track specific outputs and outcomes and flag project risks early on. Output target indicators will be monitored on a six-monthly basis and outcome target indicators will be monitored on an annual basis if possible or as part of the mid-term and final evaluations.

Monitoring information sources will be evidence of outputs (reports, website, farmer surveys, lists of participants in training activities, manuals etc.). To assess and confirm the congruence of outcomes with project objectives, physical inspection and/or surveying of activity sites and participants will be carried out. This latter task would often be undertaken by the Project Management Unit supported by the FAO LTO and LTU.

The network of farmers to be established under component 4 (Typology Study) will also be an important source of information for the M&E system. Data collected from the network on participation in the container management system, on knowledge, attitudes and practices (KAP) and knowledge and opinions on communications activities will be important inputs for the relevant indicators in the Results Framework.

4.6.4 Reports and their schedule

The specific reports that will be prepared under the M&E program are the: project inception report; Annual Work Plan and Budget (AWP/B); Project Progress Reports (PPRs); annual project implementation review (PIR); technical reports; co-financing reports; and a terminal report. In addition, assessment of the GEF POPs tracking tool against the baseline will be required at mid-term and final evaluation.

Project Inception Report: After FAO approval of the project and signature of the FAO/Government Cooperative Programme (GCP) Agreement, the project will initiate with a six month inception period. An inception workshop will be held and immediately after the workshop, the Project Coordinator will prepare a project inception report in consultation with the FAO LTO and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed First Year Annual Work Plan and Budget (AWP/B) and a supervision plan with all monitoring and supervision requirements. The draft report will be circulated to FAO and the Project Steering Committee for review and comments before its finalization. The report should be cleared by the FAO BH (FAO Morocco), LTO, LTU and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH.

Annual Work Plan and Budget (AWP/B): The Project Coordinator will submit to the FAO LTO an Annual Work Plan and Budget. The AWP/B, divided into monthly timeframes, should include detailed activities to be implemented and outputs (targets and milestones for output indicators) to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during

the year. The draft AWP/B is circulated to and reviewed by the FAO Project Task Force, Project Coordinator incorporates eventual comments and the final AWP/B is sent to the PSC for approval and to FAO BH for final no-objection and upload in FPMIS by the GEF Coordination Unit.

Project Progress Reports: One month before the mid-point of each project year, the Project Coordinator will prepare a semi-annual Project Progress Report (PPR). The report will contain the following: (i) an account of actual implementation of project activities compared to those scheduled in the AWP/B; (ii) an account of the achievement of outputs and progress towards achieving project objectives and outcomes (based on the indicators contained in the results framework); (iii) identification of any problems and constraints (technical, human, financial, etc.) encountered in project implementation and the reasons for these constraints; (iv) clear recommendations for corrective actions in addressing key problems resulting in lack of progress in achieving results; (iv) lessons learned; and (v) a revised work plan for the final six months of the project year. The report will also include an estimate of co-financing received from all co-financing partners.

The PPR will be submitted by the Project Coordinator to FAO no later than one month after the end of each six-monthly reporting period (30 June and 31 December). The draft PPR will be reviewed and cleared by FAO (BH and LTO). The LTO will submit the PPR to the GEF Coordination Unit for final clearance. The final PPR will be circulated by the BH to the PSC.

Project Implementation Review: The LTO supported by the FAO LTU, with inputs from the Project Coordinator will prepare an annual Project Implementation Review (PIR) covering the period July (the previous year) through June (current year). The PIR will be submitted to the GEF Coordination in TCI for review and approval no later than 31 July. The GEF Coordination will submit the final report to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio.

Technical Reports: Technical reports will be prepared to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the Project Coordinator to the FAO BH in Morocco who will share it with the LTO for review and clearance, prior to finalization and publication. Copies of the technical reports will be distributed to the Project Steering Committee and other project partners as appropriate. These will be posted on the FAO FPMIS by the LTO.

Co-financing Reports: The Project Coordinator will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all co-financing partners. The Project Coordinator will provide the information in a timely manner and will transmit such information to FAO. The co-financing reports should be completed as part of the semi-annual PPRs and annual PIRs.

GEF-5 Tracking Tools: Following the GEF policies and procedures, the tracking tools for POPs will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at project mid-term evaluation; and (iii) at final evaluation. These should be completed by Project Coordinator with support from the LTO at mid-term and final evaluation.

Terminal Report: Within two months of the project completion date the Project Coordinator will submit to FAO a draft Terminal Report, including a list of outputs detailing the activities taken under the Project, “lessons learned” and any recommendations to improve the efficiency of similar activities in the future. This report will specifically include the findings of the final evaluation as described above.

4.6.5 Monitoring and evaluation plan summary

Monitoring of project progress will be against indicators identified in the project logical framework. These indicators will be further refined, as necessary, in consultation with project stakeholders during the project inception phase. This process of further collaborative refinement of project

indicators will facilitate greater stakeholder engagement with the project and support broader monitoring and reporting of project achievements and failures.

The monitoring and evaluation plan is summarized below.

Type of monitoring and evaluation activity	Responsible parties	Time frame	Budget
Inception Workshop	Project Coordinator, Project Steering Committee, FAO (FAO Morocco as Budget Holder - BH, FAO Lead Technical Officer and Technical Unit- LTO and LTU, FAO GEF Coordination Unit)	Within first two months of project inception	USD 30,000
Inception report	Project Coordinator (PC) with inputs from project partners. Cleared by FAO LTO, LTU, BH and the FAO GEF Coordination Unit, and the Project Steering Committee.	Immediately after the project inception workshop	USD 1,500
Design and implementation of monitoring and evaluation system, including staff training	PC with support from FAO LTO and LTU.	Within the first six months after the project inception	USD 1,500
Field-based impact monitoring	PC with support from other project partners – local NGOs, farmers/producers associations.	Continually	USD 3,000
Supervision missions	FAO LTO/LTU.	Annual or as required..	Paid by GEF Agency fee
Project progress reports (PPRs)	Project Coordinator. Submitted to the BH and LTU for clearance. Finalized reports submitted to the FAO GEF Unit by the LTO, and to the PSC by the PC.	Six- monthly	USD 3,000
Project Implementation Review (PIR)	FAO LTO with inputs from the PC, BH and LTU. Submitted by the FAO GEF Coordination Unit to the GEF Secretariat. Final report also submitted to the PSC and the GEF Operational Focal Point.	Annually	Paid by GEF Agency fee
Reports on co-financing	PC with information from all co-financing partners.	Six monthly and annually as part of PPR and PIR.	USD 1,500
PSC meetings	Project Coordinator, PSC Chair, FAO Budget Holder	At least once a year	USD 5,000
Technical reports	PC, Consultants, FAO LTO/LTU	As appropriate	from fee and component budgets

Type of monitoring and evaluation activity	Responsible parties	Time frame	Budget
Mid- term evaluation	PMU, GEF, FAO LTO, LTU in consultation with the project team and other partners	At mid-point of project implementation	USD 39,500
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team and other partners	At the end of project implementation	USD 39,500
Terminal report	PMU, FAO LTO	At least one month before end of project	USD 1,500
			USD 126,000

4.7 PROVISION FOR EVALUATIONS

An independent Mid-Term Evaluation (MTE) will be undertaken at project mid-term to review progress and effectiveness of implementation in terms of achieving the project objectives, outcomes and outputs. Findings and recommendations of this evaluation will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term. FAO will arrange for the MTE in consultation with the project partners. The evaluation will, *inter alia:*

(i) review the effectiveness, efficiency and timeliness of project implementation;
(ii) analyze effectiveness of partnership arrangements;
(iii) identify issues requiring decisions and remedial actions;
(iv) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
(v) highlight technical achievements and lessons learned derived from project design, implementation and management.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting of the project partners. The FE will aim to identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This evaluation will also have the purpose of indicating future actions needed to sustain project results and disseminate products and best-practices within the country and to neighbouring countries.

4.8 COMMUNICATION AND VISIBILITY

The project will develop a communications strategy that will identify the main target groups, messages and appropriate delivery mechanisms. Collaboration with prominent Moroccan NGOs to design and execute communications campaigns, awareness-raising and outreach activities will maximise project impact by promoting participation and behavioural change in pesticide management in target groups. The communications strategy will include a component on container management, particularly targeting women and householders to encourage participation in the container collection scheme, and on alternatives, informing rural populations about the dangers and risks associated with pesticide use, as well as the availability of alternatives. Specific monitoring indicators will allow the project to monitor the performance of the communication strategy.

At the national level the project communication strategy will also support the Project Management Unit to ensure two-way exchanges with stakeholders in order to progress project activities and ensure buy-in, particularly by the private sector in relation to the long term sustainability of the

container management scheme, and by decision makers and enforcement structures in relation to the review of registration and post-registration systems. .

5 SECTION 5: SUSTAINABILITY OF RESULTS

5.1 SOCIAL SUSTAINABILITY

The project will generate community health benefits through decreased exposure to highly hazardous pesticides, by a) removing sources of these chemicals from stockpiles and contaminated sites, b) removing contaminated containers from communities, c) promoting and encouraging availability and uptake of non-toxic alternatives, and d) enhancing the quality of products through better control of pesticides in their life cycle, ultimately reducing pesticide residues. By promoting alternatives to chemical pesticides, the project will help producers reduce their reliance on credit and expensive inputs, contributing to increased profits from production[1]. Currently the direct and indirect costs incurred in pesticide mismanagement through pesticide poisoning, medical expenses and loss of capacity to work are significant –estimated annual cost of $4.4bn in sub-Saharan Africa (UNEP 2013) – so reduction of these impacts of pesticide mismanagement will also result in indirect economic benefits to both victims and the public health system, as well as the direct improvements in farm incomes.

Due to the traditional roles and responsibilities of women, women are more vulnerable to the adverse effects of pesticides than men. Women constitute the bulk of the labor force in fruit and vegetable agricultural holding and processing units and are exposed to high pesticide residues in handling produce. Women may also produce food for family consumption but use pesticides intended for other crops, not in accordance with the intended uses and conditions, exposing themselves and their families to high levels of inappropriate residues. Project activities will take the gender dimensions into account, through consulting women, identifying specific needs and concerns, especially through the typology of agricultural production studies which will explicitly include crops that are primarily cultivated by women.[2] The project will ensure that: women are represented in project component activities, thus increasing opportunities for professional women in the agriculture sector; and specifically target women through partnerships with civil society organizations in training and awareness-raising activities, to ensure women are aware of the risks posed by pesticides, and empty pesticide containers, which are used to harvest fruit and vegetables and for domestic purposes, often by women.

5.2 ENVIRONMENTAL SUSTAINABILITY

Project activities related to environmental sustainability include the removal of key source contaminants from the environment: obsolete pesticide stocks; empty pesticides containers; and heavily contaminated sites. Project benefits related to environmental sustainability include the safe disposal and safeguarding of emergency stocks of POPs and other obsolete pesticides posing high risk to human health and environment, which are currently stored in substandard conditions. These chemicals will be repackaged, transported, and destroyed in an environmentally-sound manner, in compliance with Stockholm Convention and the Basel Convention on the Transboundary Movement of Hazardous Wastes, thereby mitigating the risk that they will be released to the receiving environment during the clean-up process.

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[1] Documented evidence from the West African Regional Integrated Production and Pest Management Programme (Settle and Hama Garba, FAO 2009 www.fao.org/templates/agphome/documents/IPM/WA_IPPM_2011.pdf).

[2] The project will use experience from the regional IPM project that was supported by FAO with funding from the Government of Italy. Of the 79 IPM Farmer Field Schools facilitators for tomato and mint, 43 percent were women.

The contaminated land remediation activities will remove the contaminate source, and prevent any further leaching into the environment including groundwater sources. To promote sustainability of these activities, local technical staff will be trained in the safeguarding of obsolete stocks, investigation and remediation of sites, ensuring they have the knowledge to safeguard any further chemicals identified, and remediate any additional sites deemed to be priority.

These benefits are consistent with GEF objectives, the Millennium Development Goals, the goals of Morocco's Green Plan and the objectives of the National Charter for Environment and Sustainable Development.

5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY

This project will develop alternatives to conventional chemical pesticides using a typology of farming systems to identify a representative network of farmers to develop baseline data on pest control management practices. Through this approach a sustainable farming system will be promoted, with a sustainable yield, using less inputs including pesticides and chemical fertilizers, and contributing to the financial and economic sustainability of farmers. Further, to reduce demand for POPs and highly hazardous pesticides, the project will research, pilot and promote viable alternatives for key crops, in an effort to drive long-term uptake of such non-toxic alternatives. Agricultural production carried out in compliance with IPM approach leads to high quality crops that are highly competitive within the international marketplace. Further access to the lucrative EU markets is likely to create a positive feedback loop, leading to improved agricultural revenues and sustainability in the agricultural sector.

In addition, the clean-up of POPs and highly hazardous pesticides is considered an investment to address legacy issues. However the project has taken seriously the need to prevent the further accumulation of such legacy issues, and therefore included activities related to enforcement and inspection and quality control of pesticide products, helping the Government of Morocco to ensure that banned POPs do not find their way back into agricultural black markets.

Component 2 on container management will demonstrate the technical and financial viability of such a scheme. Since the project preparation phase, the project has actively involved the private sector with a view to ensuring both that the pilot in Sous Massa will continue after the project; and that a national strategy will be adopted by the government for the scheme to be scaled-up. Morocco plans to introduce an 'EcoTax' on plastic containers starting 2014 which will be important in ensuring the financial viability of the scheme.

5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED

This project aims to build sustainable capacity in national institutions to implement MEAs. Several elements have been incorporated into the project design to ensure capacities are developed to lead to the continuity of project-initiated activities. These include: a focus on strengthening national institutional capacity and pesticide management skills; selecting and upgrading one quality control laboratory, to ensure national capacity for pesticide analysis; the cooperation with national stakeholders and NGO representatives to promote alternatives to highly hazardous pesticides to prevent building up of future stocks through increased public awareness of the risks of pesticides; and the training of key national stakeholders in container management, to ensure capacity exists to implement the strategy over the long term. The project will ensure Morocco can benefit from and exchange with other countries in the region, contributing to and benefitting from a network of individuals and institutions with growing capacity in managing the pesticide life cycle, for example accessing Malian experience in 2010 – 11 in the remediation of 10 contaminated sites by national teams.

5.5 APPROPRIATENESS OF TECHNOLOGY INTRODUCED

The technologies to be used in the project must be relevant to the climatic and ecological conditions of Morocco, in particular in the areas where the project will develop its activities. As such, the pilot activities on non-toxic alternatives will focus on affordable, low cost, readily available alternatives, aiming to demonstrate their efficacy and to ensure they are within reach of farmers. Further to this, Component 1 involves the remediation of contaminated sites. Remediation will employ locally available, cost-effective techniques, ensuring it can be repeated on further identified sites by trained national staff, post-project. Container management activities will also employ container washing, and recycling technologies, again based on pilot activities being carried out to ensure appropriate, affordable technologies are trialled, before being subsequently rolled out.

The relevance of the technologies was considered in detail during the PPG, and the results of this are outlined in Table 12, below.

Table 12: Relevance of technologies to be used in the project

Technologies considered	Relevance
High temperature incineration of POPs obsolete pesticides and associated wastes	✓ Expensive, but appropriate for high-risk obsolete pesticides that cannot be safely disposed of in Morocco. ✓ Not appropriate for wastes that can be safely managed in Morocco, for example soils
Triple rinsing with any organic solvent and recycling of empty containers.	✓ Increases overall cleanliness rate by over 90 % ✓ Restricts the reuse of empty containers and therefore intoxication cases ✓ Provides possibilities for recycling plastic and metal materials and using them for non-food purposes.
Extension of the use of Pesticide Stock Management System (PSMS) to different departments	✓ It makes it possible to ensure daily monitoring of pesticide stocks and their evolution ✓ Facilitates management of stocks within the framework of risk management plans ✓ Facilitates ready access of the various stakeholders to information about pesticides (Lists of registered pesticides, withdrawal of pesticides and other useful information)
Bioremediation and phytoremediation of soils contaminated with pesticides	✓ Minimizes any contribution to the contamination of the environment ✓ Utilizes local means (organic manures, native plants, etc.) ✓ Develops local and regional expertise ✓ Significantly less expensive than “dig and dump” method (involving offshore disposal)
Alternatives to conventional chemical pesticides	✓ Provides non-hazardous products ✓ Efficiency tested and proven for controlling a number of target pests ✓ Accessible through either local production or regulated importation

5.6 REPLICABILITY AND SCALING UP

The project design is focused on executing pilot activities for alternatives to chemical pesticides, container management, and soil decontamination. Once pilot activities are executed the results will be assessed, and the design of activities improved based on the results of pilots. This approach will

ensure activities are well developed, locally appropriate, and replicable in areas of Morocco not included in the project, and also in neighbouring countries facing similar challenges.

The container management pilot (Component 2) is supported by the legislative and regulatory review (Component 3) which will establish the necessary legal duty for companies to manage containers, in order to allow the pilot to be scaled up nationwide.

APPENDICES

APPENDIX 1: RESULTS MATRIX

Objective			Assumptions and Risks	
To reduce POPs releases from obsolete pesticide stockpiles and contaminated sites and strengthen the capacity for the sound management of pesticides.			Security conditions remain stable and allow project staff to operate in all project countries	
Component 1: Safe disposal of POPs and other obsolete pesticides, and remediation of contaminated sites				
Outcome 1	Outcome Indicator	Baseline	Target	Assumptions
Risks to human health and the environment reduced through safe disposal of POPs and other obsolete pesticides and remediation of pesticide-contaminated soil	a) Tonnes of POPs and other OP safeguarded/ disposed and average cost	POPTT 1.4.2.2 = 850 tonnes inventoried in PSMS (2009, ASP) 60t DDT tonnes disposed, Av. Cost = $4,000/tonne 17t safeguarded in Casablanca TREDI	**Year 1 &2:** EMPs and EIA complete and approved 1 Contract signed for disposal 200t repacked and eliminated @ $4,000/tonne Site specific proposals for 10 sites Remediation started at 2 sites **Year 3 & 4:** POPTT 1.4.2 = 800 tonnes @ Av cost =$ 4,000/tonne	Key institutions from GoM ministries of agriculture, public health and environment are willing and available to cooperate in project execution Any new obsolete pesticide stocks since the ASP inventory (2009) will be addressed under different projects at a later date.
	b) Number of heavily contaminated sites remediated	0 sites remediated	**Year 1 &2:** Site specific proposals for 10 sites Remediation started at 2 sites **Year 3 & 4:** 10 sites remediated	Budget is sufficient to remediate 10 sites based on specific proposals for each site
	c) % decline in contaminants in soil	0 % decline	*Specific targets depend on chemical– tbd in remediation plans*	Accredited lab in Casablanca will monitor soil samples

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
Output 1.1 Safeguarding and disposal strategy in line with national	Indicator 1.1 Environmental quality of safeguarding & disposal strategy	7 sites repacked (EMP completed)	EIA written & approved by MoE	352 site EMPs written			EA EMPs	Project coordinator (PC) PMU
	Indicator 1.2	No contract in		Disposal			Technical	PC/FAO

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
and international best practice	Quality of tender specification and compliance with SC/ best practice	place		company selected & contract signed			specifications List of pre-selected firms. Signed contract	
Output 1.2 Safeguarding, export and destruction of inventoried wastes completed in an environmentally sound manner	Indicator 1.3 Tonnes / sites safeguarded and disposed in line with international standards (EMTK)	17t repacked– Imzourene 60t DDT exported		200t	600t	800t	Contractors clean up report Basel Transport Certificates Destruction certificates	Contractor
	Indicator 1.4 Number of non-conformities reported in line with contract and EMTK			0	0	0	Supervision report	Task Team PMU
Output 1.3 Contaminated sites remediated	Indicator 1.5 Number and ha of sites remediated	88 identified and preliminary ranking	10 prioritized	10 site specific remediation plans approved	10 sites remediated Area soil treated (*tbd based on remediation plans*)		PSMS Site-specific action plans Remediation report	PC Task Team
	Indicator 1.6 Number of people trained and improvement in knowledge (M/F)	0	10				Participant list, itinerary Post training questionnaire	PC
	Indicator 1.7 Residual levels of contamination (% decrease vs baseline)		*TBD based on detailed site specific remediation plans*				Laboratory analysis results	Laboratory

Component 2: Management of empty pesticide containers				
Outcome 2	Outcome Indicator	Baseline	Target	Assumptions and Risks

Reduce health and environmental risks associated with empty pesticide containers and their reuse	a) Number of empty containers triple rinsed, collected and stored awaiting recycling; % of all containers collected/buried/ reused	Of 115, 000 containers generated annually, 0 are triple rinsed, collected and recycled 75% of certified farms store containers onsite No data on non-certified farms	**Year 1 &2:** 15,000 are triple rinsed, collected and stored awaiting recycling and /or disposal **Year 3 & 4:** 100,000 containers are triple rinsed, collected and stored awaiting recycling and /or disposal. Legacy containers that cannot be triple rinsed are disposed under Outcome 1 if possible.	Stockpiles of containers remain secure and have not been sold Farmers are willing and able to carry out triple rinsing The process results in non-hazardous levels of residues in line with legislation
	b) National policy / action plan based on pilot adopted by ONSSA	POPTT Indicator 1.4.2.4 Status = 0	POPTT status = 2	Government institutions and private sector willing to cooperate

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
Output 2.1 Container management pilot implemented in Sous Massa	Indicator 2.1 Increase in physical and human capacity for container management (equipment & training)	Tiznit unit – metal drum crushing/ recycling equipment	Value, type of recycling equipment installed (*tbd based on strategy*)	Number agents trained in container management			Invoices/ procurement Equipment Report Training modules/reports	PC Consultant
	Indicator 2.2 Number of farmers using service (M/F) and motivations	20 certified estates (300 sites) # uncertified farmers GTZ and Croplife Maroc farmer training on GAP		Recall / rating of communications materials and events	10 certified # uncertified[1]	20 certified # uncertified		Plant operator NGO
	Indicator 2.3	est 69,500 plastic,	Baseline KAP	40% collected	60% collected	90% collected	Plant data	Plant operator

[1] To be determined during inception phase.

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
	Number of empty metallic and plastic containers reused/ triple rinsed & collected in Sous Massa	57,200 metal – none are triple rinsed or collected No data on levels of reuse	data available (see outcome 4)			0% reused (KAP)	Farmer Survey	
Output 2.2 Handover of Sous Massa pilot scheme to a permanent operator completed	Indicator 2.4 Support and contribution of stakeholders to a sustainable CM facility in Sous Massa	Waste management companies exist but do not handle pesticide containers	Feedback received on options proposed for strategy	Industry roles and support during pilot operation # participants attending annual review		MOU or sale agreed with permanent operator # participants attending annual review	Industry reports Expressions of Interest MoU/contract	PC Industry
Output 2.3 National strategy for container management	Indicator 2.5 Support and contribution of stakeholders to national container management (CM) policy	No national strategy exists. Initiatives by private sector for CM do not handle pesticide containers	n/a	n/a	# institutions submitting data for feasibility study and feedback on strategy	Official adoption by GoM	Strategy document Project Progress Reports	National consultant, PMU

Component 3: Institutional and technical capacities for registration and post-registration				
Outcome 3	Outcome Indicator	Baseline	Target	Assumptions and Risks
Institutional and technical capacities for registration and post-registration system are enhanced	a) Legislation and registration for all pesticides in compliance with Code / EU Regulation	No legislation exists for public health POPTT 1.4.2.3 status = 0	**Year 1 & 2:** Legislation and registration for all pesticides in compliance with Code / EU Regulation completed **Year 3 & 4:** POPTT status = 2	GoM willing to review and amend their national legislation. The process is completed within the project timeframe.

	b) Customs sampling efficiency (=Number of non-conforming/ total number samples taken at Casablanca port border)	2.5% (20/780 total)	**Year 1 & 2:** Risk analysis of imports complete; customs agents trained and sampling strategy approved **Year 3 & 4:** Average 3.5% (yr 3) and 4.2% (yr 4) of samples identify non-compliances as same # non compliances detected with fewer total samples of high risk shipments	Risk based sampling system is consistent with national legislation and ensures equally or more effective regulatory outcomes. Levels of illegal imports will remain approx. constant
	c) Information exchanged by compliance and enforcement institutions	No formal mechanism for exchange e.g. notification of new registrations	**Year 3 & 4:** Formal mechanism established; registration decisions shared	Institutions are willing to participate in the network and see a benefit to exchanging information

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
Output 3.1 Pesticide management legislation and registration system revised and improved in conformity with the Code and EU regulations	Indicator 3.1 New comprehensive legislation on pesticides in ag, public health and animal health uses submitted	Agriculture, health and animal health pesticides separately regulated. FAO TCP drafted legislation on pesticide mgmt. Twinning arrangements & project with EC in place	Update draft, including to reflect EU legislation on bio pesticides	Consultation	Submission for approval by Parliament		EU project implementation reports	ONSSA
	Indicator 3.2 Procedure on registering all pesticides is compliant with EU registration system		National endorsement	Implementation				
Output 3.2 Pilot pesticide import control system implemented at Casablanca port	Indicator 3.3 Capacity of customs agents to develop and implement risk-based sampling strategy	Every shipment is analysed (780 in 2013) No PPE used when taking samples	Data on recent samples & non-comp provided and assessed	30 trained Min 25% improvement in score Input to sampling strategy	Able to identify high-risk imports acc strategy Best practice when taking samples (e.g. PPE, closed area, etc)		Reports on recent non-compliance & response Training reports Performance tests	Customs Statistics consultant

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
	Indicator 3.4 Sampling efficiency (=number of non-complying samples/ total number samples taken)	2.5% (20 non compliant/780 total)	~2.5%	2.5%	3.4% = 20 non conforming/ 585 total)	4.2% = 20 non conforming/ 468 total	Customs data for seized shipments	Customs
Output 3.3 Chemical Analysis and Research Laboratory (LOARC) analytical capacity enhanced	Indicator 3.5 Number of non-compliances against Q/C standard ISO 17025	Analytical capacity doesn't meet FAO/WHO spec	Will be defined during needs analysis >0		0 (or max permissible for certification)	0 (or max permissible for certification)	Needs analysis Inspection reports	LOARC
	Indicator 3.6 Number of lab staff trained and increase in capacity/ knowledge	4 chemists work in lab		4 trained 25% improvement in score			Training reports	LOARC
	Indicator 3.7 Quantity of LOARC pesticide wastes managed in ESM	No ESM – quantities of OP unknown but likely to be tonnes	Stocks added to PSMS	Waste management strategy	Disposal through Outcome 1 If possible			LOARC
Output 3.4 Mechanism for information exchange on pesticide quality and food safety established	Indicator 3.8 Number of participants in national network of pesticide inspection and control institutions	Multiple activities but no systematic information sharing	0		4	6	8	PC
	Indicator 3.9 Number of mechanisms for post-registration information exchange; number of times accessed	Obsolete stocks in PSMS Registered list online ONSSA	*Tbd based on information audit & needs analysis* (may include PSMS updates e.g. registered pesticide or quality and import lab results; logs of emails or other information sharing tools)				PSMS Logs	PC

Component 4: Promotion of alternatives to reduce the use of conventional chemical pesticides

Outcome 4	Outcome Indicator	Baseline	Target	Assumptions and Risks
Reduced use of conventional chemical pesticides through promotion of alternatives	a) % of network farmers using alternatives (e.g. IPM) and HHP/POPs	Expect export driven farmers to use alternatives but not small holders ; and vice versa for HHP/POPs (confirm during baseline study)	**Year 1 &2**: TBD **Year 3 & 4**: 50% increase in the baseline figure	Growers are interested and willing to alter current practices through trialling and introducing less hazardous alternatives
	b) Proxy for use of alternatives (TBD)	Companies producing beneficial insects in Souss Massa		

Output	Indicator	Baseline	Target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
Output 4.1 Typology study conducted and alternatives identified in Souss Massa	Indicator 4.1 Proportion and nature (yield; inputs; ecosystem services etc) of members of Typology network using alternative crop protection methods and HHP/POPs (M/F)	Methodology piloted in Benin Previous IPM/FFS projects Larger scale, export driven farmers may use - *tbc in baseline*	100 farmers identified Baseline data collection	*# using alternatives tbd based on typology study*	# using alternatives = 150% of year 1	# using alternatives = 200% of year 1 0 use of HHP and/or POPs	Typology Study reports Study data collection tools	APEFEL
Output4.2 Alternatives tested and promoted to farmers and extension service providers	Indicator 4.2 Number of farmers and professionals receiving information (materials and/or events) (M/F)	National Advisory Agricultural Office Previous FFS project (GTFS/REM/070/ITA)		150 farmers visit demo plots	200 farmers & 100 professionals visit combined demo		Photos Media coverage Reports	APEFEL ONSSA

APPENDIX 2: PROVISIONAL WORK PLAN

PC: Project Coordinator – only included if the PC has exclusive and/or direct responsibility for delivering – oversight or coordination role not included but applies to each activity.– PSC = Project Steering Committee. IC = International consultant

Output	Activities	Responsible entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1.	**Safeguarding and disposal strategy developed and selected in line with national and international best practice**																	
Output 1.1. Safeguarding and disposal strategy developed in line with national and international best practice	1.1.1. EA and EMP, disclosure and approval of the disposal of obsolete pesticides.	PC, FAO, IC, Min Envt (approval), Croplife		x	x	x	x											
	1.1.2. Prepare and award international tender for disposal including technical specifications and selection	PC, FAO, PSC, IC, Croplife				x	x											
Output 1.2. Safeguarding, export and destruction of inventoried wastes in environmentally sound manner.	1.2.1. Safeguard stocks of obsolete pesticides and associated wastes	Contractor, Croplife								x	x	x	x					
	1.2.2. Dispose of stocks of obsolete pesticides and associated wastes	Contractor										x	x	x	x			
	1.2.3. Contract monitoring	M&E officer (PMU), Task Team							x	x	x	x	x	x	x			
Output 1.3. Contaminated sites remediated	1.3.1. Establish and train a national team for Rapid Environmental Assessment and confirm ten priority sites	PC (LoA), national institution, IC		x	x	x												
	1.3.2. Detailed site investigation and develop of EMPs for priority sites	PC, National team, IC				x	x	x	x	x								

Output	Activities	Responsible entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	1.3.3. Decontaminate selected pesticide-contaminated sites (# is dependent on budget)	Contractor, National team, IC									x	x	x	x	x	x	x	
	1.3.4. Monitor- contamination level at sites.	national team; laboratory									x	x	x	x	x	x	x	
Component 2.	**Management of empty pesticide containers**																	
Output 2.1. Container management pilot in implemented in Sous Massa	2.1.1. Update PPG study into pesticide containers for Sous Massa and develop a Business Plan for the pilot	PC, FAO	x	x														
	2.1.2. Strategy development and stakeholder workshop	PC, FAO, APEFEL[1], pesticide industry			x													
	2.1.3. Establishment and operation of facility (permits, equipment, staff training)	PC, FAO APEFEL Operator				x	x	x	x	x	x	x	x	x	x	x	x	x
	2.1.4. Develop and implement farmer training and awareness strategy on container management	NGO, farmer associations, CropLife and ASMIPH[2]				x	x	x	x	x	x	x	x	x	x	x	x	x
Output 2.2. Handover of Sous Massa pilot scheme to a permanent	2.2.1. Options analysed, including at Annual review and consultation with stakeholders to evaluate the pilot project; and action plan developed	PC, M&E officer, APEFEL, Private sector, ME, MS, MIMA, CNLAA, NGOs								x				x			x	x

[1] APEFEL - Association Marocaine des Producteurs et Producteurs Exportateurs de Fruits et Légumes

[2] ASMIPH - Association of phytosanitary firms

Output	Activities	Responsible entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
operator	2.2.2. MOU or sale agreed with permanent operator	PC, PSC, Operator													x	x	x	x
Output 2.3. National strategy for container management	2.3.1. Undertake a feasibility study of implementation of a national network and develop draft strategy	PC, Consultant? NGOs, Pesticide industry								x	x	x	x	x				
	2.3.2. National workshop, development and endorsement of a finalized national strategy	PC, national consultant, industry											x	x	x	x	x	x
Component 3.	**Institutional and technical capacities for registration and post-registration system**																	
Output 3.1. Pesticide management legislation and registration system revised and improved in conformity with the Code and EU regulations	3.1.1. finalization of legislation texts and regulations governing the management of pesticides used in agriculture, public health and hygiene and animal health. and enhancement of the registration system to international/EU standards (fully funded by EC).	ONSSA																
Output 3.2. Pilot pesticide import control system implemented at Casablanca port	3.2.1. Assess the existing system for the sampling of pesticide imports	PC, ONSSA, Customs, LOARC	x	x	x	x	x	x										
	3.2.2. Train and develop sampling strategy with customs authority managers and staff	PC, FAO, Customs			x	x	x	x	x	x								
	3.2.3. Pilot the new system for controlling imported pesticides at Casablanca Port and monitor performance	Customs, LOARC,									x	x	x	x	x	x	x	x
	3.2.4. Annual evaluation of the pilot and recommendations	M&E officer, PMU												x			x	x
Output 3.3. Chemical Analysis	3.3.1. Assessment of needs for certification for full Q/C analysis	PC FAO, LOARC	x	x	x	x												

Output	Activities	Responsible entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
and Research Laboratory (LOARC) analytical capacity enhanced	3.3.2. Upgrade of facilities and training of staff in new protocols	PC, LOARC				x	x	x										
	3.3.3. Application for certification	PC, LOARC						x	x	x	x							
Output 3.4. Mechanism for information exchange on pesticide quality and food safety established	3.4.1. Assessment of information held by stakeholders; and needs for improved compliance	PC, NPRC, ECO, ONSSA, police, Repression de Fraude, private sector			x	x												
	3.4.2. Information exchange system and procedures agreed						x		x		x		x		x		x	
	3.4.3. Roll-out of information exchange	NPRC, Policy, Repression Fraude								x	x	x	x	x	x	x	x	x
Component 4.	**Promotion of alternatives to reduce the use of conventional chemical pesticides**																	
Output 4.1. Typology study conducted and alternatives identified in Souss Massa	4.1.1. Typology study to identify a farmer network representative of agricultural holdings in Sous Massa	FAO, APEFEL		x	x	X												
	4.1.2. Baseline data on crop protection practices collected	APEFEL, farmer network			x	x	x	x	x	x								
	4.1.3. Analysis and publication of the results of monitoring of crop protection practices within Souss Massa by category of farmer	APEFEL, M&E officer, ONCA[1]					x	x	x									

[1] ONCA - National Agricultural Advisory Office

ONSSA – National Food Safety Authority

Output	Activities	Responsible entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 4.2. Alternatives tested and promoted to farmers and extension service providers	4.2.1. Preparing and conducting demonstrations of existing best practices	ONCA, APEFEL, ASPAM[1], AMCEF[2], APROBA[3]						x	x			x						
	4.2.2. Developing protocol for combined best practices demonstrations	PC, APEFEL, FAO (IPM consultant?)						x				x						
	4.2.3. Promote best practices through visits to demonstration sites (priority farmers, Extension professionals and dissemination of existing materials on IPM to farmer advisors	ONCA, APEFEL, farmers Extension agents, institutions, private sector agronomists, NGO (comms TT), ASPAM, AMCEF, APROBA							x	x	x	x	x	x	x	x	x	x

[1] ASPAM - Moroccan Association of Citrus Producers

[2] AMCEP - the Association of Packagers and Exporters of Strawberries

[3] APROBA - the Moroccan Banana Producers Association

APPENDIX 3: RESULTS BUDGET

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Total GEF	Year 1	Year 2	Year 3	Year 4	Total
5300	SALARIES PROFESSIONAL															
	Budget and Operations Officer	Month	23	8,785	-	-	-	-	-	198,112	198,112	49,528	49,528	49,528	49,528	198112
5300	TOTAL SALARIES PROFESSIONAL				0	0	0	0	0	198112	198112	49528	49528	49528	49528	198112
5570	CONSULTANTS															
5542	INTERNATIONAL CONSULTANTS															
	EMP and tender development (OPs)	Month	1.5	12000	*18,000*						18,000	*18,000*	*0*	*0*	*0*	18000
	Safeguarding and disposal monitoring	Month	1.5	12000	*18,000*						18,000	*0*	*9,000*	*9,000*	*0*	18000
	Contaminated site assessment, EMP, tender and monitoring implementation and	Month	3	12000	*36,000*						36,000	*12,000*	*12,000*	*12,000*	*0*	36000
	Communications consultant	**Month**	**2**	**12000**		*24,000*					24,000	*12,000*	*12,000*	*0*	*0*	24000
	Legal consultant (funded by EU project)	**Month**	**1**	**12000**		-					0	*0*	*0*	*0*	*0*	0
	Container Management	**Month**	**3**	**12000**		*36,000*					36,000	*12,000*	*12,000*	*12,000*	*0*	36000
	Legal (funded by EU project)	**Month**	**2.5**	**12000**			-				0	*24,000*	*24,000*	*12,000*	*0*	60000
	Pesticide Management (inspection and information exchange)	**Month**	**3**	**12000**			*36,000*				36,000	*10,000*	*12,000*	*10,000*	*4,000*	36000
	Pesticide Q/C	**Month**	**1.5**	**12000**							18,000	*18,000*	*0*	*0*	*0*	18000

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Total GEF	Year 1	Year 2	Year 3	Year 4	Total
	labororatory expert						***18,000***									
	Pest and Pesticide Management	Month	6	12000				72,000			72,000	18,000	18,000	18,000	18,000	**72000**
	Communications Alternatives	Month	1.5	12000				18,000			18,000	0	0	18,000	0	**18000**
	Typology and data collection development	Month	6	12000				72,000			72,000	18,000	18,000	18,000	18,000	**72000**
	Evaluation expert(s)	Lumpsum	0	0					60,000		60,000	0	30,000	0	30,000	**60000**
5542	**Sub-total (international)**				**72,000**	**60,000**	**54,000**	**162,000**	**60,000**	**-**	**408,000**	**142,000**	**147,000**	**109,000**	**70,000**	**468,000**
5543	**NATIONAL CONSULTANTS**															
	National Project Coordinator	**Month**	**48**	**3000**	***48,000***	***24,000***	***24,000***	***36,000***	***12,000***	**-**	144,000	***36,000***	***36,000***	***36,000***	***36,000***	**144000**
	Contaminated sites	**Month**	**4**	**1200**	***4,800***						4,800	***1,200***	***1,200***	***1,200***	***1,200***	**4800**
	Container Management	**Month**	**3**	**3000**		***9,000***					9,000	***3,000***	***1,500***	***4,500***	***0***	**9000**
	Pesticide management	**Month**	**6**	**3000**			***18,000***				18,000	***6,000***	***6,000***	***6,000***	***0***	**18000**
	Typology and data collection development	**Month**	**9**	**3000**				***27,000***			27,000					
	National Admin Assistant	**Month**	**24**	**1937**					**-**	***46,488***	46,488	***11,622***	***11,622***	***11,622***	***11,622***	**46488**
5543	**Sub-total (national)**				**52,800**	**33,000**	**42,000**	**63,000**	**12,000**	**46,488**	**249,288**	**57,822**	**56,322**	**59,322**	**48,822**	**222,288**
5570	**TOTAL CONSULTANTS**				**124800**	**93000**	**96000**	**225000**	**72000**	**46488**	**657288**	**199822**	**203322**	**168322**	**118822**	**690288**
5900	**TRAVEL**															
	International				35,000	21,000	31,500	28,500	19,000	0	135,000	**37,000**	**37,500**	**25,500**	**22,500**	**122500**
	National + national teams				21,000	25,000	45,000	8,000	10,000	0	109,000	**28,500**	**31,500**	**18,000**	**23,000**	**101000**

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Total GEF	Year 1	Year 2	Year 3	Year 4	Total
	Enumerators							16,000			16,000	4,000	4,000	4,000	4,000	16000
5900	TOTAL TRAVEL				56000	46000	76500	52500	29000	0	260000	69500	73000	47500	49500	239500
5920	TRAINING															
	0								0	0	0	0	0	0	0	0
	TOTAL Training				0	0	0	0	0	0	0	0	0	0	0	0
5650	CONTRACTS															
	Disposal				1,760,000						1,760,000	0	880,000	880,000	0	1760000
	Soil analysis				15,000							0	7,500	7,500	0	15000
	Contaminated sites remediation				40,000						40,000	0	0	20,000	20,000	40000
	Communications campaign					20,000					20,000	5,000	5,000	5,000	5,000	20000
	Container Management					26,000					26,000	6,500	6,500	6,500	6,500	26000
	Lab Analytical and Q/C upgrade (?)						100,000				100,000	50,000	50,000	0	0	100000
	Typology, field data collection & training							56,000			56,000	31,000	25,000	0	0	56000
	IPM implementation & training							40,000			40,000	0	0	40,000	0	40000
	Communications Strategy							50,000			50,000	0	50,000	0	0	50000
5650	TOTAL Contracts				1815000	46000	100000	146000	0	0	2,107,000	92500	1024000	959000	31500	2107000
6000	EXPENDABLE PROCUREMENT															
	Personal Protective Equipment				15,000	10,000	15,000				40,000	40,000	0	0	0	40000
	IT (consumables)				5,000						5,000	5,000	0	0	0	5000
	Survey materials							10,000			10,000	10,000	0	0	0	10000
	TOTAL expendable equipment				20000	10000	15000	10000	0	0	55,000	55000	0	0	0	55000

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Total GEF	Year 1	Year 2	Year 3	Year 4	Total
6100	NON-EXPENDABLE PROCUREMENT															
	Soil sampling equipment				25,000						25,000	25,000	0	0	0	25000
	Container processing equipment					15,000					15,000	15,000	0	0	0	15000
	IT (computers, printers)						12,500	10,000			22,500	22,500	0	0	0	22500
	Pesticide sampling equipment						30,000				30,000	30,000	0	0	0	30000
	TOTAL non-expendable equipment				25000	15000	42500	10000	0	0	92,500	92500	0	0	0	92500
6300	GENERAL OPERATING EXPENSES															
	Car hire + other GOE				20,000	25,000	50,000	10,000	25,000	100	130,100	38,750	31,250	25,750	34,350	130,100
	TOTAL GOE				20000	25000	50000	10000	25000	100	130,100	38750	31250	25750	34350	130100
TOTAL	Component 1				2,060,800							111,200	944,700	958,700	46,200	2,060,800
	Component 2					235,000						94,000	60,000	56,000	25,000	235,000
	Component 3						380,000					191,500	107,000	42,500	39,000	380,000
	Component 4							453,500				120,625	144,625	127,625	60,625	453,500
	Component 5								126,000			20,872	65,372	17,872	68,472	172,588
	Component 6									244,700		49,528	49,528	49,528	49,528	198,112
	PROJECT TOTAL										3,500,000	587,725	1,371,225	1,252,225	288,825	3,500,000

Output 1.1 Safeguarding and Disposal Strategy Developed
Output 1.2 Safeguarding and Disposal implemented
Output 1.3 Sites remediation

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 1: Disposal and Remediation			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					1.1	1.2	1.3							
5300	**SALARIES PROFESSIONAL**													
								0		-	-	-	-	0
								0		-	-	-	-	0
5300	**TOTAL SALARIES PROFESSIONAL**				**-**	**-**	**-**	**0**		**-**	**-**	**-**	**-**	**-**
5570	**CONSULTANTS**													
5542	**INTERNATIONAL CONSULTANTS**													
	EMP and tender development (OPs)	Month	1.5	12,000	18,000			18,000		18,000				18,000
	Safeguarding and disposal monitoring	Month	1.5	12,000		18,000		18,000			9,000	9,000		18,000
	Contaminated site assessment, EMP, tender and monitoring implementation and	Month	3	12,000			36,000	36,000		12,000	12,000	12,000		36,000
5542	**Sub-total (international)**				**18,000**	**18,000**	**36,000**	72,000		**30,000**	**21,000**	**21,000**	**0**	**72,000**
5543	**NATIONAL CONSULTANTS**													
	National Project Coordinator	Month	16	3,000	12,000	18,000	18,000	48,000		12,000	12,000	12,000	12,000	48,000
	Contaminated sites	Month	4	1,200			4,800	4,800		1,200	1,200	1,200	1,200	4,800
5543	**Sub-total (national)**				**12,000**	**18,000**	**22,800**	52,800		**13,200**	**13,200**	**13,200**	**13,200**	**52,800**

Output 1.1 Safeguarding and Disposal Strategy Developed
Output 1.2 Safeguarding and Disposal implemented
Output 1.3 Sites remediation

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 1: Disposal and Remediation			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					1.1	1.2	1.3							
5570	**TOTAL CONSULTANTS**				**30,000**	**36,000**	**58,800**	124,800		**43,200**	**34,200**	**34,200**	**13,200**	**124,800**
5900	**TRAVEL**													
	International				11,500	9,500	14,000	35,000		**12,000**	**9,000**	**9,000**	**5,000**	**35,000**
	National + national teams				12,000		9,000	21,000		**6,000**	**9,000**	**3,000**	**3,000**	**21,000**
5900	**TOTAL TRAVEL**				**23,500**	**9,500**	**23,000**	56,000		**18,000**	**18,000**	**12,000**	**8,000**	**56,000**
5920	**TRAINING**													
	Inventory and PSMS							0					0	0
	TOTAL Training				**0**	**0**	**0**	0		**0**	**0**	**0**		**0**
5650	**CONTRACTS**													
	Disposal					1,760,000		1,760,000			880,000	880,000		1,760,000
	Soil analysis						15000	15,000			7,500	7,500		15,000
	Contaminated sites remediation						40,000	40,000				20,000	20,000	40,000
5650	**Contracts budget**				**-**	**1,760,000**	**55,000**	1,815,000		**0**	**887,500**	**907,500**	**20,000**	**1,815,000**
6000	**EXPENDABLE PROCUREMENT**													
	Personal Protective Equipment						15000	15,000		15,000				15,000
	IT (consumables)						5000	5,000		5,000				5,000
6000	**Expendable procurement Budget**				**0**	**0**	**20,000**	20,000		**20,000**	**0**	**0**	**0**	**20,000**
6100	**NON-EXPENDABLE PROCUREMENT**													

Output 1.1 Safeguarding and Disposal Strategy Developed
Output 1.2 Safeguarding and Disposal implemented
Output 1.3 Sites remediation

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 1: Disposal and Remediation			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					1.1	1.2	1.3							
	Soil sampling equipment						25000	25,000		25,000				25,000
6100	TOTAL Non expendable procurement				-	-	25,000	25,000		25,000	0	0	0	25,000
6300	GENERAL OPERATING EXPENSES													
	Car hire + other GOE				10,000		10000	20,000		5,000	5,000	5,000	5,000	20,000
6300	TOTAL GOE				10,000	-	10,000	20,000		5,000	5,000	5,000	5,000	20,000
TOTAL	Component 1				63,500	1,805,500	191,800	2,060,800		111,200	944,700	958,700	46,200	2,060,800

Output 2.1 Container management pilot Souss Massa
Output 2.2 Operationalization of pilot
Output 2.3 National strategy container management

Expenditures by Component								Expenditure by Year						
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Container Management			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					2.1	2.2	2.3							
5300	SALARIES PROFESSIONAL													
								0		0	0	0	0	0
								0		-	-	-	-	0
5300	TOTAL SALARIES PROFESSIONAL				-	-	-	0		-	-	-	-	-
5570	CONSULTANTS													

Output 2.1 Container management pilot Souss Massa
Output 2.2 Operationalization of pilot
Output 2.3 National strategy container management

Expenditures by Component									Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Container Management			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					2.1	2.2	2.3							
5542	**INTERNATIONAL CONSULTANTS**													
	Communications consultant	Month	2	12,000	24,000			**24,000**		***12,000***	***12,000***			24,000
	Legal consultant (funded by EU project)	Month	1	12,000				**0**						0
	Container Management	Month	3	12,000	24,000		12,000	**36,000**		12,000	12,000	12,000		36,000
5542	**Sub-total (international)**				**48,000**	**-**	**12,000**	**60,000**		**24,000**	**24,000**	**12,000**	**-**	**60,000**
5543	**NATIONAL CONSULTANTS**													
	National Project Coordinator	Month	8	3,000	9,000	9,000	6,000	**24,000**		6,000	6,000	6,000	6,000	24,000
	Legal consultant (funded by EU project)	Month	1.5	4,000		-	-	**0**						
	Container Management	Month	3	3,000	4,500		4,500	**9,000**		3,000	1,500	4,500		9,000
5543	**Sub-total (national)**				**13,500**	**9,000**	**10,500**	**33,000**		**9,000**	**7,500**	**10,500**	**6,000**	**33,000**
5570	**TOTAL CONSULTANTS**				**61,500**	**9,000**	**22,500**	**93,000**		**33,000**	**31,500**	**22,500**	**6,000**	**93,000**
5900	**TRAVEL**													
	International				14,000		7,000	**21,000**		7,000	7,000	7,000		**21,000**
	National + national teams				10,000		15,000	**25,000**		**7,500**	**7,500**	**5,000**	**5,000**	**25,000**
5900	**TOTAL TRAVEL**				**24,000**	**0**	**22,000**	**46,000**		**14,500**	**14,500**	**12,000**	**5,000**	**46,000**
5920	**TRAINING**													

Output 2.1 Container management pilot Souss Massa
Output 2.2 Operationalization of pilot
Output 2.3 National strategy container management

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Container Management			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					2.1	2.2	2.3							
	Container Management							0						0
	National Strategy workshop/consultations							0					0	0
	TOTAL TRAINING				**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**
5650	**CONTRACTS**													
	Communications campaign				20,000			**20,000**		5,000	5,000	5,000	5,000	20,000
	Container Management					26,000		**26,000**		6,500	6,500	6,500	6,500	26,000
5650	**TOTAL CONTRACTS**				**20,000**	**26,000**	**-**	**46,000**		**11,500**	**11,500**	**11,500**	**11,500**	**46,000**
6000	**EXPENDABLE PROCUREMENT**													
	Personal Protective Equipment				10,000			10,000		10,000				10,000
	IT (computers, printers)							0						0
6000	**Expendable procurement Budget**				**10,000**	**0**	**0**	10,000		**10,000**	**0**	**0**	**0**	**10,000**
6100	**NON-EXPENDABLE PROCUREMENT**													
	Container processing equipment				15,000			15,000		15,000				15,000
6100	**TOTAL Non expendable procurement**				**15,000**	**-**	**-**	15,000		**15,000**	**0**	**0**	**0**	**15,000**
6300	**GENERAL OPERATING EXPENSES**													
	National Strategy workshop/consultations						15000	15,000		7500		7500		15,000
	Car hire + other GOE				10,000			10,000		2,500	2,500	2,500	2,500	10,000

Output 2.1 Container management pilot Souss Massa
Output 2.2 Operationalization of pilot
Output 2.3 National strategy container management

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Container Management			Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					2.1	2.2	2.3							
6300	TOTAL GOE				10,000	-	15,000	25,000		10,000	2,500	10,000	2,500	25,000
TOTAL	Component 2				140,500	35,000	59,500	235,000		94,000	60,000	56,000	25,000	235,000

Output 3.1 Pesticide legislation and registration system updated (fully funded by EC co-finance)
Output 3.2 Pilot import control system in Casablanca port
Output 3.3 Pesticide laboratory capacity extended to Q/C
Output 3.4 Information exchange on pesticide quality and food safety

Expenditures by Component											Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 3: Capacity Building				Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					3.1	3.2	3.3	3.4							
5300	SALARIES PROFESSIONAL														
									0		0	0	0	0	0
									0		-	-	-	-	0
5300	TOTAL SALARIES PROFESSIONAL				-	-	-	-	0		0	0	0	0	0
5570	CONSULTANTS														
5542	INTERNATIONAL CONSULTANTS														
	Legal (funded by EU project)	Month	2.5	12,000					0						0
	Pesticide Management (inspection and information exchange)	Month	3	12,000		18,000		18,000	36,000		10,000	12,000	10,000	4,000	36,000
	Pesticide Q/C labororatory expert	Month	1.5	12000			18,000		18,000		18,000				18,000
5542	Sub-total (international)				-	18,000	18,000	18,000	54,000		28,000	12,000	10,000	4,000	54,000
5543	NATIONAL CONSULTANTS														
	National Project Coordinator	Month	8	3,000		9,000	9,000	6,000	24,000		6,000	6,000	6,000	6,000	24,000
	Pesticide management	Month	6	3,000		6,000	6,000	6,000	18,000		6,000	6,000	6,000		18,000
5543	Sub-total (national)				-	15,000	15,000	12,000	42,000		12,000	12,000	12,000	6,000	42,000
5570	TOTAL CONSULTANTS				-	33,000	33,000	30,000	96,000		40,000	24,000	22,000	10,000	96,000
5900	TRAVEL														
	International					10,500	10,500	10,500	31,500		14,000	8,000	5,500	4,000	31,500

Output 3.1 Pesticide legislation and registration system updated (fully funded by EC co-finance)
Output 3.2 Pilot import control system in Casablanca port
Output 3.3 Pesticide laboratory capacity extended to Q/C
Output 3.4 Information exchange on pesticide quality and food safety

Expenditures by Component										Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 3: Capacity Building				Total GEF	Year 1	Year 2	Year 3	Year 4	Total
					3.1	3.2	3.3	3.4						
	National + national teamsand workshp participants					15,000	10,000	20,000	**45,000**	**15,000**	**10,000**	**10,000**	**10,000**	**45,000**
5900	**TOTAL TRAVEL**				**0**	**25,500**	**20,500**	**30,500**	**76,500**	**29,000**	**18,000**	**15,500**	**14,000**	**76,500**
5920	**TRAINING**													
	Quality control and inspection								**0**					0
	Registration								**0**					0
	Pesticide life cycle management								**0**					0
	TOTAL Training				**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5650	**CONTRACTS**													
	Lab Analytical and Q/C upgrade (?)						100,000		**100,000**	50,000	50,000			100,000
5650	**TOTAL Contracts**				**-**	**-**	**100,000**	**-**	**100,000**	**50,000**	**50,000**	**-**	**-**	**100,000**
6000	**EXPENDABLE PROCUREMENT**													
	Personal Protective Equipment					15000			15,000	15,000				15,000
6000	**Expendable procurement Budget**				**0**	**15,000**	**0**	**0**	15,000	**15,000**	**0**	**0**	**0**	**15,000**
6100	**NON-EXPENDABLE PROCUREMENT**													
	IT (computers, printers)					5000		7,500	12,500	12500				12,500

Output 3.1 Pesticide legislation and registration system updated (fully funded by EC co-finance)
Output 3.2 Pilot import control system in Casablanca port
Output 3.3 Pesticide laboratory capacity extended to Q/C
Output 3.4 Information exchange on pesticide quality and food safety

Expenditures by Component											Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 3: Capacity Building				Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					3.1	3.2	3.3	3.4							
	Pesticide sampling equipment					30000			30,000		30,000				30,000
6100	**TOTAL Non expendable procurement**				**-**	**35,000**	**-**	**7,500**	42,500		**42,500**	**-**	**-**	**-**	**42,500**
6300	**GENERAL OPERATING EXPENSES**														
	National Strategy workshop/consultations/ PSMS training							30000	30,000		10000	10000		10000	30,000
	Car hire + other GOE					10000		10000	20,000		5,000	5,000	5,000	5,000	20,000
6300	**TOTAL GOE**				**-**	**10,000**		**40,000**	50,000		**15,000**	**15,000**	**5,000**	**15,000**	**50,000**
TOTAL	**COMPONENT 3**				**0**	**118,500**	**153,500**	**108,000**	**380,000**		**191,500**	**107,000**	**42,500**	**39,000**	**380,000**

Output 4.1 Identification of alternatives to chemical pesticides

Output 4.2 Promotion of alternatives to chemical pesticides

Expenditures by Component									Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 4: Alternatives		Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					4.1	4.2							
5300	SALARIES PROFESSIONAL												
							0		0	0	0	0	0
							0		-	-	-	-	0
5300	TOTAL SALARIES PROFESSIONAL				-	-	0		0	0	0	0	0
5570	CONSULTANTS												
5542	INTERNATIONAL CONSULTANTS												
	Pest and Pesticide Management	Month	6	12,000	36,000	36,000	72,000		18,000	18,000	18,000	18,000	72,000
	Communications Alternatives	Month	1.5	12,000		18,000	18,000				18,000		18,000
	Typology and data collection development	Month	6	12,000	72,000		72,000		18,000	18,000	18,000	18,000	72,000
5542	Sub-total (international)				108,000	54,000	162,000		36,000	36,000	54,000	36,000	162,000
5543	NATIONAL CONSULTANTS												
	National Project Coordinator	Month	12	3,000	18,000	18,000	36,000		9,000	9,000	9,000	9,000	36,000
	Typology and data collection development	Month	9	3,000	13,500	13,500	27,000		9,000	9,000	9,000		27,000
5543	Sub-total (national)				31,500	31,500	63,000		18,000	18,000	18,000	9,000	63,000
5570	TOTAL CONSULTANTS				139,500	85,500	225,000		54,000	54,000	72,000	45,000	225,000
5900	TRAVEL												

Output 4.1 Identification of alternatives to chemical pesticides

Output 4.2 Promotion of alternatives to chemical pesticides

Expenditures by Component									Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 4: Alternatives		Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					4.1	4.2							
	International				14,250	14,250	28,500		7,125	7,125	7,125	7,125	28,500
	National consultants				4,000	4,000	8,000		2,000	2,000	2,000	2,000	8,000
	Enumerators				8,000	8,000	16,000		4,000	4,000	4,000	4,000	16,000
5900	TOTAL TRAVEL				26,250	26,250	52,500		13,125	13,125	13,125	13,125	52,500
5650	CONTRACTS												
	Typology, field data collection & training				31,000	25,000	56,000		31,000	25,000			56,000
	IPM implementation & training					40,000	40,000				40,000		40,000
	Communications Strategy					50,000	50,000			50,000			50,000
5650	TOTAL Contracts				31,000	115,000	146,000		31,000	75,000	40,000	0	146,000
6000	EXPENDABLE PROCUREMENT												
	Survey materials				10,000		10,000		10,000				10,000
6000	Expendable procurement Budget				10,000	0	10,000		10,000	0	0	0	10,000
6100	NON-EXPENDABLE PROCUREMENT												
	IT (computers, printers)				10000		10,000		10000				10,000
6100	TOTAL Non expendable procurement				10,000	-	10,000		10,000	-	-	-	10,000
6300	GENERAL OPERATING EXPENSES												
	General Operating Expenses				5,000	5,000	10,000		2,500	2,500	2,500	2,500	10,000
6300	TOTAL General Operating Expenses				5,000	5,000	10,000		2,500	2,500	2,500	2,500	10,000
TOTAL	Component 4				221,750	231,750	453,500		120,625	144,625	127,625	60,625	453,500

Output 5.1 Project Monitoring System
Output 5.2 Mid-term and final evaluation
Output 5.3 Best practices, lessons learned disseminated

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 5: M&E				Project Management	Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					5.1	5.2	5.3	TOTAL	TOTAL							
5300	SALARIES PROFESSIONAL															
										0		0	0	0	0	0
	Budget and Operations Officer	Month	23	8,785				-	198,112	198,112		49,528	49,528	49,528	49,528	198,112
5300	TOTAL SALARIES PROFESSIONAL				-			-	198,112	198,112		49,528	49,528	49,528	49,528	198,112
5570	CONSULTANTS															
5542	INTERNATIONAL CONSULTANTS															
	Evaluation expert(s)	Lumpsum				60,000		60,000		60,000			30,000		30,000	60,000
5542	Sub-total (international)				-	60,000	-	60,000	-	60,000		0	30,000	0	30,000	60,000
5543	NATIONAL CONSULTANTS															
	National Project Coordinator	Month	4	3,000	3,000	6,000	3,000	12,000		12,000		3,000	3,000	3,000	3,000	12,000
	National Admin Assistant	Month	24	1,937				-	46,488	46,488		11,622	11,622	11,622	11,622	46,488
5543	Sub-total (national)				3,000	6,000	3,000	12,000	46,488	58,488		14,622	14,622	14,622	14,622	58,488
5570	TOTAL CONSULTANTS				3,000	66,000	3,000	72,000	46,488	118,488		14,622	44,622	14,622	44,622	118,488
5900	TRAVEL															
	Evaluation experts					19,000		19,000		19,000			9,500		9,500	19,000
	Workshop participants					10,000		10,000		10,000			5,000		5,000	10,000
5900	TOTAL TRAVEL				0	29,000	0	29,000	0	29,000		0	14,500	0	14,500	29,000

Output 5.1 Project Monitoring System
Output 5.2 Mid-term and final evaluation
Output 5.3 Best practices, lessons learned disseminated

Expenditures by Component												Expenditure by Year				
Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 5: M&E				Project Management	Total GEF		Year 1	Year 2	Year 3	Year 4	Total
					5.1	5.2	5.3	TOTAL	TOTAL							
5920	TRAINING															
								0		0						0
	TOTAL Training				0	0	0	0	0	0		0	0	0	0	0
6300	GENERAL OPERATING EXPENSES															
	Inception and closing workshop, PSC meetings					20,000		20,000		20,000		5,000	5,000	2,000	8,000	20,000
	miscellaneous						5,000	5,000	100	5,100		1,250	1,250	1,250	1,350	5,100
6300	TOTAL General Operating Expenses				-	20,000	5,000	25,000	100	25,100		6,250	6,250	3,250	9,350	25,100
TOTAL					3,000	115,000	8,000	126,000	244,700	370,700		70,400	114,900	67,400	118,000	370,700

APPENDIX 4: DRAFT TERMS OF REFERENCE

Project Coordinator

Under the overall supervision of the Project Implementation Committee, the FAO Budget Holder and the PSC, and with direct technical support and guidance from the LTO, the Project Coordinator (PC) will be responsible for:

- Coordinating all project activities at national level;
- Under the guidance and direction of the LTO, implement monitoring and evaluation activities at national level;
- In accordance with approved annual work plans and budgets, organize and facilitate national workshops, training exercises and official meetings;
- Supervise national consultants and contracts;
- Preparation of project progress reports;
- Liaise with relevant national organizations and partners and support communication, coordination and collaboration;
- Draft annual work plans and budget revisions for approval by PSC, BH and LTO
- Support the BH to classify expenditure transactions by project output using FAO FPMIS
- Compile information on co-financing from national partners; and
- Perform other related duties as required.

Requirements:

1. University degree in Agronomy and / or plant protection or integrated pests and pesticide management pest or in a related subject matter;
2. Five years of relevant professional experience;
3. Excellent oral and written communication skills in French/English;
4. Familiarity with pest and pesticide management issues in the country;
5. At least two years project management/coordination experience;

EMP and tender development (OPs)

Under the supervision of the PC and the FAO Budget Holder, and technical support from FAO Lead Technical Officer, and in close cooperation with Croplife, the consultant(s) will undertake the following:

- Review the environmental management plans (EMP) developed by the Contractor for the safeguarding operation, including health and safety procedures, and all safeguarding procedures (packaging materials, labelling, etc)
- Train national team to monitor the safeguarding operations of CLI for conformance to EMP, EMTK standards and in conformance of International Maritime Dangerous Goods Code
- Train national team to monitor the compilation of the inventory and weights of the safeguarded stocks
- Develop detailed tender specifications for the export and destruction of the safeguarded obsolete pesticides
- Supervise, monitor and witness the acceptance of the waste by the contractor and the stowage in shipping containers
- Provide guidance and support to the PC and Contractor in their preparation of the documentation needed under the Basel Convention for disposal of stocks

Requirements:

1. A degree in chemistry, environmental science or a related subject;
2. At least 10 years of relevant working experience;
3. Experience of developing EMP's in relation to safeguarding operations;

4. Understanding of international standards and good practice in relation to safeguarding operations;
5. Experience of safeguarding pesticides.
6. Ability to work in French and English.

International Consultant: Contaminated site assessment and EMP development

Under the direct supervision of the PC and FAO Budget Holder, and technical guidance from FAO Lead Technical Officer, the consultant will be responsible for the following activities in accordance with the procedures set out in EMTK volume 5:

- Train national teams of technicians from the Ministries of Agriculture, Environment and Health and national analytical laboratories in the application of rapid environmental assessment (REA) tools;
- Based on a rapid assessment of the contaminated sites by the teams prepare a report on the prioritization to identify the sites representing the greatest risk to public health and environment. Present findings and prioritization to the PSC for adoption
- Lead the development of detailed site specific sampling plans including provisional conceptual site models;
- Train the national team and lead them in the intrusive investigations of the prioritized sites including implementation of the sampling plans.
  - Following the completion of the sampling and analysis programme, develop final conceptual site models and site specific Environmental Management Plans (EMPs);
  - Develop site specific risk reduction / remediation strategies based on risk management approach;
  - Complete site specific technology assessment for the treatment of the contaminated materials based on technical and economic feasibility assessment.

Present and discuss with the national counterparts the site specific proposals;

Requirements:

1. Advanced degree in chemistry, geology, environmental science or related subject;
2. Professional qualifications related to waste management.
3. 10 years experience in waste management with a focus on contaminated site assessment;
4. 10 years experience related to implementation of contaminated site remediation;
5. Excellent communication skills in French and English.

International Consultant: Container Management

Under the supervision of the PC and FAO Budget Holder, the consultant will:

- Supervise the National Consultant to update the report on pesticide containers in Morocco on empty pesticide container management for agricultural, livestock and public health pesticides in Sous Massa, including identifying: the annual quantities by type of container by type of farmer and source of supply; current practices for rinsing and disposing of containers; options for sensitizing users to adopt triple rinsing; options for collecting the empty containers and small quantities of unwanted pesticides from users including the local waste management services, dedicated collection points, reverse distribution through the resellers; and identifying and assessing the national waste management and recycling industry to identify potential recycling/disposal options for each of the container materials

- Propose one or more models for establishing and operating a pilot container management collection storage and recycling scheme for the containers generated in Sous Massa, including infrastructure requirements, collection and recycling costs, requirement and costs of any awareness raising activities, institutional arrangements for operating the scheme, its legal basis and perspectives for future sustainable funding mechanisms
- Together with the national consultant, undertake a stakeholder workshop to present the findings of the feasibility study and the proposed model for the establishment of the scheme
- Write a business plan for the agreed pilot scheme, including the detailed set up and operating requirements

Requirements

1. Post-graduate degree in agriculture, environmental sciences, chemistry or related fields;
2. At least 5 years' experience in empty pesticide container management;
3. Knowledge of the pesticide industry and regulatory environment in Morocco.
4. Excellent report writing skills in English; working knowledge of either French or Arabic would be an advantage.

International Consultant: Pesticide Management (inspection and information exchange)

Under the direct supervision of the PC and FAO Budget Holder, and technical guidance from the FAO Lead Technical Officer, the consultant will be responsible for the following activities:

- Development of risk based enforcement and sampling procedures:
    - Provide participatory training to customs agents on risk-based environmental regulation and enforcement;
    - Review and propose criteria and methods to prioritize sampling strategy for pesticide imports, by working closely with customs officials and managers and based on previous years' import and sampling data
- Work with customs officials to assess and improve inspection and sampling procedures at Casablanca Port (e.g. based on FAO Inspectors Manual (Pesticide Inspection and Control)
    - Update and present existing baseline study (on current regulations, procedures and capacities for monitoring, controlling, inspecting and sampling of pesticides at entry points) at national workshop, and facilitate stakeholder agreement on recommendations and strategy for strengthening inspection capacity.
    - On acceptance of the recommendations by the Ministries of Finance and Agriculture, the International consultant will develop the training programme, including standard inspection methodologies and checklists; and the equipment required for sampling, sample storage and personal protection
    - Train imports inspectors on identification of pesticide products, inspection and sampling methods.
- Provide guidance, support and monitoring of the implementation of the proposed sampling strategy and procedures
- On information exchange, the consultant will assess both government and private sector inspection and enforcement capacity in order to propose effective information exchange mechanisms:
    - Supervise the national pesticide management consultant to produce report on capacity for inspection (by government and private sector) of pesticides throughout the life-cycle of pesticides from entry point through formulation, storage,

distribution, retail and use. The report should identify critical gaps in information exchange for the inspection of pesticides and recommendations for capacity building measures to address them.

- Provide an overview of mechanisms used in different regions (including Europe or others) for information exchange between regulatory bodies responsible for inspection, monitoring, or other enforcement activities and case studies of the most relevant for Morocco

Requirements:

1. Post-graduate degree in agriculture, environmental sciences, chemistry or related fields;
2. At least 5 years experience in pesticide management and/or environmental regulation and risk-based approaches
3. At least 5 years experience in the inspection for quality control of chemical, pharmaceutical or pesticide products
4. Knowledge of pesticide industry in Morocco or in similar country
5. Knowledge of international best practice in regulations for inspection of chemical, pharmaceutical or pesticide products
6. Knowledge of international best practice in undertaking inspections of chemical, pharmaceutical or pesticide products
7. Excellent report writing skills in English
8. Working knowledge of French or Arabic would be an advantage.

Pesticide Q/C laboratory expert

Under the supervision of the PC and FAO Budget Holder, with technical guidance from FAO LTO, and in liaison with technical departments and other national stakeholders, the consultant will;

- Undertake in-service assessment and evaluate the needs and requirements for laboratory analysis at Casablanca laboratory;
  - Run and evaluate the functionality and accuracy of existing chromatographs and other analytical instruments;
  - Run and evaluate the current storage facilities for the analytical standards, solvents and other consumables;
  - Review the existing instruments for the preparation of samples for pesticide residues and quality control of pesticide formulations;
  - Review and assess the current professional skills to ensure proper sampling, storage, preparation, analysis, calculation and interpretations of the results related to quality control of pesticide formulations;
  - Develop a list of materials and equipment, solvents and analytical standards required to ensure the operational activities of the laboratory under its current mandate, along with their order of priority, possible sources and technical specifications;
- Propose a technical profile to be recruited or training curricula required for existing technical staff to ensure the professional activities for quality control of pesticide formulations;
- Assist the laboratory in the implementation of the requirements, including procurement, training, and preparation for external certification

Requirements:

1. Advanced degree in organic chemistry

2. 10 years experience in laboratories and/or quality control of pesticides
3. 5years experience related to laboratory certification and management
4. Ability to work in French and English.

International Consultant Pest and Pesticide Management: Typology development and data collection

Under the direct supervision of the PC, FAO Budget Holder, and AFEPEL, the consultant(s) will be responsible for the following activities:

- Desk-based literature and document review to produce typology study into the Sous Massa farming systems, describing types of agro-ecosystem, statistics on different producers by crop, orientation (export-domestic), size and type of farmers
- Develop field and sampling tools to refine the desk study and identify and recruit a statistically representative network of farmers, including both professional and small-scale women farmers
- Review existing data collection tools for surveys of farming practices and pesticide use, and develop appropriate tool to collect baseline and final year data on farmer pest and pesticide management practices and particularly use of alternative methods
- Identification and ranking of all alternative non-chemical practices identified after data collection, and proposal for demonstrating these in a new demonstration site
- Assistance in planning and establishing a demonstration site for non-chemical alternatives identified

Requirements:

1. Advanced degree in agriculture, statistics, or related subject
2. 10 years experience in survey design and implementation in agricultural settings
3. 10 years experience related to field demonstration of IPM and non-chemical alternative pest control methods
4. Excellent communication skills in French and English.

National Communications Consultant (containers and alternatives) - NGO

Under the direct supervision of the PC and FAO Budget Holder, the consultant will be responsible for the following activities:

- Consult with project partners and consultants responsible for delivery of outcomes 2 and 4 to understand the project expected results on container management and adoption of alternatives; and the actions and roles of each partner in delivering the outcomes
- Prepare an outline communications plan to achieve the above results, identifying specific communication outcomes (behaviour changes), relevant audiences, key messages and channels, which supports the activities of the implementing partners
- Design and conduct a statistically valid KAP survey of the Sous Massa area to gather baseline, mid-term and final data
- Produce and assist in the dissemination of any communications tools as identified in the plan (publications, media interviews, training, etc)
- Contribute to the M&E plan as needed (monitor media coverage, produce data for indicators on target audiences etc)

Requirements:

1. Advanced degree in communications, development, psychology, media studies or other relevant subject;
2. 10 years experience in communications for development
3. 2-3 years experience related to agricultural or pesticide awareness raising
4. Excellent communication skills in Arabic, French and English.

National Consultant – Contaminated sites

Under the direct supervision of the PC and International Consultant on contaminated sites, the national consultant will be responsible for leading the national team in completing the rapid environmental assessment (REA) field work:

- develop detailed site specific sampling plans including provisional conceptual site models;
- carry out the intrusive investigations of the prioritized sites including implementation of the sampling plans.
- Contribute to the final conceptual site models and site specific Environmental Management Plans (EMPs);

Discuss the site specific proposals with the international consultant and facilitate selection and adoption by the whole national team;

Establish and agree work plans, budgets, and logistical arrangements including contracts with members of the national teams where needed, for the implementation of the site remediation plans

Monitor the results of the site remediation including coordinating laboratory analyses and presentation to national workshops

Requirements:

1. Advanced degree in chemistry, geology, environmental science or related subject;
2. Professional qualifications related to waste management.
3. 5 years experience in waste management with a focus on contaminated sites;
4. Excellent communication skills in French and English.

National Consultant – Container Management

Under the direct supervision of the Project coordinator and international consultant (Empty Pesticide Container Management), the National Expert (Empty Pesticide Container Management) will support the development of the pilot scheme business plan and establishment of facility. In particular, he/she will:

- Provide desk and field research to update the PPG study into pesticide containers in Sous Massa including estimating the current level of practice of “triple rinsing”; national capacity and options for collection and recycling
- Support the stakeholder workshop to present the findings of the assessment and propose options, and develop recommendations for the national container management scheme.
- Maintain contacts with all relevant private sector and government and non-government sectors e.g. at annual stakeholder meetings to review and discuss progress and results in operation of pilot facility to propose and define a sustainable long term model for operation

Requirements

1. Post-graduate degree in agriculture, environmental sciences, chemistry or related fields;
2. At least 5 years experience in container management;

3. Knowledge of the pesticide industry and regulatory environment in Morocco.
4. Excellent report writing skills in English plus written and spoken communications in either French or Arabic.

National Consultant – Pesticide Management

Under the direct supervision of the PC and international consultant, the National Pesticide Expert will undertake an assessment of capacity and activity for inspection of pesticides throughout the life-cycle of pesticides in Morocco from entry point through formulation, storage, distribution, retail and use. The review should include both government and private sector inspectors. In particular, he/she will:

- Evaluate inspection actors and activities from government and private sector inspection and pesticide management regional MoA services responsible for inspection of pesticides, customs inspectors, quarantine officers, other government inspection staff, and private sector inspectors involved in pesticides inspection and quality control.
- Assess information produced, available and shared by each inspection activity including resources – funds, infrastructure and equipment, Guidelines and directives, and current regulations governing inspection at each point of the life-cycle, current manuals, guidelines and checklists for inspection
- Prepare a report for review by the International Consultant (Pesticide Inspection) with recommendation for the network of inspectors to exchange information (who, when what based on the patterns of use of pesticides in the country)
- Perform training with the international consultant for imports inspectors on identification of pesticide products, inspection and sampling methods.

Requirements:

1. Post-graduate degree in agriculture, environmental sciences, chemistry or related fields;
2. At least 5 years experience in pesticide management;
3. Knowledge of the pesticide industry and regulatory environment in Lebanon.
4. Excellent report writing skills in English plus written and spoken communications in either French or Arabic.

National Consultant – Typology and data collection development

Under the direct supervision of the PC and International Consultant, the consultant(s) will be responsible for the following activities:

- Support the development of the typology study into the Sous Massa farming systems, testing of field and sampling tools,
- recruit members of the farmer network in line with the typology study requirements, including both professional and small-scale women farmers
- Contribute to the development and test data collection tools
- Organise and coordinate field surveys of farmer network according to the strategy in the typology study (minimum field work in Year 1 for baseline and final year for monitoring changes)
- Supporting the international consultant in establishing demonstrations of alternative methods currently used by network members

- Support the international consultant in establishing a new demonstration site for one or more of the identified alternatives, including coordination and contractual arrangements with research or other partners

Requirements:

1. Advanced degree in agriculture, statistics, or related subject
2. 5 years experience in survey design and implementation in agricultural settings
3. Excellent communication skills in French and English.

APPENDIX 5: PROCUREMENT PLAN

(To be completed during the inception phase of the project)

DATE:

PROJECT TITLE AND SYMBOL:

Ref. No.	Requirement	Unit	Estimated Quantities	Estimated Cost	Unit Price	Solicitation Method	Procurement Method	Buyer	Targeted Tender Launch Date	Targeted Contract Award Date	Targeted Delivery Date	Final Destination and Delivery Terms	Status	Other Constraints/Considerations