



FAO/GLOBAL ENVIRONMENT FACILITY
PROJECT DOCUMENT



PROJECT TITLE: Lifecycle Management of Pesticides and Disposal of POPs Pesticides in Central Asian countries and Turkey	
PROJECT SYMBOL: GCP/SEC/011/GFF	
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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 8,136,986 <u>Co-financing:</u> FAO (FTPP, TCP, Locust, Regular, 040) USD 22,000,000 Government Azerbaijan USD 5,000,000 Government Kazakhstan USD 3,000,000 Government Kyrgyz Republic USD 1,000,000 Government Tajikistan USD 1,000,000 Government Turkey USD 6,300,000 Subtotal Co-financing: USD 38,300,000 Total Budget: USD 46,436,986	

EXECUTIVE SUMMARY

It is estimated that around half of the world's quantities of obsolete pesticides can be found in the former Soviet Union and a large portion of those are in Central Asia which was an important centre for agriculture and particularly cotton production during Soviet times, with mandatory pesticide application and over-supply. Many of the obsolete pesticides have been disposed of in inappropriate burial sites or dumped in industrial landfill sites. In some instances purpose built concrete bunkers were constructed ("polygons"), but these are not considered an environmentally sound disposal option, and now show signs of leakage with contamination of the surrounding environment with associated risk to public health. Sites contaminated by both organized and illegal burials result in mass exposure incidents, including a recent example at the Suzak A site in the Kyrgyz Republic in 2012 where 35 people were hospitalized after consuming contaminated meat from cows which drank water from the site, and 130 sheep died, also poisoned by contaminated water. The quantities of inventoried obsolete pesticide stocks (not including burial sites) are enormous, ranging from over 300 tonnes in the Kyrgyz Republic to over 10,000 tonnes in Azerbaijan.

Weaknesses in the capacity of responsible institutions and actors to effectively manage pesticides and associated wastes throughout their lifecycle, and gaps in the legal and regulatory framework in the region have led to the accumulation of obsolete pesticides stockpiles and contamination of sites. Common and major issues exist in pesticide registration and risk assessment, where regulatory and technical requirements such as the FAO specifications and equivalence are hardly known, and in pesticide labelling and packaging, resulting in extremely poor risk communication to users. Pesticide use surveillance and monitoring is largely absent, and in the cases where issues are detected, there are no mechanisms for regulatory follow up, e.g. through de-registration or re-registration mechanisms. At the same time, farmers' knowledge relating to cropping systems (e.g. suitable adapted cultivars for all crops and systems, machinery for sowing and harvesting, balanced fertilization, appropriate irrigation systems) is limited and the use of available information on alternative crop production methods is underutilized.

The project objective is to reduce POPs releases from obsolete pesticide stockpiles and contaminated sites and strengthen the capacity for the sound management of pesticides. Specific objectives of each component are to: safely destroy up to 900 tonnes of POPs and obsolete pesticides and remediate a pesticide-contaminated site (Component 1); strengthen the institutional and regulatory framework for managing pesticides through their life cycle (Component 2); and increase the successful uptake of alternatives to chemical pesticides on key crops (Component 3). These three components are supported by a horizontal project management, Monitoring and Evaluation (M&E) and communication component (Component 4) which will inform project execution decisions and create the necessary conditions for beneficiary knowledge and participation in project activities.

The project will work with a number of NGO and private sector partners who will contribute to the execution of specific components. The partners will work in component task teams to enhance engagement of key stakeholders, to access a variety of skills needed to implement the components, and to capitalize on resources, 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 49,436,986 USD million, of which 8,136,986 USD million is GEF financing.

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GLOSSARY OF ACRONYMS

AGP	Plant Production and Protection Division of FAO
AWP/B	Annual Work Plan and Budget
AZE	Azerbaijan
BH	Budget Holder
CEO	Chief Executing Officer (GEF)
CPF	Country Program Framework
CTA	Chief Technical Advisor
EMTK	Environmental Management Toolkit (obsolete pesticides management)
EP	Executing Partner
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GCCH	Green Cross Switzerland
GEBS	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
IHPA	International HCH and Pesticides Association
IPPC	International Plant Protection Convention
IPM	Integrated Pest Management
KAP	Knowledge, Attitude and Practices survey
KAZ	Kazakhstan
KYR	Kyrgyz Republic
LTO	Lead Technical Officer
LTU	Lead Technical Unit
M&E	Monitoring and Evaluation
MFAL	The Ministry of Food Agriculture and Livestock
MKI	Milieukontakt International
MRL	Maximum Residue Limit
NGO	Non-Governmental Organization
NIP	National Implementation Plan (Stockholm Convention)
NPC	National Project Coordinator
CTL	National Component Team Leader (number of component)
OP	Obsolete pesticides
PAN UK	Pesticide Action Network UK
PIF	Project Identification Form (GEF)
PIR	Project Implementation Review
NIPs	National Implementation Plans
NPT	National Project Team
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
SEC	Sub-regional Office of FAO for Central Asia
STAP	Scientific and Technical Advisory Panel
TAJ	Tajikistan
TCI	Investment Centre Division (FAO)
TCP	Technical Cooperation Programme
TOR	Terms of Reference
TUR	Turkey
USD	United States Dollar

1 SECTION 1: RELEVANCE

1.1 GENERAL CONTEXT

Obsolete pesticides (OPs) pose a significant environmental and health concern in the Central Asia region, stemming from overuse and mismanagement of pesticides during the Soviet era. Many of the chemicals of concern are now deregistered locally, banned internationally because of their massive impacts on public health, or unusable because of long-term storage leading to degradation. It is estimated that around half of the world's quantities of obsolete pesticides can be found in the former Soviet Union and a large portion of those in Central Asia which was an important centre for agriculture and particularly cotton production. In addition, some industrial sites in the region rank among the world's most polluted places¹, exposing the populations to diverse sources of pollution from hazardous chemicals and heavy metals.

During the Soviet period, pesticide application was mandatory on most crops, without needs assessment or practical management of pesticides to ensure pesticide residues on the final food crop, and pesticides were provided by Governments through centralized purchasing programmes, leading to oversupply and accumulation of unused stocks year on year. After independence from the former Soviet Union, these countries were left with large quantities of obsolete pesticides including POPs and associated wastes (contaminated soils, equipment and materials and empty containers). Many of the obsolete pesticides have been disposed of in inappropriate burial sites or dumped in industrial landfill sites. In some instances purpose built concrete bunkers were constructed ("polygons"), but these are not considered an environmentally sound disposal option, and now show signs of leakage with contamination of the surrounding environment with associated risk to public health. Many of these sites were privatized upon independence after the collapse of the Soviet Union, and the government no longer own the storage locations. This leads to serious problems both in inventorying stocks, but also in developing central stores where safeguarded stocks can be temporarily stored awaiting final destruction.

In the past 20 years of political transition since the breakup of the Soviet Union, the distinct political and economic systems developed in each Central Asian country has impeded regional cooperation to protect natural resources, specifically surface and ground water, and to address common problems such as the disposal of chemical wastes. There are no disposal facilities meeting international standards, and the vast quantities of wastes involved mean that international transportation and disposal prices are prohibitively high. As well as supporting immediate disposal in an environmentally sound manner, the countries also require assistance in developing regional disposal capacity.

Most populations of Central Asia are rural and largely dependent on agriculture as an important source of income². The Stockholm Convention Global Monitoring Plan research found high levels of DDT residues in breast milk in Tajikistan (the second highest in the world and 3 times acceptable levels³).

Legal, policy and institutional context

All project countries have ratified the Stockholm Convention and have submitted their National Implementation Plans (NIPs), which all prioritized obsolete stocks and pesticide management.

¹ The Uranium mining waste site Mailuu – Suu in Kyrgyz Republic and the Azeri industrial city of Sumayit that is polluted by chemical production appeared in 2006 on the World Worst Toxic Trends report of Blacksmith Institute and Green Cross. Source: <http://www.worstpolluted.org/docs/TopTenThreats2013.pdf>

² <https://www.cia.gov/library/publications/the-world-factbook/> The percentage of agriculture in countries their GDP is respectively AZ 6,2 %, KZ 5,2%, KG 20%, TJ 21% and TK 8 %. The percentage of the labour force in the countries active in agriculture is respectively AZ 38,3%, KZ 25,*, KG 48%, TJ 46% and TK 25%. Most important agricultural products from the region are: cotton, grain, potatoes, fruit, vegetables and livestock.

³ UNEP (2013) Human Exposure to POPs Across the Globe: POPs Levels and Human Health Implications - Results of the WHO/UNEP Human Milk Survey (UNEP/POPS/COP.6/INF/33)

Azerbaijan, Tajikistan and Turkey are not yet Parties of the Rotterdam Convention, while Tajikistan has not yet ratified the Basel Convention. National legislation and policy for management of obsolete and POPs pesticides and use during the lifecycle has been very much influenced by the common legacy of Soviet legislation in the Central Asian project countries, which all have relatively new constitutions developed after the fall of the Soviet Union in 1991.

Azerbaijan ratified the Stockholm Convention in 2004 and the Basel Convention in 2001, but is not yet party to the Rotterdam Convention. The country made a public commitment to becoming a regional leader in cleaning up POPs and to environmentally sound waste management at the 11th HCH and Pesticides Forum in Azerbaijan in 2011. However, definitions of hazardous waste, especially of pesticides waste in the national legislation are based on the Regulations and Instructions adopted according to the Rules “on Wastes”, “on Phytosanitary control”. At the moment there is no a legal act that regulates waste incineration. Development of legislation following the requirements of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste is missing.

The 2006 law “*No 102-III on Phytosanitary Control*” is not specific to pesticide management - for example, it does not explicitly address international chemicals and pesticide obligations, or reduction of risks or dependence on pesticides, or comply with Code of Conduct definitions or provisions on licensing of manufacturing, storage and sale of pesticides. Provisions on transportation, distribution, packaging, labelling and storage provisions are too general to ensure proper and safe management. Its Article 27 requires record-keeping and reports of pesticides, biological preparations and agrochemical substances but the detailed legislation was not found for evaluation. According to various international projects, regular phytosanitary monitoring is implemented in the territory of Azerbaijan. However, in light of the absence of licensing requirements for pesticides activities, controls and inspections conducted by the State Phytosanitary Control Service appear to be insufficient for ensuring chemical safety of food products.

The main institutions involved in pesticides management at national level are the Ministry of Agriculture and its State Phytosanitary Control Service, Ministries of Ecology and Natural Resources, Emergency Situations, Ministry of Economy and Industry. There is a lack of expertise with the National Authority, State Service of Phytosanitary Control and related services, for pesticide risk assessment throughout the pesticide life cycle (e.g. often poor quality of pesticides, labelling, adequate PPE, safe use and application, alternatives to HHPs, container management and safe disposal). Pest and pesticide monitoring and surveillance systems are lacking for control of imported pesticides, health and environmental incidents, and pesticide residue monitoring in food to protect consumer health. Pesticide importers and traders do not have product stewardship programmes i.e. offering less hazardous formulations, taking back used pesticide containers, or training pesticide users in handling practices or triple rinsing of empty containers.

Kazakhstan ratified the Stockholm Convention in 2007, the Basel Convention from 2003 and the Rotterdam Convention in 2008. There is no specific primary legal act covering the entire lifecycle of pesticides, but the Law on Safety of Chemicals No. 302-Z of 21 July 2007 does cover many basic elements of pesticide management in line with the Code of Conduct. Article 7 indicates a wide variety of governmental bodies responsible for safety of chemicals, but contains gaps against the Code of Conduct including potential licensing loopholes for companies packing and repacking chemicals; gaps on advertising of pesticides in the Technical Regulation “Requirements for the safety of pesticides (insecticides)” or other legal acts; lack of training requirements for professional users, distributors and advisors of pesticides; and lack of a centralized database providing comprehensive information in relation to overall management of chemicals and toxic wastes.

The main institutions involved in pesticides management at national level are the Ministry of Environment and Water Resources, the Ministry of Agriculture, the Ministry of Emergency Situations, the Ministry of Health and the Ministry of Finance. Ministerial Decree No. 432 established a Republican Commission under the Ministry of Agriculture of the Republic of Kazakhstan for testing and registration of chemical, biological control agents, pheromones and growth regulators crops and forest plantations, which takes decisions to ban the use and registration of pesticides. However the diverse levels and types of acts (Decrees, Orders, Ministerial Notes, etc) dealing with pesticides have

established a variety of bodies, making it difficult to identify competent authority for particular aspects of pesticides management and bringing difficulties in inspection and enforcement of the laws.

These issues in coordination between different competent authorities also affect hazardous waste management, with lack of information and enforcement, and limited resources for control and disposal of abandoned hazardous waste. Restrictions on transboundary transport of waste through the region to disposal facilities providing environmentally sound management in line with the Basel Convention in Western European currently prohibit export and movements of hazardous wastes, so stocks cannot be exported for destruction. Kazakhstan is currently performing a Feasibility Study in cooperation with the World Bank on the construction of a high temperature incinerator, but this is not anticipated to be available within the four years of this project.

Kyrgyz Republic ratified the Stockholm Convention in 2006, the Basel Convention by 1996, and the Rotterdam Convention in 2000. Its 2010 Constitution recognizes all adopted laws, international agreements and treaties and generally recognized principles and norms of international law, but there is specific primary legal act to regulate the entire lifecycle of pesticides. Legal provisions relating to pesticides can be found in a variety of legal instruments. Law N° 12 "*On application of chemicals and plant protection*" (1999) does not mention international obligations or reduction of risk or dependence on pesticides. Detailed Technical Rules (N 361, from 2011) exist on packaging, labelling, safe use, transportation and storage, but licensing provisions are weaker and there is no comprehensive records database.

The main institutions involved in pesticides management at national level are the State Agency on Environment Protection and Forestry, Ministry of Agriculture and Land Reclamation, Ministry of Emergency Situations, Ministry of Health, Ministry of Economy, Ministry of Transport and Communications, Ministry of Finance. While a Coordination Commission for chemical management has been established it requires strengthening in order to improve implementation and enforcement of the legal provisions on pesticides management as well as control functions. Gaps still exist in relation to international obligations under the Stockholm, Basel and Rotterdam Conventions, including lack of national statistics on POPs and hazardous waste, controls over movement of hazardous waste, and legislation or technical guidelines on waste management.

Like Azerbaijan, there is a lack of pesticide monitoring and surveillance systems (e.g. imported pesticides, incidents, food residues) and of awareness programmes on pesticide application technology. The pesticide registration system and particularly post-registration, de-registration and re-registration procedures need review, as well as general regulatory decision-making processes.

Tajikistan ratified the Stockholm Convention in 2007 and the Rotterdam Convention in 1998 but is currently preparing to accede to the Basel Convention, with a report on ratification approved by all Ministries and submitted to Government in May 2014. Its 1994 Constitution (amended in 1999 and 2003) recognizes international laws. The 2003 Law "*On the production and safe handling of pesticides and agrochemicals 2003, N° 1,*" does not refer to the need of reduction of risks due to the pesticide use or the importance of reducing overall dependency on pesticides, as recommended by the Code of Conduct, or have aligned definitions. The law provides for a State Catalogue of permitted pesticides and agrochemicals, but this has not been updated since 2004, partly due to the lack of detailed secondary legislation on the procedure of registration of pesticides and the lack of clear nomination of a responsible ministry or agency for implementation of the 2003 law. The primary law contains other gaps in relation to import, advertising of illegal pesticides, and record keeping. Furthermore, the 2004 Law № 37 "*On licensing of certain activities*" states that licensing is not required in relation to pesticides management activities. A Law on Plant Protection was adopted in 2012 in support of Tajikistan's World Trade Organization membership, but due to time factors it was not fully aligned with the 2003 law, which latter was therefore not annulled and replaced.

The main institutions involved in pesticides waste management at national level are the Committee of the Environmental Protection Under the Government of the Republic of Tajikistan, Ministry of Agriculture, Ministry of Health, Ministry of Emergencies, Ministry of Justice, Customs Committee, Ministry of Finance, Ministry of Foreign Affairs, Ministry of Economy & Trade, but no primary

competent authority is identified in legislation. A 2003 Commission on Chemical Safety for registration, testing and control of chemical substances and biological products is not fully in place, with an apparent discrepancy in definition of responsibilities between this body and the Ministry of Agriculture that urgently needs to be resolved. This constrains Tajikistan's ability to comply with its international obligations, for example legal acts clearly prohibiting export of hazardous wastes and regulations on liquid wastes and landfills, of implementation of measures to gather information and reduce the generation of hazardous waste, and of specific law on the management of POPs. Further gaps in pesticide management (also present in other project countries) include lack of programmes on spraying equipment and application techniques, resistance monitoring and control, pest- and pesticide monitoring and surveillance, pesticide imports and sales control, container management, and awareness of hazardous formulations. The state laboratory not operative anymore, requiring competent staff and up to date equipment.

Turkey ratified the Stockholm Convention in 2009 the Basel Convention in 1994 and signed the Rotterdam Convention in 1998 – however it has not yet ratified the latter. Turkey has largely harmonized legislation on plant health, plant protection, crop management, and soil and water management with the European Union (EU) as part of its accession process. Many new codes and regulations have been enacted to that effect, most markedly in 2010, 2011 and 2012.

The 2010 primary Law no. 5996 on Veterinary Services, Plant Health, Food and Feed Law, enacted as part of the EU accession process, is aligned with EU legislation on pesticides and sustainable use. The main focuses are on plant health and crop management, and discussions are underway for a draft review of secondary legislation on IPM practices. The legislation provides for effective regulation of agricultural production, environmental protection and trade measures and incentives, and monitoring and reporting measures which would be suitable for IPM practices.

The Ministry of Food Agriculture and Livestock (MFAL) and its General Directorate of Food and Control (GDFC) have the main role on pesticide life cycle management in Turkey, and is fully authorized under several laws to regulate and make decisions on methods to be used in pest management, pesticide use, and general plant health. The Ministry of Environment and Urban Planning (MEUP) deals with POPs and chemical emissions and wastes to air, water and lands, and is responsible for the 2005 Regulation on Control of Hazardous Wastes which covers storage, collection, transfer, import, export, disposal and control of hazardous wastes. The Ministry of Health deals with short and long-term health impacts of pesticides on the public health, and registers and controls public health pesticides.

1.2 RATIONALE

a) Issues to be addressed

Weaknesses in the capacity of responsible institutions and actors to effectively manage pesticides and associated wastes throughout their lifecycle, and gaps in the legal and regulatory framework in the region have led to the accumulation of obsolete pesticides stockpiles and contamination of sites. Specific issues to be addressed by the GEF funded project are outlined below.

Obsolete pesticide stockpiles: The inappropriate disposal and storage of many of the stocks pose high risks to public health and the environment, compounded by poor risk perception by local communities which increases exposures, as demonstrated by a recent incident in the Kyrgyz Republic. Locals removed the fencing around the burial site Suzak A in Jalal Abad province, and obsolete pesticides were excavated by illegal "waste miners" for sale in local markets as "*Dust*" (the local name for DDT), spilling pesticides in the process, and further contaminating the soil and standing water on the site. Cows and sheep that accessed the site and drank standing water were poisoned, resulting in a mass poisoning incident in 2012 involving 98 people (35 hospitalised) who consumed the meat of poisoned cows; and another incident in 2013 when 130 sheep died after drinking from the same pits.

The extent of the obsolete stockpiles has been estimated through various projects which have conducted inventories over the last 5-10 years (see Table) but this is a partial estimate, and does not include any data on burial sites which are an important source of uncontrolled releases. Furthermore,

PSMS data of the national inventories in Azerbaijan, South Kazakhstan, Kyrgyz Republic and Tajikistan include too many unknown compounds in mixed stockpiles to enable detailed planning for repackaging and export to a destruction facility. Therefore sampling of the unknown and mixed compounds in the stockpiles, laboratory analyses and completion of the reported inventory data in PSMS will be necessary, using FAO guidelines for sampling of unknown compounds in mixed stockpiles developed during the project GCP/RER/035/TUR funded by FAO Turkey Partnership Project.

Table 1: Obsolete stockpiles in the five project countries, based on PSMS data

Country	Pesticides (tonnes)	Description and previous initiatives
Azerbaijan	10.354	Stocks scattered in 32 sites in 59 zones (rayons), including the burial site of Janji which contains an estimated 10,000 tonnes of wastes buried in concrete bunkers. In 2007, the Government of Azerbaijan allocated \$4m to inventory and repack obsolete pesticides from emergency sites posing a high risk to public health and the environment, and continued work into 2010 with World Bank assistance, repacking around 2000 litres of liquid pesticides which are still stored at the central store at Janji, which was also secured to prevent access by animals and rural populations. In 2011/12 the FAO EECCA project repacked 70 tonnes of powder wastes, which are also stored at the same location.
Kazakhstan	No national inventory exists 0.5 in South Kazakhstan Oblast only	Stored in 18 polygons with an additional 1010 stores of which 78 are considered emergency sites. Estimates of the total quantities of wastes reach almost 57,000 tonnes, and a partial inventory by the government in June 2011, estimated 16,676 tonnes. A GEF-financed project led by the World Bank will support the disposal of part of these materials. The FAO Turkey project inventory in South Kazakhstan reported a serious contaminated soil problem and only 0,5 tonnes of obsolete stocks. A previous project in 2003 with UNDP covering about 20% of the national territory had identified about 1,500 tonnes and 14 burial sites, and included environmental sampling near these. Finally, an April 2014 UNDP project includes a component on NIP update which may produce some additional data especially on new POPs.
Kyrgyz Republic	333	A total of 3 burial sites and 204 stores across 40 zones. The National Coordination Committee for the Stockholm Convention on POPs initiated the inventory at the burial site of Osh in 2007-8 with financial assistance from the Government of The Netherlands, and continued in 2008-2009 in 35 burial sites in Djalalabad with World Bank assistance. To-date about 333 tonnes have been inventoried. The co-financing FAO EC Partnership and UNEP DDT projects are currently in discussions with the government to identify a location in time to allow those projects to build or upgrade a central storage site.
Tajikistan	1.239	Obsolete pesticides have been identified in 68 zones (Oblasts). 68 sites and 2 burial sites have been identified. Obsolete stocks were inventoried during the NIP preparation under the Stockholm Convention and with World Bank assistance in 2009, which were used to estimate the 15,160 tonnes in the PIF – however this included buried pesticides, and further inventories by the FAO Turkey Partnership Programme and PPG grant validation show a total of 1.239 tonnes.
Turkey	2.235	About 11 tonnes of DDT were exported to Germany for incineration in 2007/2008. Most of the 2,235 tonnes reported in PSMS are currently repacked and stored in the Derince District of Kocaeli province under appropriate storage conditions awaiting safe disposal, planned under a GEF financed UNIDO/UNDP project.
Total	14.161	

Weak institutional and technical capacity for the management of pesticide waste including empty containers: A number of political, institutional and legal uncertainties and barriers exist for sustainable hazardous waste management, including the issue of restrictions on transboundary movements of wastes through the region, and the lack of appropriate storage locations for new and obsolete pesticides in Kyrgyz Republic and other countries. The participating countries largely lack the institutional stability needed to keep together the minimum pool of national experts needed to develop frameworks and implement work with obsolete pesticides. Since awareness and commitment

to solving these problems among both donors and decision makers is relatively recent, there is still work to be done to build political priority to solving these problems, and this has been an important driver for project activities focusing on surveillance and monitoring of the risks of obsolete pesticides to communities and vulnerable groups.

Empty containers pose a significant ongoing risk to rural communities and farmers. Recycling initiatives for empty containers are non-existent in the region except for Turkey where in 2012-2014, a pilot national project on sustainable management of pesticide containers was implemented in Antalya. However, lack of support from generic pesticide producers, informal pesticide suppliers and informal plastic recycling practices have reduced its success.

Azerbaijan has a unique advantage over almost all other Caucasus-Central Asian nations assessed as a part of the PPG container management study. The phytosanitary Control Service under the Ministry of Agriculture, the Ministry of Ecology and the Ministry of Emergencies work closely together. In the country triple rinsing of containers is not a practise. Baku based NGOs have carried out some training in this field. Azerbaijan is focussing on the CIS market for export. This does not (yet) serve as a motivator for improved container management. Distributors (all imports) in Azerbaijan will not likely resist a CMS, provided that it is implemented fairly. There are a number of plastic recyclers in Azerbaijan and a home for triple-rinse containers is likely.

Turkey is the only nation in the 2014 Container Assessments that currently has any type of collection effort. Turkey has a small, mostly unsuccessful pilot programme in the Antalya Region. Open, unsupervised bins were used for collection. The bins attract all sorts of refuse, as well as allow unrinsed or inadequately rinsed containers to be discarded. By making one significant change, this effort will be a success. That change would only allow returns when someone is there to inspect the rinsing effort and educate farmers who did not properly rinse. In Turkey, technically, properly rinsed pesticide containers are still a hazardous waste. Authorities are aware of the need to change the policy, but as yet this has not occurred. Turkey raises many crops for export into the European markets and has a full-time staff within the Ministry of Agriculture developing cooperatives, some of whom are aided (subsidized by the state) in gaining GlobalGAP producer status. The motivation for implementing a container management scheme is the highest in the greater region. There are a number of plastic recyclers in Turkey and a home for triple-rinse containers is assured if the Ministry of Environment can remove all restrictions

Weak institutional and technical capacities for pesticide life cycle management: Serious gaps in the institutional and technical capacities for pesticide life cycle management in the region have been identified through baseline setting surveys and modelling in the FAO EC project. Common and major issues exist in pesticide registration and risk assessment, where regulatory and technical requirements such as the FAO guidelines on pesticide quality specifications and equivalence are hardly known, and in pesticide labelling and packaging, resulting in extremely poor risk communication to users. Pesticide use surveillance and monitoring is entirely absent, and in the cases where issues are detected, there are no mechanisms for regulatory follow up, e.g. through de-registration or re-registration requirements. The common cause of all these is the lack of evidence available for consideration when fundamental decisions are made on registering products and providing resources (both financial and political) available to enable pesticide regulatory functions. This same lack of evidence also hinders effective communication and awareness raising efforts with end users and contributes to non-compliance through ignorance or lack of prioritization.

Limited knowledge and/or availability of alternatives to chemical pesticides: Knowledge and skills of farmers relating to cropping systems (e.g. suitable adapted cultivars for all crops and systems, balanced fertilization) is limited and the use of available information on crop production guidelines and -protection (i.e. alternatives to insecticides in different crops) is underutilized or not promoted. Information is often of poor quality and not available in local languages. Weaknesses characterising arable cropping systems in most countries are mainly related to high frequency of pesticide applications, doses of application (i.e. use of maximum recommended doses for pesticides or over dose), pesticide eco-toxicity (i.e. use of products known to have adverse effects on health and on the environment) and lack of appropriate pest monitoring that leads to unnecessary interventions

increasing the impact on the environment and farmers' health. While IPM and biological control are prioritized in the Strategic Plan of Turkey for 2013-2017, this is not explicitly linked to pesticide registration and management. Kyrgyz Republic also has an organic agriculture policy.

b) Baseline and co-financing initiatives

A series of projects have been implemented in the region in the last five years addressing various aspects of obsolete pesticide stockpiles and pesticide management:

Obsolete pesticides initiatives

World Bank: Obsolete Pesticides Technical Study in the Kyrgyz Republic, the Republic of Tajikistan, and the Republic of Uzbekistan, 2009-2010 (100020592). The project served as a preparatory study for the formulation of a large scale remediation project to dispose of the stocks collected in stores and burial sites. Stakeholders from different relevant ministries in project countries were trained in the inventory of obsolete stocks and burial sites. Conceptual site models for pollution from burial sites and risk analyses were elaborated and remediation measures designed for short mid and long term interventions to reduce those risks. Unfortunately until now national governments and partners from international donor organisations have not been able to agree on follow-up implementation.

World Bank: Technical Study and Inventory training Azerbaijan; and Caspian POPs workshop, 2009 (100023638, 100023633) In line with the above mentioned Technical Study in Central Asia stakeholders from Azerbaijan were trained in the inventory of obsolete stocks in stores. On the Caspian POPs workshop results from the Azerbaijan Technical study were presented together with similar pesticide initiatives from the Caspian region. All participants were trained on technical, legal and awareness raising aspects of sound obsolete and POPs pesticide management.

FAO Turkey Partnership Programme: Initiative for Pesticides and Pest Management in Central Asia and Turkey, 2011-2013, (GCP/RER/035/TUR, referred to as 'FAO Turkey Partnership' In this document): started national obsolete pesticides inventories in Azerbaijan, Kyrgyz Republic, Tajikistan, Southern Kazakhstan and Turkey. Representatives from project countries were trained in inventory of obsolete stocks and the use of the web based FAO Pesticide Stock Management System (PSMS). All data from the inventories was entered into the PSMS system.

FAO EC Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union, 2012-2016 (GCP/RER/040/EC, referred to as 'FAO EC project' in this document) – disposal of stocks in Armenia, Belarus, Georgia, Kyrgyz Republic, Moldova and Ukraine. A tender for repackaging and disposal of 900 tonnes is expected for 2015.

GEF Small Grants: Lowering the negative impacts from the obsolete pesticides dumpsite Suzak A. on the local population and the environment through remediation and awareness raising. Awareness raising activities and risk reduction measures to contain the Suzak A burial site have been implemented in the frame of a 2013/14 GEF Small Grants Programme for Kyrgyz Republic with co-funding from Green Cross Switzerland, OSCE and the Milieucontact Private Donations Fund.

UNEP: Demonstrating and Scaling Up Sustainable Alternatives to DDT for the Control of Vector Borne Diseases in Southern Caucasus and Central Asia, 2011-2015 (GEF ID 3614) – repackaging and safeguarding of 120 tonnes of DDT associated waste in an intermediate collection centre in 2014/2015 in Kyrgyz Republic; and 60 tonnes in Tajikistan.

GEF/UNIDO Enabling Activities to Review and Update of National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in the Republic of Tajikistan (2013-2014) - review and update the National Implementation Plan (NIP), endorsement by the Government and submission to the Conference of Parties of the Stockholm Convention (COP). Updating and reviewing of the inventory is one of the project activities.

GEF/UNDP/UNIDO POPs Legacy Elimination and POPs Release Reduction Project (PIF approved 2013): relevant project components include Component 1 on disposal of POPs pesticides stocks from one commercial site; Component 4 on contaminated sites and Component 5 on regulatory capacity including analytical capacity, chemicals policy and awareness raising.

Pesticide life cycle management initiatives

FAO Turkey Partnership Programme: Initiative for Pesticides and Pest Management in Central Asia and Turkey, 2010-2012, (GCP/RER/035/TUR): The project conducted detailed needs assessments for legal, institutional and technical capacity building in pest and pesticide management, which complemented on a series of studies on the status of plant protection in Central Asia carried out by SEC in 2011/12, discussed and presented in the Regional Workshop “Save and Grow”: Promotion of Conservation Agriculture and Efficient Plant Protection Methods. The workshop participants confirmed the need for training of farmers and agriculture specialists on IPM principles, improved legislation on phytosanitary and plant protection, monitoring of pests and diseases, prognosis of disease and pest development to facilitate sustainable crop intensification. The main challenges that need to be addressed were identified as improving legislation on phytosanitary and plant protection as well as on registration of pesticides and pesticide applying equipment, government and institutional support to extend research on control of pests and diseases and improving facilities for plant protection.

FAO EC Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union, 2012-2016 (GCP/RER/040/EC) - prevention and management of agricultural pests in Armenia, Belarus, Georgia, Kyrgyz Republic, Moldova and Ukraine. Safe distribution and use of pesticides including their disposal as governed by the International Code of Conduct on Pesticide Management, training in all aspects of sound management of pesticides, assessment of status of legislation and experience with integrated pest management.

FAO “Programme to improve national and regional locust management in Caucasus and Central Asia (CCA)” seeks to reduce occurrence and intensity of locust outbreaks in Caucasus and Central Asia and minimize impact on human health and the environment. The program consists on several projects funded by FAO, USAID and Government of Turkey. Currently FAO is discussing with JICA the opening of a new regional project on locust control for Afghanistan, Kyrgyz Republic and Tajikistan.

IPM and alternatives initiatives

Strengthening Phytosanitary inspection and diagnostic services (MTF/AZE/007/STF): this project seeks to strengthen phytosanitary and pest monitoring extension services in Azerbaijan, including strengthening pest/ disease diagnostic capacity at nine central level laboratories, and technical assistance for pest control and pest risk analysis, including development of operational guidelines and procedures and training to State Phytosanitary Control Services managers and staff in application of modern pest risk analysis and pest control techniques and procurement of PRA software and office equipment.

Development of farmer field schools to promote modern crop management and pest control technologies in Kyrgyz Republic (TCP/KYR/3403) - providing farmers and staff training and education, including women, on the adoption and promotion of conservation agriculture and IPM techniques in Kyrgyz Republic through pilot participatory extension activities such as establishment of the Farmer Field Schools (FFS) from June 2013 to May 2015. The project established 11 FFS with around 15 farmers in each, who applied IPM techniques in wheat crops, with some additional activities on request on potato.. The baseline survey and economic analysis of production costs for introducing IPM in the cropping system identified advantages of IPM in comparison to the conventional plant protection measures but these results have not been widely shared with Ministry of Agriculture and are only available in Russian. The study noted interest and take up of practices by farmers, but recommends more training on IPM for the farmer-facilitators, and expansion to more locations

UNEP: Demonstrating and Scaling Up Sustainable Alternatives to DDT for the Control of Vector Borne Diseases in Southern Caucasus and Central Asia, 2011-2015 (GEF ID 3614) – outcomes include testing

of alternative vector control mechanisms for malaria and other vector borne diseases, in Kyrgyz Republic and Tajikistan. These activities are implemented through partnership with Green Cross and Milieukontakt and are aligned with the current project as parallel (although not co-financing) activity.

c) Incremental cost reasoning

The planned project will complement existing projects and build on the detailed assessments and identification of priorities identified in co-financing projects by building capacity and delivering field activities on pesticide life cycle management. The project will address POPs contamination problems in a systematic and coordinated way, seeking synergy and regional cooperation on the issue of regional disposal options in particular in order to create long term capacity and eventually allow all the wastes to be destroyed in an environmentally sound manner.

With support from GEF and co-financing, the project will address the key issues mentioned in the previous sections through the following activities:

Component 1: Safeguarding and safe disposal of POPs and other obsolete pesticides and associated wastes posing high risk to public health and the environment: The majority of the GEF funds are allocated to this component and will be used to cover the costs of identifying, prioritizing and disposing of the most high-risk quantities of POPs and other obsolete pesticides. While neither this project nor any of the other baseline projects will dispose of all wastes in all countries, the project funds will be used to develop a regionally accurate database of the stocks to allow future initiatives to continue to reduce risks in an efficient manner. As well as disposing of wastes, the GEF funds will be used to decontaminate one highly contaminated site, reducing releases and exposure to contaminants both locally and globally. The enormous scale of these sites pose an enormous barrier to starting remediation activities, and by pioneering effective, appropriate technologies that constrain costs, the GEF funds will demonstrate a way forward for many other sites.

Pesticide containers pose high risks to communities and the environment when not properly disposed of, and the project support is essential to establish pilot container management facilities in one country which does not currently have capacity to collect and safely manage this waste stream.

Component 2: Pesticide life cycle management: While countries have largely established regulatory and legislative structures to control pesticide risks, they are not adequately implemented to bring real risk reductions. The pilot projects that will be supported by the GEF funds will bring and share expertise in the region, by providing both expertise but also developing a framework for South-South collaboration, for example in disseminating Turkey's experience in pest and disease monitoring or IPM policy. This component is essential to reduce future accumulations, which are inevitable if improved life cycle management practices are not introduced.

Component 3: Alternatives to HHP: the project has been designed to maximize overlap with previous field initiatives on IPM through farmer field schools and other modalities, but introduce new elements that focus on documenting and reporting the results of these field initiatives in order to inform pesticide registration and management decisions. This component will promote pest monitoring through training for advisors to guide sustainable decisions for pesticide treatments in priority crops, but also test and promote IPM alternatives (e.g. bio-pesticides, biological control) to conventional pesticides, to farmer communities and relevant stakeholders. The intended result of pesticide use and risk reduction will be monitored through collection of field evidence, in order to strengthen promotion and dissemination of alternatives to wider farming communities and policy makers.

Component 4: Monitoring and evaluation: apart from meeting all reporting and monitoring requirements, the component is needed to maximize the leverage of the different pilot projects that will be implemented, because each country will have a unique set of activities. The monitoring system will generate the lessons and experience that will be shared to allow all countries to learn from each other about how to control the whole life cycle.

1.3 FAO's COMPARATIVE ADVANTAGE

The mandate of FAO includes prevention and management of agricultural pests; safe distribution and use of pesticides including their disposal as governed by the International Code of Conduct on Pesticide Management (2013); 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 crop production Intensification 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.

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

Key stakeholders and direct beneficiaries are:

Ministries of Environment, Agriculture, Health, and others: These national institutions will implement activities at the national level, and be coordinated through the Project Steering Committee and CTA. They will ensure close links with national institutions and government activities via Focal Points from each participating ministry, which in addition to the basic three may include Ministries of Emergencies, Finance, Academia, Science and Customs.

Non-governmental organizations: Key non-government stakeholders include international NGOs including Milieucontact International (MKI), the International HCH and Pesticides Association (IHPA), Green Cross Switzerland (GCCH), Blacksmith Institute (BI) and Pesticide Action Network UK (PAN UK). These have all been involved in delivering and coordinating different project components in baseline projects and have developed methodologies and approaches that will be shared with the project, particularly in communications, community monitoring, contaminated land remediation, and information sharing and advocacy. In addition MKI and GCCH have supported project management and execution in various projects, working through civil society networks in the countries and providing technical assistance, M&E, and project coordination functions.

Local communities: Local communities living near rehabilitated obsolete pesticide stores and severely contaminated sites are obvious beneficiaries from the implementation of Outcome 1 of this project, which will directly target them for communications and risk reduction activities. In addition, due to the persistence of many of the chemicals in the environment, the wider rural and urban populations are also indirect beneficiaries from the removal of materials and containment of pollution.

Farming community: Farming communities are key beneficiaries through reduced risks of exposure to pesticides. Women and children that work in the farms will benefit from reduced exposure to pesticides through adoption of improved pest management practices and general improvements in pesticide management via increased awareness about the risk of pesticides. Vulnerable groups including seasonal workers and their families will be explicitly targeted in two countries.

Local industry: Local industries including pesticide, biopesticide, recycling and cement kiln companies are all considered to be important stakeholders. Private sector stakeholders relating to all the project activities and pilot projects will be identified and engaged during project implementation.

Research institutions/universities Research institutes and/or universities will be involved as the implementing partners in pilot projects for testing, validating and promoting IPM alternatives through experimental trials and open field days for various stakeholders (e.g. farmers, advisors, researchers etc.). Likely partners include International Centre for Agricultural Research in Dry Areas, the Kyrgyz Republic BioCentre, and the Kazakhstan Plant Protection Institute in Almaty, but these will be confirmed at the project inception phase.

International organizations and funders: Financing and implementing organisations on obsolete and pesticide management in the region including: Intergovernmental organizations including UNEP Chemicals, UNIDO, the World Bank, European Bank for Reconstruction and Development (EBRD), OSCE, the Secretariats of the Rotterdam, Basel and Stockholm Conventions, and others will be engaged to ensure continuing coordination between initiatives and cost sharing.

1.5 LESSONS LEARNED FROM PAST AND RELATED WORK, INCLUDING EVALUATIONS

A mid-term evaluation of the FAO EC project concluded that the strength of the project can be found the aim to support the CIS countries to establish a coherent and sequential approach to toxic waste management of OPs and POPs that recognises the life cycle approach and the importance of pesticide and pest management choices and processes in contributing to stockpiles. This approach is in line with the EU-Directives and International Code of Conduct for pesticide management. The approach to deal with the entire field of obsolete pesticides in combination with the various aspects of pesticides lifecycle management including legislation, registration, enforcement, HHP Alternatives and IPM, awareness and communication is chosen for this project as well.

The evaluation also found that the project objectives were well supported through a combination of training and awareness raising. The project will maximise regional exchange and learning, and proceed to a next step of implementing and learning from pilot projects, in addition to continuing training and awareness raising among decision makers as well as end users.

The evaluation found that not sufficient attention was paid to the legal and institutional arrangements needed to ensure that FAO could operate in the CIS countries, causing ongoing delays in project agreements and start-up of activities in Azerbaijan, Kazakhstan and Tajikistan. This project will learn from this experience and build on the participatory project design and development, and development of *Country operational project manuals* which identify countries priorities, update baselines and describe exact mechanisms and processes for involvement of all stakeholders.

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

Project activities are consistent with countries' development objectives. All countries have signed relevant conventions (see below) and as part of their obligations under the Stockholm Convention prioritized issues of obsolete stocks and pesticide lifecycle management.

a) Alignment to the Stockholm Convention National Implementation Plan

The Central Asian countries have signed all relevant international conventions addressing issues of wastes management like the Stockholm, Basel and Rotterdam Convention.⁴ All project countries have prepared and submitted their National Implementation Plans (NIPs) to the Secretariat of the Stockholm Convention. All the NIPs prioritized issues of obsolete stocks and pesticide management.

- Safe disposal of obsolete pesticide stocks and associated waste;

⁴ Azerbaijan is not part of the Rotterdam Convention and Tajikistan are not yet part of the Basel Convention. Both countries are preparing to accede these conventions.

- Strengthening institutional and regulatory frameworks;
- Training of staff to ensure appropriate control of pesticides in central Asian countries; and
- Promotion of alternatives to hazardous pesticides.

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: POPs waste prevented, managed, and disposed of; POPs contaminated sites managed in an environmentally sound manner; and country capacity built to effectively phase out and reduce releases of POPs. The project will dispose of up to 900 tonnes of existing obsolete and remediate a heavily contaminated priority site. To prevent future mismanagement, the project is also focused on strengthening the institutional capacity to enforce pesticide regulations, as well as the development of framework legislation on pesticides.

The project addresses a number of SAICM Global Plan of Action priorities including helping Central Asian countries to implement the International Code of Conduct on Pesticide Management, which is the guiding reference for all the project activities on building capacity for regulation, including legislation, registration, post-registration surveillance and control, phasing out of HHP and promotion of alternatives.

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, while recognizing the significant uncertainties on the data that has been collected to date in the inventories, in particular the very high proportion of mixed and unidentified products. The project design is also intended to address the uncertainties regarding export and/or destruction of hazardous wastes in the region.

The project design includes two complementary components to improve pesticide management and promote alternatives, addressing the root causes for accumulation of these wastes and preventing future stockpiles. In the PIF, the component 2 on pesticide life cycle management foresaw *“an analysis of pesticide management throughout their life cycle to identify weaknesses and capacity building needs for inspection and quality control...(and) preparation of a clear capacity building plan...”*. This has already been largely completed in the co-financing project GCP/RER/040/EC, with a Status Report and Concept Note prepared for each country. The GEF project strategy has therefore been amplified significantly to include actual implementation of the priority needs identified in each Concept Note. However, although the original budget remains, it will not permit a full life cycle intervention in each country. In order to maximise the impact of the available budget and to demonstrate the life cycle approach, the project will implement a series of pilot projects, one in each country, each one addressing a different life cycle stage issue. These are spread among all the below Components and include *i)* contaminated land risk reduction; *ii)* container management; *iii)* registration and risk assessment; *iv)* operator exposure monitoring; *v)* IPM and alternatives. This is supported by strong regional training and exchange provision to promote regional cooperation and ensure visibility in order to increase political support for these solutions. The components are rooted in existing and ongoing work in the region on pesticide management, and linkages to regional initiatives and forums will enable this project to contribute to and benefit from parallel initiatives.

Finally, the project will benefit farmers and rural communities, including women and other vulnerable groups, in demonstrating and promoting alternatives to the most Highly Hazardous Pesticides. As such, the pilot activities on non-toxic alternatives will focus on affordable, low cost, readily available alternatives to chemical pesticides, aiming to demonstrate their efficacy and to ensure they are within reach of farmers.

2.2. PROJECT OBJECTIVES

The project objective is to reduce POPs releases from obsolete pesticide stockpiles and contaminated sites and strengthen the capacity for the sound management of pesticides. Specific objectives of each component are to: safely destroy POPs and obsolete pesticides and remediate pesticide-contaminated sites (Component 1); strengthen the institutional and regulatory framework for managing pesticides through their life cycle (Component 2); and increase the successful uptake of alternatives to chemical pesticides on key crops (Component 3). These three components are supported by a horizontal project management, Monitoring and Evaluation (M&E) and communication component (Component 4) which will inform project execution decisions and create the necessary conditions for beneficiary knowledge and participation in project activities.

2.3. PROJECT COMPONENTS

Component 1: Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment

This component will focus on the quantifying and planning for obsolete pesticide risk reduction in the region, through finalization of inventories and draft Environmental Assessment and Environmental Management Plans (EA/EMP) developed in previous projects and the PPG phase. While inventories and EA/EMPs have been started, the high proportion of mixed and unidentified stocks at many of the

sites in all countries means the required level of detail is not available to plan specific waste management strategies, so sampling and analysis of the unknown stocks is needed. By the end of year two specific risk reduction plans will be available for stocks in Azerbaijan, Kazakhstan, Kyrgyz Republic, and Tajikistan. Turkey has already made significant progress in managing its stocks and is not included in this Component.

By end of year four 900 tonnes will be disposed of.

Outcome 1: 900 tonnes of POPs and obsolete pesticides are disposed of in an environmentally sound manner; and risks from obsolete stocks, contaminated sites and empty pesticide containers are further quantified and reduced.

Disposal of hazardous wastes is a major stumbling block for the Central Asia region, as none of the countries currently have internationally recognized environmentally sound disposal facilities for hazardous wastes. The situation is further complicated by the fact that, for three of the project countries (Kazakhstan, Kyrgyz Republic and Tajikistan), the usual option of export according to the Basel Convention requirements for destruction in another country (usually Europe) is not possible due to the constraints set by restrictions on transboundary transport of waste across the different countries of the region. Component 1 will therefore focus on both advocacy to permit transboundary movements in compliance with the Basel Convention requirements; and in identifying new capacity in the region for destruction of wastes (to the standards required by the Basel and Stockholm Conventions on BAT/BEP). There are a number of initiatives by governments and other agencies to build new or strengthen existing hazardous waste disposal facilities. A feasibility study funded by the GEF through the World Bank is being undertaken to establish a high temperature incinerator in Kazakhstan. UNEP is developing a project to pilot a Super Critical Water Oxidation disposal facility in the region. GEF-UNDP project (#4601) will upgrade the incinerator in Izaydas, Turkey with the aim to make it compliant with international standards. FAO has previously supported the assessment in all five countries on cement kiln capacity to co-process hazardous wastes, and engaging government and industry, who have expressed their interest and commitment to developing such capacity. A preliminary cement kiln assessment was conducted in the PPG phase for the 5 countries and has identified potentially suitable cement facilities in all five. Because of its plans to build a hazardous waste incinerator, Kazakhstan has confirmed that establishing cement kiln capacity is not a priority for the country. FAO co-finance has supported a detailed assessment of the cement kilns in Kyrgyzstan which has identified that there is one plant with the potential for adaptation. It is now up to the cement industry and the governments to determine whether they proceed to invest in adaptation of kilns to co-process alternative fuels derived from hazardous waste.

The project will maintain close liaison with all these initiatives to assess whether they will be available to destroy the obsolete pesticides identified in the inventories of the countries.

However as it is not certain that capacity in the region will be available within the life of the project, it is necessary to have contingency strategies around the export of waste for high temperature incineration (HTI). The decision tree for deciding the strategy is shown in the diagram below.

Disposal Strategy

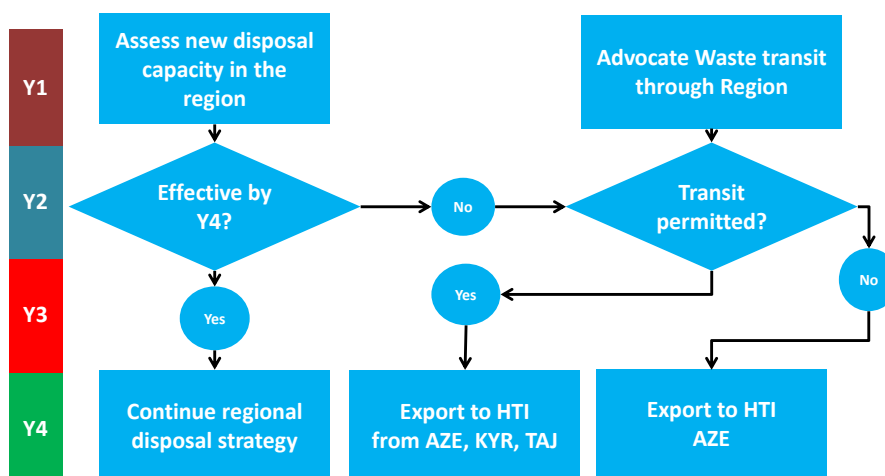


Figure I Disposal Strategy

The disposal strategy aims to support sustainable capacity within the region for environmentally sound management (ESM) of hazardous waste. As a basic principle the project aims to dispose of an equal portion of 300 tonnes of obsolete and POPs pesticides from Azerbaijan, 300 tonnes from Kyrgyz Republic and 300 from Tajikistan. Disposal options for Kyrgyz Republic and Tajikistan, however, might be frustrated due to restrictions on transboundary transport of waste across the different countries in order to reach high temperature incineration facilities in Western Europe. In which case the project will dispose of 900 tonnes from Azerbaijan. In selecting the quantities of waste to be destroyed from each country, the project will liaise closely with the other GEF projects in the region to ensure that there is no duplication of effort and the national needs are being fairly addressed. A possible option for destruction could be the Izaydas Incinerator facility that is being qualified for POPs destruction in the frame of the UNDP project POPs Legacy Elimination and POPs Release Reduction Project that includes amongst others a test burn on representative POPs at Izaydas incineration facility to demonstrate DE/DRE compliance with BAT/BEP and incineration upgrading to handle POPs waste.

The project will undertake demonstration pilots for the risk reduction of one highly contaminated land site. The selection of the site will be based on maximizing the reduction in risks to public health and the environment in the region and will consider the contaminated site risk reduction activities of the other agencies' projects in the region.

Work on container management 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.

Output 1.1: Definitive detailed inventories of obsolete pesticides developed for Azerbaijan, Kazakhstan, Kyrgyz Republic and Tajikistan

Inventory verification was completed for Azerbaijan, Kyrgyz Republic and Tajikistan during the PPG phase – however in all countries, the high proportion of unidentified products means that further sampling and analysis is needed to confirm the identity of the stocks to allow the EMP to be finalized. For Kazakhstan, inventory training was conducted during the PPG, and the existing inventory of the Southern Oblast will be extended to a national inventory.

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

- 1.1.1 Inventory finalization in Azerbaijan, Kyrgyz Republic and Tajikistan: sampling and analysis of unidentified wastes by laboratories in the region. If the quality of the analytical results cannot be assured analyses will be carried out in Europe. Update of PSMS to reflect the exact descriptions of the stocks.
- 1.1.2 National inventory in Kazakhstan: Further practice-based training delivered and nationwide field work planned and delivered by Kazakhstan task team

Output 1.2 Risk reduction and disposal strategy for sound management of obsolete and POPs pesticides completed

The risk reduction plans for obsolete pesticide stocks (site specific EAs and EMPs) will be completed once the significant uncertainties around the inventory are reduced through sampling and analysis. Safeguarding will take place at the three highest risk sites across all project countries based on these plans. The aim is to reduce the risk of the critical stores while the disposal strategy is confirmed. Due to privatization of the pesticide stores, there is a lack of facilities for storage of safeguarded stocks. As far as possible the project aims to undertake safeguarding and disposal of stocks as a single continuous activity thus avoiding the necessity of indefinite storage.

Safeguarding of stocks will initiate at the three highest risk stores in the region. The risk assessment will be undertaken using the methodologies in FAO's Environmental Management Tool Kit series of guidance documents.

During the inventory and EMP development the project will identify whether new capacity for the ESM of obsolete pesticides will become available in the region by year 4. This will be established by means of a technology review through liaison with the other agencies and GEFSEC as well as the national governments..

In the event that a new technology option is selected, the project will provide technical support for the licensing and monitoring of performance of the technology during pilots for the destruction of obsolete pesticides. The government's role will be to evaluate the operating standards of the technology and the monitoring results of the destruction tests and if compliance with ESM standards is confirmed, to issue the operating licence and to monitor its operation into the future.

At the end of year 2 the disposal options will be reassessed. If suitable environmentally sound disposal capacity has been developed in the region (or will be developed during the life of the project), the project will continue safeguarding pesticides at other stores for this disposal route.

In the event that no suitable regional capacity is developed and the restrictions on transboundary movement of hazardous waste remain in place making the transit of hazardous waste under the Basel convention impossible, the project will not be able to dispose of the 300 tonnes from Kyrgyz Republic and the 300 tonnes from Tajikistan. In this case the project will concentrate its disposal efforts on Azerbaijan and undertake the safeguarding and export for high temperature incineration of up to 900 tonnes of pesticides from Azerbaijan.

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

- 1.2.1 Regional training on EA and EMP development in line with FAO EMTK Volume 3.
- 1.2.2 Finalization of draft Environmental Assessment (EA) and Environmental Management Plan (EMP) in Azerbaijan, Kyrgyz Republic and Tajikistan: Based on the final inventory data, the draft EA/EMPs will be finalized and confirm aspects such as the preferred safeguarding strategy, the preferred disposal or long term risk reduction 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 in line with national requirements

- 1.2.3 Advocacy and consultation to identify the needed disposal strategy (export or regional/local technology). The project team will continue to engage with customs authorities to seek the possibility of export of hazardous wastes through neighbouring countries. In tandem, work identifying the feasibility of using the new ESM capacity being developed by other agencies and national governments will continue, with detailed follow up studies of each country's capacity and extensive consultation with government regulators, industry, and civil society to identify the needs and opportunities for co-processing wastes.

Timeline for implementation: The inventories will be finalized in year 1. Aspects of the EA and EMP will be developed, disclosed and approved in years 2-3 of project implementation, in order to reflect the disposal options that will become available. Capacity building will take place throughout the four years to equip partners to complete each stage of the disposal process.

Output 1.3 900 metric tonnes of obsolete and POPs pesticides are safeguarded and disposed of in an environmentally sound manner from Azerbaijan, Kyrgyz Republic and Tajikistan.

Safeguarding of obsolete stocks will be conducted according to the strategy defined in the EMP. Given the difficulties in identifying temporary storage and the high risk of safeguarded stocks deteriorating in long term storage, the project will seek to safeguard only stocks that have an available disposal route, to ensure a more efficient risk reduction and minimize future repetition of repacking operations. If export restrictions and/or the absence of opportunities for disposal in the region continue to prevent disposal of stocks from Kyrgyz Republic and Tajikistan, the disposal activity will be concentrated on stocks from Azerbaijan. Whether a regional or national facility or exported, any contract will be awarded according to FAO procurement rules, which require international standards for environmental emissions with reference to the EC standards.

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

- 1.3.1 Pilot disposal of obsolete and POPs pesticides in Azerbaijan, Kyrgyz Republic or Tajikistan if feasible based on the outcomes of the disposal option review;
- 1.3.2 A tender(s) for safeguarding and disposal services will be developed by FAO in consultation with the national coordinators. The tender will be based on the details in the EA and EMP and updated PSMS data highlighted in Output 1.1.
- 1.3.3. The selected company and/or national teams (depending on the outcome of the EMP) will implement the safeguarding and disposal in Azerbaijan and Tajikistan (safeguarding in Kyrgyz Republic is implemented under co-financing projects supported by EC and UNEP, GFL-2328-2760-4B80). The implementation of activities will be coordinated by the Chief Technical Advisor with support from FAO (Lead Technical Officer, LTO, and Lead Technical Unit, LTU). The contractor will work with national stakeholders to plan the implementation of the activities to allow for export of all wastes from Azerbaijan, Kyrgyz Republic and Tajikistan in accordance with the Basel Convention by end of year 4 of the project;
- 1.3.4 The quality control monitoring of the implementation will be achieved through the monitoring of compliance with the tender specifications by the client (governments) 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. FAO will support governments to develop the necessary plan for monitoring of activities.

Timeline for implementation: All safeguarding, disposal and risk reducing activities will be completed by year 4.

Output 1.4: Risks associated with one critical contaminated site in one country are reduced

Based on the rapid environmental site assessment training (mentioned under 1.2.3), one high risk site will be identified for piloting risk reduction activities. The site will be selected based on the immediacy

and extent of the risk it poses to public health and the environment. A site specific EMP will be developed and executed. This will result in reduced risk of the site by application of local technologies as a demonstration project which can be used as a model in other project countries. This work will link with similar work being undertaken by FAO and other GEF Agencies in countries such as Botswana, Mozambique and Vietnam to ensure consistency of approach and application of lessons learnt.

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

- 1.4.1 Training on Rapid Environmental Assessment (REA) will be conducted following the Blacksmith Institute methodology which has been tested in the region through previous projects.
- 1.4.2 Selection of one highly contaminated site based on risk assessment and the development of a site specific Environmental Management Plan for risk reduction
- 1.4.3 Following endorsement of EMP by appropriate national authorities, undertake a tender for a contractor to undertake its execution.
- 1.4.4 Monitor and evaluate the execution of the EMP by the contractor and disseminate the results to the other project countries.

Timeline for implementation: All contaminated site activities will be completed by year 4.

Output 1.5 Container management capacity developed in the region and risks of empty containers reduced in Azerbaijan

Container management was strongly requested by countries during the project preparation inception meeting in Ankara in February 2014, and reflects the lack of any prior mechanisms or research into this important issue in the countries, apart from Turkey where an initiative does exist in one region. Therefore the project will focus on completing the national reviews begun in the preparation phase, and developing a regional strategy or action plan based on common issues, with implementation of a pilot collection scheme in one country, including training and establishment of pilot demonstration facilities.

As with other sustainable container management schemes around the world, a feasibility review includes 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 projects will start with a pesticide user awareness campaign on the importance and technique of effective triple rinsing, and the steps to take if exposure occurs, in particular reporting incidents to health centres and taking the container to the doctor with the victim; the campaign will also focus on vulnerable groups such as women and children who are often the ones using the containers for food and water storage in the home, and are thus exposed to pesticide residues in old containers. Based on the initial baseline assessments undertaken in each country during project preparation, empty pesticide container management strategies will be developed in three countries and piloted in Azerbaijan. Review of container management options were undertaken during project preparation in Azerbaijan, Kyrgyz Republic and Tajikistan.

Container management has strong linkages with components 2 and 3 in particular with the requirement for enhancement of the legal framework and in communications with pesticide users about triple rinsing and best practice (see section on communication strategy).

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

- 1.5.1 Review of national container management options completed for Azerbaijan and Turkey and input into legislation review where relevant (see Output 2.1) to ensure container management regulations are optimized

- 1.5.2 Commonalities between reviews for all five project countries identified and regional strategy developed and adopted by governments, including confirmation of proposed pilot project
- 1.5.3 Implementation of strategy to the extent possible, focusing on capacity building and pilot project delivery; to include at a minimum:

Awareness raising and training on triple rinsing for extension advisors, in coordination with Output 3.1 on pest and disease monitoring

Establishment of 1 pilot Container Management Scheme as a demonstration scheme with a view to developing lessons learnt/ guidance document for other countries in the region, including collection, rinsing, transport, storage and recycling as described by the review

Timeline for implementation: The remaining container management reviews will be completed in Year 1. The regional strategy will be approved at the Steering Committee at the end of Year 1 to allow implementation and pilot project to be rolled out in Years 2, 3 and 4.

Output 1.6 High risk behaviours by exposed populations are quantified and reduced

Previous projects in collaboration with international and national NGOs in the project countries have highlighted the risks to populations posed by the storage sites and contaminated land, which are in some cases located near to settlements, potentially leading to extreme exposures and even death of people and livestock (see Section 1). While incidents of acute intoxication may be documented (e.g. in mass media), there is no systematic documentation of the particular behaviours by these populations which lead to (presumed) chronic exposure, and they often lack awareness of the dangers. Such behaviours include access to the stores for example by children playing, or for illicit removal of products from poorly guarded stores. This output will seek to identify population groups at risk who may be vulnerable to such exposures, and the specific exposure routes. These will guide the development of targeted communication strategies for these high risk groups, aiming to promote and document behaviour changes over the period of the project.

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

- 1.6.1 Selection of national NGOs in Azerbaijan, Kyrgyz Republic, and Tajikistan to deliver field work, based on the already established networks of NGOs who have received communication training in the GCP/RER/040/EC project, and refresher training to include Knowledge, Attitudes and Practices (KAP) survey techniques.
- 1.6.2 Identification of approx. 3 priority sites per country for intervention, linked as far as possible to the highest priority sites in PSMS (above ground stocks) and the REA (contaminated land) but prioritizing sites with likely exposure routes to communities
- 1.6.3 KAP surveys to identify high risk behaviours and develop communication strategies
- 1.6.4 Implementation of communication strategies and regular monitoring of behaviour (including at least one more KAP survey by end of project)

Timeline for implementation: The selection of partners and sites, and first KAP survey will be completed in Year 1.

Component 2: Strengthening the legal, institutional and regulatory framework for pesticide life cycle management

Outcome 2: Regulatory framework and institutional capacity for sound pesticide management strengthened in five countries

Component 2 will focus on following up extensive diagnostic assessment work done during the co-financed FAO EC project on legislation, capacity and compliance with the International Code of

Conduct of Pesticide Management (“the Code”), and pest control and production practices in relation to promoting alternatives to Highly Hazardous Pesticides (HHP) in key crops in the countries. The detailed country studies have generated Legal Assessments detailing the specific improvements required to bring the national legislation into compliance with the Code; and a detailed Status Report and outline Concept Note for each country with life cycle management gaps and needs, with priorities identified. These documents have been used as the basic capacity building plans, and this component will support regional training, pilot projects, and experience exchange in the specific areas highlighted in the assessments. However since the original PIF included only development of capacity building plans (now obsolete as these are completed and partners have agreed for development of activity plans based on the Concept Notes for this project), the budget is not sufficient to allow full lifecycle field activities in each country. For this reason, the project will work via different demonstration/pilot projects in each country, with systematic regional exchange and collaboration to maximise the impact of the set of pilot projects.

Output 2.1 Revised legal frameworks in line with the International Code of Conduct on Pesticide Management developed in three countries

While all the project countries have phytosanitary laws that are used to regulate pesticides, a number of shortcomings have been identified during legal assessments conducted in previous projects, notably the FAO EC project. In both Azerbaijan and Tajikistan, there are no secondary legislative regulations, and the existing primary legislation is too general to permit adequate compliance and enforcement. In both countries, definitions of pesticides and related terms are narrower than the International Code of Conduct, creating loopholes, and a number of other specific gaps exist for full lifecycle control, for example in import control, licensing of manufacturing, or appeals.

2.1.1 National consultation to confirm needs and agree on legal review process and texts (the process may involve workshops or meetings as necessary based on time gap since baseline work done on legislation in each country)

2.1.2 Drafting of law on pesticide management, and regulations and provisions for implementation, including linkage with environmental/waste regulation for sustainable management of empty pesticide containers; and with labelling/ packaging regulation for improving registration processes

2.1.3 Validation workshop to consult stakeholders, endorse texts, and discuss perspectives and prospects for the regional regulatory environment

2.1.4 Submission of revised legislative texts to government for consideration and approval

Timeline: The update and national workshop will be completed in Year 1 and new texts drafted in Y2. The workshops and submission of texts will be in Y3 and 4.

Output 2.2: Registration procedures strengthened and data requirements for dossiers made more comprehensive

A number of gaps have been identified with the Code of Conduct in relation to pesticide registration procedures, in particular data requirements to be submitted as part of a pesticide registration dossier by pesticide companies. Specific gaps include lack of labelling and packaging requirements in Tajikistan, which means that many products on the market lack basic risk reduction and communication elements in national language. Tajikistan also lacks established procedures for the registration of generic equivalents to reference products submitted by research & development (R&D) companies, so “bridging” between original and generic (or “me-too”) products is inconsistent, with significant differences in quality and completeness of dossiers, as well as significant duplication of effort. In Kazakhstan the registration requirements do not include any consideration of pesticide quality control, as recommended by the FAO pesticide specifications manual. Finally, in all three countries, the systematic evaluation of possible or likely risks to users including necessary personal protective equipment (PPE) to control operator exposure in pesticide spraying operations, is not part of the pesticide registration process. These issues will be addressed through a pilot project providing capacity

building on risk reduction through improved registration processes based on labelling, packaging and risk assessment and introduction of predictive tools for operator exposure in Tajikistan, Turkey and Kazakhstan.

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

- 2.2.1 National training for regulators in Tajikistan on packaging and labelling requirements (for example, those developed in Output 2.1 on legislation) and best practices, and information dissemination on obligations to regulated organisations and the public. The customs authorities will participate in this training to increase their awareness of the registration status and labelling/packaging minimum standards for border control
- 2.2.2 Exposure assessments and use of risk assessment models, such as EUROPOEM, in risk assessment for registration decisions by registrars in Tajikistan and Turkey
- 2.2.3 Training on registration of "me too" products according to the FAO/WHO Manual Specifications in Tajikistan covering equivalence of active ingredients and formulated products and data requirement (based on FAO Guidelines on data requirements for the registration of pesticides)
- 2.2.4 National workshop in Kazakhstan on pesticide specifications and quality control
- 2.2.4 Experience and documentation sharing and reporting, including visit of all participating countries to pilot project and Russian translations of key registration guidance and toolkits (e.g. FAO Guideline on labelling, FAO/WHO training manual on specifications, and EUROPOEM)

Timeline for implementation: The training on labelling in Tajikistan will be done in Year 1, followed by training on the equivalence and translations of key resources by Year 2. Training on EUROPOEM and pesticide specifications in Tajikistan & Turkey and Kazakhstan respectively in years 2 -3. All the pilot visit field trips will be organized in coordination with Steering Committee meetings and it is anticipated that the registration pilot exchange visit will be organized in Year 3.

Output 2.3: Field data on PPE and spray operations is used to provide advice to farmers

Output 2.3 aims at combining the results of predictive tools for operator exposure (from Output 2.2. above) with monitoring of actual exposure and effectiveness of PPE measures under average and best practice for spray operations in critical crops (arable, fruit crops, vegetable growing in greenhouses) in Turkey.

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

- 2.3.1 Selection of regions and critical crops for monitoring average and proposed best practices in field spray operations (better targeted sprayers like mist blowers, drift reducing nozzles etc.) in Turkey
- 2.3.2 The operator exposure is determined by using passive sampling devices and air samplers (mimicking dermal and inhalatory exposure) during spray operations. Samplers are sent for analysis and results evaluated for agreement of predictive exposure assessment and efficiency of PPE to bring actual exposure below the acceptable operator exposure levels (AOELs) set for the active ingredients in the formulations used. Monitoring will also include the use of tools to determine the extent of spray drift)
- 2.3.3 Compilation of results, production of communications, guidelines and lessons learnt outputs and sharing project countries

Timeline for implementation: The selection of the regions and crops, adaptation and training on tools, and start-up of exposure monitoring will be in Year 1. The methodology for monitoring average and proposed best practice will be developed in parallel, with field training and data collection in years 2 and 3. Results compilation and sharing in Years 3- 4.

Component 3: Pesticide use and pesticide risk reduction through pest monitoring and promotion of IPM

Preparatory work for this component has included an extensive assessment of pest and production management practices in all countries using DEXiPM® (DEXi Pest Management; Pelzer et al. 2012) as the tool to assess sustainability of key arable cropping systems of the different countries involved in this project. This is a model that assesses all the dimensions of sustainability (economic, environmental and social) through a qualitative multi-criteria assessment, based on the DEXi software (Bohanec 2009), and identifies the strengths and weaknesses of cropping systems. Pest monitoring systems, IPM alternatives to Highly Hazardous Pesticides (HHP) (e.g. use of biopesticides and of biological control agents) and capacity building for farmers to provide knowledge on crop and pest specific guidelines, IPM principles and the sustainable use of pesticides through the stronger involvement of the national or regional extension services were strongly recommended. Producers in all countries overuse and misuse pesticides, and lack awareness and trust in alternative approaches. Alternative products e.g. biopesticides are not researched, registered or available in the countries.

Outcome 3 Promotion of Integrated Pest Management (IPM) alternatives to Highly Hazardous Pesticides (HHP) and awareness rising

This component aims to reduce the use of conventional chemical pesticides in all countries by enhancing the capacity of technical advisors and extension specialists from public and private sector in pest and disease monitoring to guide decision making on eventual pesticide application; and through the promotion of low risk alternatives to hazardous pesticides to farmers.

Output 3.1: Pest and disease monitoring to guide plant protection decisions in key crop(s) established

Agroecosystem approaches to pest management require good understanding of the complex balance between pests and natural predators, among other things. The introduction of monitoring systems for pests, and scouting for weeds and disease incidence together with related economic thresholds that help in the decisions 'if', 'when' and 'what' to spray or control mechanically depending on the pest, weed and disease infestation could result in significant pesticide use and health risk reduction, acting as a fundamental basis for implementing IPM. The establishment of monitoring schemes for pests/diseases prevalence while strengthening agricultural extension services for their implementation using an agro-ecosystem approach was highly recommended under the GCP/RER/040/EC project for central Asian countries participating in that project and was included in the concept notes drafted for each country. Ways forward for its implementation suggested in the concept notes that form the basis of this Output include 1) Strengthening of extension services through training and providing monitoring tools for this (e.g. pheromone traps, sticky traps), 2) Development of fact sheets on key pests in priority crops regarding their identification, together with related economic thresholds to avoid unnecessary pesticide treatments and 3) Reviewing of pesticide use application and recording of possible adverse effects on human health and the environment.

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

- 3.1.1 In Azerbaijan, Kyrgyz Republic and Tajikistan, establish the operational plan for the output with full participation of all partners and beneficiaries, including selecting partners, identifying trainees, crops, and regions, and participating male and female farmers and procuring necessary equipment and contracts. A baseline survey gathering evidence of actual pesticide use and impacts in proposed crops and regions will confirm the highest priority crops (e.g. based on use of HHP or high exposure including by vulnerable groups) and guide final selection based on field evidence. The baseline survey will also provide an independent estimate of baseline pesticide application rates for future comparison according to the project M&E plan.
- 3.1.2 Develop and deliver season long training for facilitators and extension advisors on pest and disease monitoring in priority crops, including development of required training materials (e.g. fact sheets on key pests, and related economic thresholds to guide treatment decisions)
- 3.1.3 Establish an information system within MoA (possibly using off the shelf software) to input, store and process pest and disease data; and monitor advice provided by trained advisors as

well as pesticide treatments applied by farmers. The development of an IPM database and information system that will consist of various pest and disease forecast models and decision support systems will allow advisors to input their pest and disease monitoring data on-line and in interaction with weather data will provide them with the right timing for any type of crop protection application ensuring a more sustainable crop production.

- 3.1.4 Reporting and publication of results, including national policy workshops to (i) present results on reduction of pesticide use after applying monitoring to guide decisions for any treatments using data from the demonstration sites and comparing with conventional management and (ii) developing and endorsing a national-level pest and disease monitoring plan

Timeline for implementation: Priority crops selected and baseline survey conducted in Year 1, training of extension advisors in Year 2. Monitoring Yr 3-4, with parallel reporting and dissemination of results to decision makers including national workshops on pest monitoring in Year 4.

Output 3.2: Integrated pest management alternatives tested, validated, and promoted to male and female farmers

Capacity building on IPM practices adapted to specific cropping systems and pest/disease pressure and on-farm trials using biocontrol (e.g. microbiological preparations) as alternatives to HHPs were highly recommended by the FAO EC project for participating countries of Central Asia as well as the SEC Regional Workshop on promotion of Conservation Agriculture. These recommendations were commonly included in the concept notes drafted for each country and the ways forward suggested as means of implementation that form the basis of Output 3.2 included the establishment of FFS and of on-farm research on IPM alternatives.

The pilot project aims to test IPM alternatives for priority crop(s) in on-farm trials in Kazakhstan and Kyrgyz Republic, and promote them to farmers through FFS in Kyrgyz Republic and through demonstration plots in partnership with research institutions in Kazakhstan.. Kyrgyz Republic was chosen for this pilot since a TCP project is currently being conducted in this country focusing on farmers and staff training and education, including women, on the adoption and promotion of conservation agriculture (CA) and IPM techniques through pilot participatory extension activities such as establishment of the Farmer Field Schools (FFS). This pilot is being suggested to be the continuation of this project having as an aim to test IPM alternatives in demo trials and promote them to farmer communities through the already established FFS. The second pilot project will build on existing capacity in Kazakhstan in existing institutes doing research on IPM alternatives and the overall interest of this country to promote biological control means for pest and disease control.

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

- 3.2.1 Review scope, results and lessons of TCP FFS in KYR and update/ refresh training and FFS programme and make necessary administrative, coordination and implementation arrangements to continue FFS. In KAZ, establish the operational plan for the output with full participation of all partners and beneficiaries, including selecting partners, identifying crops, tools to be tested, experimental design, demonstration sites and procuring necessary equipment and contracts.
- 3.2.2 Continuation of IPM FFS in three sites in Chui province and data collection, with supervision by national and international IPM consultants In KAZ, establishing trials, collecting data and organising Field days for stakeholders to disseminate results

Timeline for implementation: Assuming that the project starts in a timely manner, the project will be able to adopt the existing TCP project in KYR which is due to end in 2015, from the Year 1 season. FFS sessions will continue for three years, up to and including Y3. . In KAZ, identification of priority crops and major pests, tools to be tested, demonstration sites, experimental design for trials in Year 1, Establishment of trials, data collection and first field days in Year 2, Continuation of data collection and field days to disseminate results of trials in Year 3-4

Output 3.3 Quantify and promote the benefits of IPM and alternatives to HHPs, to farmers and pesticide management decision makers

Recognizing the importance of public agricultural policy towards both pesticides and alternatives in influencing individual farmer decisions between pest management choices, and in line with the other pilot projects seeking to increase the evidence base for policy making, this output will document and report the costs and benefits of using alternatives compared with the costs and benefits of using pesticides and HHPs. This data will be presented to decision makers and used to advocate for deregistration of HHPs and official promotion and policy support to proven alternatives. This field work will be closely coordinated with the pilot projects on pesticide impact surveillance (Output 2.3), and conducted by national NGOs in Kyrgyz Republic who already have experience in pesticide monitoring through the PAN UK monitoring field work conducted in the EC 040 project.

Main activities:

- 3.3.1 Exchange visit during regional workshop in Turkey to enhance experience in pest monitoring and to plan and develop a strategy for the whole Component, including planning for effective information products and knowledge management, training for surveying data collection techniques
- 3.3.2 Comparative assessment of trained and untrained farmers using community pesticide surveillance to document changes in farmer practices beyond the FFS and Field Days participants and conduct a cost-benefit analysis (i.e. economic analysis of production costs and benefits like crop yield and quality) after introducing monitoring (3 countries) and IPM alternatives (2 countries) and comparing to the conventional crop management. The results of this analysis will be used for the IPM awareness raising campaign disseminating this information to advisors and farmers.
- 3.3.3 Plan and implement an awareness raising and visibility strategy to show the application and efficiency of pest monitoring and of IPM alternatives, including FFS and Field Days for various stakeholders, advisor and farmer-oriented brochures and guidelines, and through a field visit for advisors from other countries to the pilot project countries sites testing monitoring tools and IPM alternatives (at least one visit during project duration) in selected crop(s).

Timeline for implementation: Exchange visit during regional workshop in Turkey in Year 1. The assessment will start in Years 2-3 of implementation, to ensure that methodology and results will be consistent with approaches to pesticide impact monitoring conducted under Output 2.3. The awareness raising will start in Year 3, finishing with the international field visit in Year 4.

Component 4: Project achievements and lessons monitored and widely shared for maximum influence

The objective of component 4 is to ensure a systematic approach to results-based monitoring and evaluation of project progress towards achieving project outputs and outcome targets as established in the Project Results Framework. It also aims to maximise the impact of the project, particularly of the life cycle management pilot projects, to influence pesticide and agricultural policy making in the project countries and

Output 4.1: Project monitoring system fulfils all applicable donor and stakeholder reporting requirements

Based on the indicators of the results framework and the milestones set in the work plan a bespoke M&E plan will be developed for the project. FAO will provide training to the GCCH on how to use the FAO M&E tracking system. The system uses a series of simple milestones from the work plan to estimate the percentage delivery by Output and Component. A dash-board system is used to illustrate progress which is reported on a monthly basis. In addition, a number of statutory evaluations required as part of FAOs role as a GEF agency.

Main activities:

- 4.1.1 GCCH will provide monthly reports on progress in achieving project outputs and outcomes using the bespoke system for project tracking linked to the log frame and work plan;
- 4.1.2 Independent mid-term and final evaluations will be organized by FAO in consultation with the project partners and the PSC.

Time for implementation: M&E will be continuous. A mid-term review will be conducted at project mid-term (after two years of implementation) and an independent final evaluation at project completion.

Output 4.2: Project evidence and lessons are taken into consideration in pesticide and agriculture policy making, and widely disseminated to key national and international audiences

The pesticide life cycle management work done by this project is spread among the five countries, and there is a risk that individual pilot projects may not generate the momentum and visibility needed to catalyse prioritization by decision makers for policy change. Therefore, there is a particular need to proactively engage policy makers, and make sure the project results are expressed and communicated in a compelling and unified manner, based on the pesticide life cycle approach. This component will ensure that the different pilots are put into the context of the life cycle and links between them are clearly drawn out and understood by participants. One example might be that experience in the container management pilot may generate learning points and new requirements for packaging conditions set for pesticide containers at the registration step.

Main activities:

- 4.2.1 Workshop and experience sharing of the different pilots
- 4.2.2 National roadmap produced in each country highlighting life cycle considerations in national policies, with recommendations and prioritization of needed policy reforms

Time for implementation: Contextualisation of individual outputs throughout project, particularly at Project Steering Committee meetings; final workshop and publication of roadmaps in Y4.

2.4. GLOBAL ENVIRONMENTAL BENEFITS

The project will deliver significant and immediate global environmental benefits through the safe disposal of approximately 900 tons of extremely high risk stocks of POPs and other obsolete pesticides. One highly contaminated site will be remediated. The disposal of POPs and clean-up of contamination sources will reduce releases of hazardous products into the immediate but also global receiving environmental media – air, land and water.

Through demonstrating container management and raising awareness among the general public and the region's regulators about the risks inherent in re-using containers for domestic purposes, specifically for storing foodstuff and drinking water, project activities will further reduce the adverse impacts of the release of pesticides to the environment, mitigating the risk of surface water contamination and soil degradation.

Improving pesticide regulations and enhancing capacity to implement them will contribute to wider use of pesticides that are less hazardous both to human health and the environment, improved quality control of pesticides, and to better managed use of hazardous pesticides. Ultimately, all of these outcomes will lead to reduced releases of highly hazardous pesticides into the receiving environment.

2.5. COST EFFECTIVENESS

The disposal element will benefit from FAO's unique experience in disposing of obsolete pesticides around the world, which has found that the use of specialist companies to export and destroy the pesticides at dedicated hazardous waste treatment facilities is the most cost-effective environmentally sound management strategy, while the safeguarding will be conducted by the most cost-effective

combination of national staff and international contractors that is required to minimise the risks of these operations to an acceptable level. The FAO tools on environmental assessment and management planning provide standard tools to quantify and make decisions on these risks. The project will furthermore investigate the feasibility of developing disposal capacity in the region which could represent an even more cost effective solution in the future. The project will aim to maximise recruitment of international consultants from the region wherever capacity exists, to minimise travel costs and carbon emissions, as well as build up and encourage sharing of existing capacity in the region.

The project has already benefited significantly from ongoing cooperation with related initiatives, for example by adopting life cycle management assessments from a different project to guide development of its components on pesticide management, and throughout implementation the project will draw upon existing capacity in the region, for example using Turkish experts on inventory to train others and building on existing FAO TCP projects on Farmer Field Schools rather than starting anew. The involvement of civil society (see section 2.6 below) also allows cost efficiencies to be made by contracting international and national NGOs and organizations for designing and conducting field work which are often geographically dispersed in areas that may be difficult to access using FAO or government teams.

The adoption of pilot/ demonstration projects for the pesticide life cycle management priorities identified will allow participating countries to learn from each other's' experience on all the life cycle stages prioritized, and by demonstrating field activities a significant body of experience will be generated which can be used to expand activities in the future in a cost effective way.

Finally the project will maximise efficiencies in organizing regional meetings, delivering multiple activities in single meetings and planning for workshops to be linked to relevant international events such as the IHPA Forum meetings.

2.6. INNOVATIVENESS

The pesticide life cycle approach is not innovative per se but its direct application in the project, with the systematic assessment of each life cycle phase following the Code of Conduct, having already been an effective and innovative way of promoting the Code and encouraging a holistic view of pesticide management. The proposed pilot demonstration projects will continue to implement the life cycle approach in practice, with transfer technologies and best practices to the countries on all life cycle stages, from needs assessment (through promotion of pest monitoring and alternative non-chemical options), registration and labelling practices, user surveillance and impact monitoring, container management, through to regionally available disposal technologies. Many of these pilots will bring new approaches to the region, and the cement kiln investigations are innovative for developing countries and countries with economies in transition globally.

The project also adopts an innovative partnership implementation model with close involvement and participation of civil society through both national and international NGOs in all project components. As well as offering cost efficiencies as mentioned above, this approach also increases public awareness and buy-in to the project activities, with highly effective public outreach and involvement mechanisms that civil society organizations are uniquely placed to deliver.

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 the following:

- 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 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 when they have been utilized. 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
Project agreement with FAO will not be signed in different countries in a timely manner and season-sensitive activities such as inventory field work and cropping systems are unavoidably delayed to Year 2	High	The project development process has been marked by strong cooperation and coordination between national and international project partners building on past projects, and participatory planning of the project including two workshops (inception, Ankara, Feb and validation, Antalya, Oct 2014). The project will set a strict deadline for countries and FAO to establish necessary project agreements to allow for an inception meeting in Spring 2015. Component 3 activities have been largely planned for Year 2, and Flexibility in final selection of crops and organisation of field work will allow the project to respond to any unavoidable delays (e.g. selection of winter crops for IPM)	FAO SEC
Lack of disposal options in the Central Asian Region means that safeguarded stocks will not be able to be finally disposed	High	The project plans to dispose of stockpiles from Azerbaijan which is the only country able to export stocks in the usual manner. To mitigate this risk for future projects, feasibility studies for alternative destruction options will be conducted, and ongoing discussions on the export ban continued. The project will delay field safeguarding and repackaging until the disposal strategy is complete in order to only repackage wastes with a viable disposal route.	CTA
Political instability in project countries.	Medium	There is no current unrest in project countries, although this may be affected by developments in the wider region. These will be closely monitored through regular field visits	FAO

		and events and communication with National Component Team Leaders.	
Contradiction between national and international legislation/ standards; and between ministries	Medium	Previous work has involved all stakeholders in assessing legal frameworks and a validation workshop will be held early to ensure that national legal stakeholders recognise and support the suggested changes to bring international and national legislation to agree. The implementation and institutional agreements have been discussed with government representatives and endorsed at the validation workshop to ensure consensus on responsibilities.	Legal consultant
Lack of technical capacity (personnel and equipment) in project countries, including staff mobility	High	The project will encourage commitment through provision of high quality training and capacity building opportunities. The National Coordinators in each country structure will be instrumental in communicating to Ministries the need for trained staff to remain in existing posts for the duration of the project.	CTA
Objections and non-cooperation with disposal activities by governments and civil society in project and transit countries.	High	The project will only use disposal facilities that meet Basel ESM requirements, and the feasibility studies of alternative technologies will include a social and political assessment and engagement of affected stakeholders including civil society, local populations, and others. Transboundary movements of wastes will be in line with the Basel Convention	CTA and FAO
Insufficient funds for safeguarding of major contaminated sites, the disposal of POPs and other project activities	High	The project will focus on filling gaps and uncertainties associated with the inventory, in order to target the highest priority sites for safeguarding. The project will also dedicate regional communications and visibility resources to managing expectations and be very clear of its role as part of a suite of projects that will be needed to fully address the problem in the region.	PSC, FAO
Accidents and exposure during safeguarding, transport and handling of wastes and empty containers.	Low to medium	Training in safety, monitoring and handling procedures will be provided to all national staff. Personal Protection Equipment (PPE) provided for all personnel involved in safeguarding.	FAO
Lack of awareness about OP problems among populations and decision makers	Medium	The project will highlight both the risks and the solutions for obsolete pesticides through field activities with integrated public and political awareness raising, and through high level meetings and workshops with international and regional participation	NGOS
Climate risks such as heavy winters and hot summers, crop calendars disruption or increase of pest invasions	Medium	Emergency sites will be safeguarded during the spring and autumn to avoid the extreme heat and cold. Contingency plans, especially relating to PPE wearability in hot conditions, will be included in the EMP.	FAO, CTA
Low existing use and uptake of alternative technologies by producers.	Medium	The promotion of IPM through FFS is relatively new in the region, so the project has selected to continue an ongoing project in Kyrgyz Republic. Local NGOs and research institutes will be involved to ensure local relevance and increase the adoption rates.	IPM specialists

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 the region. The main responsibility for management of pesticides in the Central Asian region is generally divided between a combination of the following ministries: Ministry of Agriculture, Ministry of Environment, Ministry of Health. Often the Ministry of Emergency Situations is interested to play a role when safeguarding of obsolete stocks is planned. From country to country it differs what role the different ministries play and what ministry signs the GCP Agreement with FAO. In practice this is often the Ministry of Agriculture. The institutions include those whose respective mandates and responsibilities are outlined in sections 1.1 and 1.4

- Azerbaijan - Ministries of Agriculture, Environment, Emergency and Health;
- Kazakhstan - Ministries of Agriculture, Environment and Health;
- Kyrgyz Republic - State Agency on Environment Protection and Forestry, Ministries of Agriculture & Amelioration and Health;
- Tajikistan – State Committee on Environmental Protection, Ministries of Agriculture and Health;
- Turkey - Ministry of Agriculture, Food and Livestock

Central Asian countries share a history of cooperation within the frame of the Soviet Union. Today, however, thematic regional cooperation is not well organized and countries are mainly trying to deal with the issues of obsolete and POPs pesticides and improvement of agricultural practices on the national level. Execution of components will be the responsibility of Ministries of Agriculture and Environment that will have a close cooperation with the Ministries of Health and Emergency to build comparative advantages.

The project will be executed under the overall supervision of FAO Sub-regional Coordinator for Central Asia who will be the budget holder of the project. The Sub-Regional Office for Central Asia (FAO-SEC) will provide the operation and administrative support to the project. In addition, the FAO Offices in Baku, Bishkek and Dushanbe will provide operation and administration support in implementation of the project activities at national level.

The FAO EC project has established institutional arrangements involving strong partnership with a number of international NGOs with extensive experience and networks in the region, and in some cases, intellectual property on particular methodologies. Given the high degree of coordination required with this and other co-financing projects, it is proposed to mirror the institutional arrangements in this project and continue to work with the same organizations. Selection of all consultants and contractors will be conducted in accordance with all relevant FAO procurement rules. The evaluation of an earlier project (EECCA project¹) by the FAO Office of Evaluation found that *“working through NGOs probably increased the flexibility of the project, the absence of FAO Representations in most participating countries was offset by the network of GC, IHPA and MKI contacts”*.

4.2. IMPLEMENTATION ARRANGEMENTS

Based on experience from other projects a number of national implementation structures will be needed, as schematized in the Figure 2 below.

¹ Capacity Building on Obsolete and POPs Pesticides in Eastern European Caucasus and Central Asian (EECCA) countries (GCP/INT/062/GFF), Terminal Evaluation Final Report

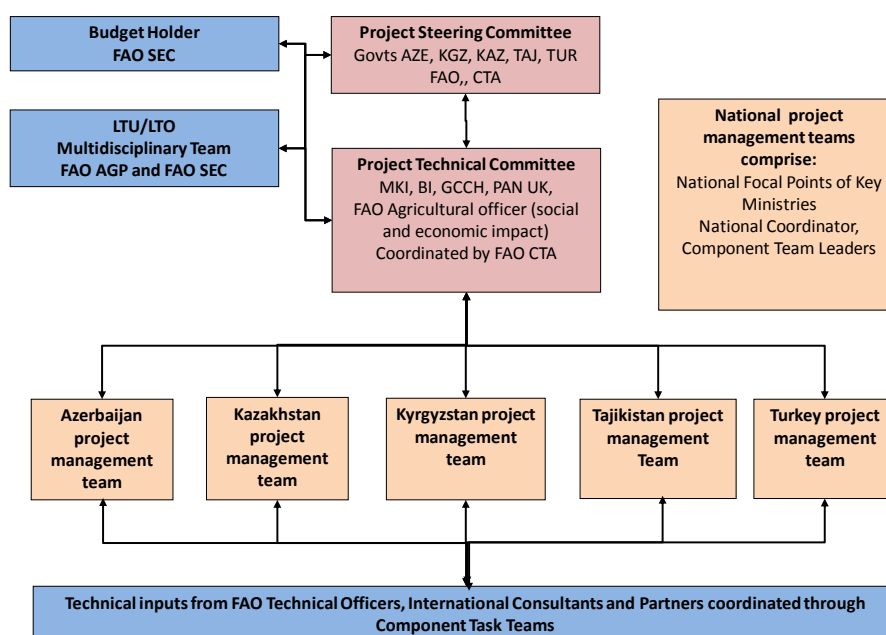


Figure 2: Organigram for project implementation

Regional level

To allow for regional coordination and joint decision making, a Project Steering Committee (PSC) will be established to support the project by monitoring the quality and timeliness of the execution of project activities and delivery of outputs, and propose adjustments as necessary. The government representatives on the PSC should be higher level decision makers, who would be empowered to make decisions on the budget and implementation of the project. The PSC will meet on an annual basis, and guide and oversee implementation of the project, through the:

- a) Provision of guidance to ensure that project implementation is in accordance with the project document;
- b) Review and approval of any proposed project revisions – including the results framework and implementation arrangements;
- c) Review, amendment (if appropriate) and endorsement of all Annual Work Plans and Budgets;
- d) Review of project progress and achievement of planned results as presented in six-monthly Project Progress Reports, (annual) Project Implementation Reviews (PIRs) and Financial Reports;
- e) Provision of advice on issues and problems arising from project implementation, submitted for consideration by the PMT (Project Technical Committee) or by various stakeholders; and
- f) Facilitation of cooperation between all project partners and collaboration between the Project and other relevant programmes, projects and initiatives in the region.

A **Chief Technical Advisor (CTA)** will support implementation, financed by the project's GEF resources, and short-term consultants as necessary. The PTC will be responsible for management of the project and timely and efficient implementation of and monitoring of approved annual work plans. In close consultation with the International Project Partners, National Project Coordinators, National Component Team Leaders, the Project Steering Committee (PSC) and FAO, the CTA 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) Prepare the six-monthly Project Progress Reports (PPRs) and give inputs in the preparation of the annual Project Implementation Review (PIR) by the Lead Technical Officer.
- f) Ensure that all co-financing partners provide information on co-financing provided during the course of the year for inclusion in the PIR;
- g) Drafting TORs for consultants in consultation with FAO LTO and LTU
- h) Drafting ToRs for partner LOAs, approving outputs and monitoring performance
- i) Developing specifications for procurement in consultation with FAO, and supporting development of disposal tender with FAO Procurement service including drafting specifications based on national data;
- j) Liaising with ministries and states, representing the project on behalf of FAO

Together with the Project Technical Committee members and Component Team Leaders and National Coordinators, the CTA will:

- k) During project inception period, review the project's M&E plan and propose refinements, as necessary, and implement the plan;
- l) Assist in the organization of midterm and final evaluations.
- m) Coordinate the project with other related on-going activities and ensure a high degree of inter-institutional collaboration

A **Project Technical Committee (PTC)** coordinated by the FAO Chief Technical Advisor, would support the PSC. The PTC is composed of the project implementing partners with various technical experts and consultants invited as needed to brief on technical matters and project delivery. The Project Technical Committee will meet on a monthly basis through telephone conferences or face to face meetings in order and coordinate project implementation, and reporting in order to provide recommendations to the PSC. The PTC will be required to coordinate and manage a series of project component teams. Three component level task teams will be developed to ensure that adequate regional and government inputs are mobilized in line with co-financing agreements. Technical staff from departments and ministries will be seconded to the project on an as-needed basis. The proposed PTC members and the cross-cutting functions each will provide at the regional level are:

- **Milieukontakt International** would support the CTA through country coordination and liaison, for example providing support to national teams in developing workplans, Operational Manuals, and developing necessary reports and inputs to the CTA and PTC. MKI will also provide support in organizing national training and field work, as well as providing technical services in support of international consultants, including inventory training, development of EMPs, awareness raising, etc.
- **Blacksmith Institute** is responsible for implementation contaminated land activities, based on their approach for Rapid Environmental Assessment and in-situ remediation projects on contaminated sites in developing countries
- **International HCH and Pesticide Association IHPA** is responsible for the social and political consultation process and technical status report of regional disposal technology options and for the involvement of project stakeholders into the IHPA fora in 2015 (Aragon, Spain and Astana, 2017)
- **Green Cross Switzerland (GCCH)** will develop, coordinate and deliver project M&E, including proposing, training and maintaining a project level system to record progress against both the workplan and logframe (progress and impact). They will also be responsible for maintaining project records and documentation for the monitoring system (e.g. PTC monthly minutes, etc)
- **Pesticide Action Network UK** will coordinate collection of field data as evidence for M&E and to support project activities, particularly the component 3 output on quantifying the benefits of pest monitoring and IPM adoption. They will combine their health monitoring methodology with economic assessment to highlight the full costs and benefits of different strategies.

- **Communications, visibility and gender mainstreaming** expert is responsible for a) coordinating and supporting the development and implementation of regional and national communications and visibility activities in line with the project communication and visibility plan, particularly ensuring consistency and coordination between communications activities across different outputs and b) ensuring that planning for all project activities adequately considers women and other vulnerable groups

Please refer to the detailed outline ToR for each consultant and contract in Appendix 4 for more information.

National level

In each country, and immediately following signature of the country agreements with FAO, a Project Operational Manual will be developed, following the experience gained during the EC project, which will set out the specific roles and inputs of the governments to the project. This will include allocation of responsibility for day-to-day support to the execution of activities under each different component, specific arrangements for provision of in kind contributions and other inputs, and any specific requirements including on import of equipment etc.

National Project Teams (NPT) in each country will be comprised of a **National Coordinator** from the Ministry that signs the Agreement with FAO, funded by and representing government in the project. In addition to the National Coordinator in the main line ministry, additional participating Ministries (e.g. Health, Emergency, etc.) will appoint a **National Focal Point** who will give input to the National Project Team. The National Coordinator and National Focal Points will remain government employees and the cost of their support to the project will count as project co-finance to the GEF contribution from each Ministry. Their role is to liaise with the Ministry personnel necessary to support implementation of each Component to ensure the necessary linkages are established to national policies and on-going initiatives. The aim is to ensure that project results are endorsed at Ministerial level resulting in the mainstreaming of the project into the overall plans for the Ministries.

The National Coordinator is supported by national **Component Team Leaders** funded by project on a When Actually Employed basis, depending on the particular outputs and activities that are included in each country. In addition to technical tasks, the Component Team Leader is responsible for delivering and coordinating national activities, including among others:

- Support the national government partners to develop the Country Operational Manuals (OM) describing activities to be implemented under the project at national level and assist in the development of technical materials required as part of the country Operational Manuals;
- Assist in the development of the national annual work plans by project Component and assist government national focal points in monthly reporting of progress against the agreed work plan and agreed M&E indicators to Green Cross Switzerland (GC CH);
- Participate in Project Technical Committee (PTC) meetings (upon the request of CTA) and Project Steering Committee meetings and support national focal points in the preparation of reports and presentations to be made at each meeting
- Participate in monthly meetings with National Project Teams (NPT) to discuss implementation issues and report on this to MKI and FAO
- Act as the focal point for all project related communications to government national focal points
- Assist in specific technical areas

Weekly meetings will be convened by the National Coordinator as head of the NPT where members will provide updates on implementation and execution and raise any issues which need to be brought to the CTA, PTC or FAO SEC for resolution. The National Component Team Leaders will be recruited as a part time consultant by competitive selection by FAO SEC in consultation with government

representatives. The members of the NPT will be responsible for the day-to-day management of the project and timely and efficient implementation of the approved annual work plans. Responsibility for gathering data and disseminating information between the country and regional level would be assigned to one of the members of the National Project Teams.

FAO's Role:

FAO will be the GEF Implementing Agency (IA) for the project. As the GEF IA, 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 and carry out supervision missions.

As the GEF IA for the project, FAO will also:

- 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. As indicated in the introduction to this section 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 PSC-approved budgets.

FAO SEC will be the **Budget Holder (BH)** responsible for the timely operational, administrative and financial management of the project. She/he, working closely with the PMT, 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 for technical review and clearance respectively;
- 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); review of Project Progress Reports and co-financing reports submitted by the Project Team, in consultation with the FAO LTO, Lead Technical Unit (LTU) and the GEF Coordination Unit.

All payment for in-country and international travel will be made to the traveller according to FAO rules. National and international travel budgets are detailed in the project budget. For national travel personnel will be expected to complete a national travel request so allowing the FAO office to raise the necessary travel authorisation and payment of allowances. Similarly, all costs associated with the management of the project (telephone, internet etc.) will be reimbursed following submission of the bill to FAO by the National Component Team Leader.

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

- a) Review and provide clearance to TORs for consultancies, LOAs and contracts;;
- 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 PSC;
- f) Prepare the annual 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) With the LTU provide, field annual (or as needed) technical support and backstopping missions. The officer to complete the missions will be assessed based on the technical area to be reviewed;
- h) 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) 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 FAO based in the Investment Centre Division (TCI) will provide comments to the project progress reports, and will approve and review annual PIRs, financial reports and budget revisions. The unit will also participate in the mid-term and final evaluations and in 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 provide annual Financial Reports to GEF and, in collaboration with the GEF Coordination Unit, call for project funds from the GEF on a six-monthly basis.

4.3. FINANCIAL PLANNING AND MANAGEMENT

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

Output	Co-financing										GEF Funds		Grand Total
	FAO	Azerbaijan		Kazakh- stan	Kyrgyz Rep.	Tajikistan	Turkey		Subtotal Co-financing				
		In-kind	Cash	In-kind	In-kind	In-kind	In-kind	Cash	USD	Percent	USD	Percent	
Obsolete Wastes													
1.1 - Inventory of obsolete pesticides	650,000	200,000	200,000	300,000	100,000	100,000	200,000	200,000	1,950,000	74%	698,870	26%	2,648,870
1.2 - Disposal strategy	0	500,000	300,000	500,000	100,000	100,000	500,000	300,000	2,300,000	78%	660,550	22%	2,960,550
1.3 - Safeguarding and disposal	1,550,000	300,000	200,000	200,000	50,000	50,000	200,000	500,000	3,050,000	48%	3,273,700	52%	6,323,700
1.4 - Contaminated site risk reduction	0	0	0	0	0	0	0	0	0	0%	424,308	100%	424,308
1.5 - Pesticide container management	0	500,000	200,000	200,000	100,000	100,000	500,000	500,000	2,100,000	91%	202,000	9%	2,302,000
1.6 - Exposure reduction	0	0	0	0	0	0	0	0	0	0%	273,530	100%	273,530
Subtotal Component 1	2,200,000	1,500,000	900,000	1,200,000	350,000	350,000	1,400,000	1,500,000	9,400,000	63%	5,532,958	37%	14,932,958
Legal/Regulatory framework													
2.1 - Revision of legal frameworks	1,800,000	300,000	100,000	500,000	100,000	100,000	300,000	300,000	3,500,000	94%	210,000	6%	3,710,000
2.2 - Registration procedures	300,000	300,000	200,000	300,000	200,000	200,000	300,000	400,000	2,200,000	91%	214,394	9%	2,414,394
2.3 - Field data/Best practices	1,800,000	300,000	200,000	300,000	100,000	100,000	300,000	300,000	3,400,000	92%	289,500	8%	3,689,500
Subtotal Component 2	3,900,000	900,000	500,000	1,100,000	400,000	400,000	900,000	1,000,000	9,100,000	93%	713,894	7%	9,813,894
IPM alternatives													
3.1 - Pest monitoring	3,500,000	200,000	300,000	200,000	150,000	150,000	200,000	300,000	5,000,000	94%	343,773	6%	5,343,773
3.2 - FFS	4,800,000	400,000	300,000	500,000	100,000	100,000	500,000	200,000	6,900,000	95%	328,427	5%	7,228,427
3.3 - On-farm trials	5,850,000	0	0	0	0	0	0	0	5,850,000	94%	382,150	6%	6,232,150
Subtotal Component 3	14,150,000	600,000	600,000	700,000	250,000	250,000	700,000	500,000	17,750,000	94%	1,054,350	6%	18,804,350
Monitoring and lessons learned													
4.1 - M&E system	300,000	0	0	0	0	0	300,000	0	600,000	60%	404,000	40%	1,004,000
4.2 - Evaluations	450,000	0	0	0	0	0	0	0	450,000	91%	45,200	9%	495,200
Subtotal Component 3	750,000	0	0	0	0	0	300,000	0	1,050,000	70%	449,200	30%	1,499,200

Project management													
5.1 - Project Management	1,000,000	0	0	0	0	0	0	0	1,000,000	72%	386,584	28%	1,386,584
Subtotal Component 3	1,000,000	0	0	0	0	0	0	0	1,000,000	72%	386,584	28%	1,386,584
Total	22,000,000	3,000,000	2,000,000	3,000,000	1,000,000	1,000,000	3,300,000	3,000,000	38,300,000	82%	8,136,986	18%	46,436,986

4.3.2. GEF inputs

The largest proportion of GEF funds (USD 5,532,958) are allocated to the safe disposal of POPs and highly hazardous pesticides and the remediation of contaminated sites and development of a sustainable container management pilot project in one participating country (Component 1). 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 building the capacity for pesticide management throughout the whole life cycle (USD 713,894) under Component 2; and promoting less toxic alternatives (USD 1,054,350) under Component 3. GEF resources are also allocated to support Monitoring and Evaluation (USD 449,200) under Component 4 of the project. It should be highlighted that the budget allocated for project management (USD 386,584 in Component 5) is not detailed in the approved PIF and the budget allocated to cover these costs is taken from savings in other Components (primarily Component 1). This is summarized in the tables below.

Description	Component 1	Component 2	Component 3	Component 4	Component 5	Total
INTERNATIONAL CONSULTANTS	665,000	230,000	143,000	177,000	386,584	1,601,584
NATIONAL CONSULTANTS	180,000	70,000	172,400	14,000	0	436,400
TRAVEL	266,100	290,594	273,650	97,000	0	927,344
CONTRACTS	4,240,238	44,000	251,000	132,000	0	4,667,238
EXPENDABLE PROCUREMENT	85,120	2,800	84,000	0	0	171,920
NON-EXPENDABLE PROCUREMENT	29,000	1,500	110,300	0	0	140,800
GENERAL OPERATING EXPENSES	67,500	75,000	20,000	29,200	0	191,700
Total	5,532,958	713,894	1,054,350	449,200	386,584	8,136,986

Description	Year 1	Year 2	Year 3	Year 4	Total
INTERNATIONAL CONSULTANTS	472,646	454,146	316,646	358,146	1,601,584
NATIONAL CONSULTANTS	122,600	103,600	109,600	100,600	436,400
TRAVEL	223,035	191,513	346,732	166,064	927,344
CONTRACTS	554,105	435,304	2,000,462	1,677,369	4,667,238
EXPENDABLE PROCUREMENT	64,453	41,733	41,733	24,000	171,920
NON-EXPENDABLE PROCUREMENT	138,133	1,333	1,333	0	140,800
GENERAL OPERATING EXPENSES	44,800	49,800	48,550	48,550	191,700
Total	1,619,772	1,277,429	2,865,056	2,374,729	8,136,986

4.3.3. Government inputs

The participating governments will provide cash and in-kind co-financing in the form of:

- 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 inventory; preparation of the EA and EMPs and the supervision of safeguarding and disposal; a national team for site remediation;
- provision of fuel and vehicles for field work;

- contribution to the container management infrastructure and operation including the provision of transport and intermediate and final collection centres for processing empty pesticides containers;
- support to process of legal reviews and improvements
- Government staff time, particularly for the National Coordinators and National Focal Points, as well as the field teams mentioned above;

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 governments will contribute to the promotion of alternatives to hazardous pesticides through ministries of agriculture in the form of in-kind staff time. In addition, governments will provide in-kind co-financing to support project management including office space for the National Project Teams and M&E through the NPT National Focal Points.

4.3.4. FAO inputs

FAO is providing a significant amount of cash and in-kind co-finance through a number of FAO-managed projects, namely FAO Turkey Partnership Program, FAO Locust Program, FAO Technical Cooperation Program (TCP), GCP/RER/040/EC, MTF/AZE/007/STF and FAO-SEC Crop Regular Program will provide support and contributions of staff time and expertise delivered through FAO Representations. The total estimated contribution is around USD 22 million over the four years.

4.3.5. Other co-financiers inputs¹

The remaining co-finance will be provided by all the participating countries as set out in the co-finance table above.

4.4. FINANCIAL MANAGEMENT AND REPORTING ON GEF 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 SEC as the BH, supported by Operations and Administrative Unit, 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.

¹ Please also see section 1.2 b)

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, under performing 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 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 or renaming of implementing entities, not affecting the project's scope.
- Revisions in, or addition of, any of the annexes of the project document.
- Mandatory annual revisions which rephrase 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 385,200 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 Green Cross Switzerland (GCCH) and the CTA, and driven by the preparation and implementation of annual work plans and budgets (AWP/B) and six-monthly project progress reports (PPRs) by the CTA. 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 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 National Project Team 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.

Component 4 on M&E allows for the development and coordination of a results based monitoring system that will additionally report on the indicators and impact of the project based on the results framework. This work will be coordinated by GCCH and data provided from the National Component Team Leaders and National Project Teams from all relevant ministries.

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 GCCH and supported by the FAO LTO and LTU.

The pesticide and pest management surveillance pilot projects in Components 2 and 3 will also be an important source of information for the M&E system. Data collected from the pilots 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

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 be initiated within a six month inception period. An inception workshop will be held and immediately after the workshop, the CTA will prepare a project inception report in consultation with the FAO LTO. 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 SEC), LTO, LTU and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH.

Annual Work Plan and Budget (AWP/B): The CTA 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: The CTA 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 CTA 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 CTA 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 CTA to the FAO BH 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 CTA will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all co-financing partners. The CTA 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 CTA with support from the LTO at mid-term and final evaluation.

Terminal Report: Within two months of the project completion date the CTA 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

Type of monitoring and evaluation activity	Responsible parties	Time frame	Budget
Inception Workshop	CTA, Project Technical Committee, Project Steering Committee, FAO (FAO SEC 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 50,000 workshop +
Inception report	CTA 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 5,000
Design and implementation of M&E system	GCCH with support from FAO LTO and LTU.	Within the first six months after the project inception	USD 3,000
Impact monitoring updates	GCCH with input from National Component Team Leaders	Monthly	USD 46,200 GCCH and USD 6,000 CTL
Supervision missions	FAO LTO/LTU	Annual or as required.	Paid by GEF Agency fee

Type of monitoring and evaluation activity	Responsible parties	Time frame	Budget
Support missions	GCCH	Once to each project country & participation in PSC	USD 42,000
Project progress reports (PPRs)	CTA. Cleared by BH and LTO with comments from the GEF Unit, when requested. Finalized reports submitted to the FAO GEF Unit by the BH/CTA for upload on FPMIS	Six- monthly	USD 15,000
Project Implementation Review (PIR)	FAO LTO with inputs from the CTA, 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	CTA with information from all co-financing partners and National Component Team Leaders	Six monthly and annually as part of PPR and PIR.	USD 7,500
PSC meetings (Year 4 one is also the Terminal Workshop)	CTA, PSC Chair, FAO Budget Holder	At least once a year	USD 65,000 plus component budgets
Technical reports	CTA, Consultants, FAO LTO/LTU	As appropriate	From fee and component budgets
Mid- term evaluation	External consultant, Organized by FAO independent evaluation unit in consultation with the project team and other partners	At mid-point of project implementation	USD 70,000. FAO staff time paid through the GEF agency fee.
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team and other partners	At the end of project implementation	USD 70,000. FAO staff time paid through the GEF agency fee
Terminal report	CTA, FAO LTO	At least one month before end of project	USD 5,500
			USD 385,200

4.7. PROVISION FOR EVALUATIONS

An independent Mid-Term Evaluation (MTE) will be undertaken at project mid-term to evaluate 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 includes communication activities throughout all the components, in order to facilitate more specific communication objectives and activities explicitly linked with knowledge, attitude and behavioural changes (e.g. accessing obsolete pesticide stores, participating in the container management scheme, improving pesticide handling practices and adopting IPM). Specific monitoring indicators will allow the project to monitor the impact of the communication activities. Each component or pilot project will develop a communications strategy that will identify the main target groups, messages and appropriate delivery mechanisms, including budget. These activities (which appear separately in the results-based budget) will all be coordinated through the Social and Economic Mainstreaming & Awareness Communications Coordinator (see detailed ToR in Appendix 4). In practice the activities are anticipated to be delivered by national NGOs who have been trained in co-financing projects, so further coordination will be achieved at the national level. Implementing partners will support the Social and Economic Mainstreaming & Awareness Communications Coordinator in providing support and advice to national NGOs to design and execute communications campaigns with behavioural change objectives, and in monitoring such changes and linking them to the project M&E plan.

In addition to public and grassroots communications efforts, the project will also require effective and sustained communication with diverse stakeholders in order to progress project activities and ensure buy-in; key examples are 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 export of wastes and review of registration and post-registration systems. National Component Team Leaders will coordinate all communication inputs for their country, and international partners such as IHPA will provide guidance and additional inputs for these efforts.

All project communications will be in line with the GEF Communications and Visibility Policy in order to give adequate publicity to the action being implemented as well as to the support from the GEF. This is explicitly included in the Social and Economic Mainstreaming & Awareness Communications Coordinator terms of reference, as well as all other consultants or partners with a role in communications. The Policy and guidelines documents will be provided to all relevant partners.

FAO serves as a knowledge network, and is respected for the information and communications generated to inform agricultural and natural resource management and development. FAOs websites have amongst the highest traffic in the United Nations systems, with other one million visits per month; activities in the area of pesticide risk reduction group are primarily communicated through <http://www.fao.org/agriculture/pesticides/en/>. The communication plan and activities will be aligned with FAO's corporate communication strategy.

5. SECTION 5: SUSTAINABILITY OF RESULTS

5.1. SOCIAL SUSTAINABILITY

The project is expected to generate community health benefits through decreased exposure to highly hazardous pesticides, by: removing sources of these chemicals from stockpiles and contaminated sites; removing contaminated containers from communities; promoting and encouraging availability and uptake of non-toxic alternatives; and 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. Currently the direct and indirect costs incurred in pesticide mismanagement through pesticide poisoning, medical expenses and loss of capacity to work are significant 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 migration of men as laborers to Russia and Ukraine, women constitute an important proportion of the agricultural labor force 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 residues. The project will explicitly target women, children and seasonal workers through the pesticide surveillance pilot, and ensure that women are represented in all project component activities through partnerships with civil society organizations in training and awareness-raising activities. By improving the pesticide registration, labelling and packaging systems, the project will improve risk communication to all pesticide users and vulnerable groups will be explicitly considered in the training and activities on registration.

5.2. ENVIRONMENTAL SUSTAINABILITY

Project activities related to environmental sustainability include the removal of key source contaminants from the environment: obsolete pesticide stocks including POPs; 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 pesticides 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.

The contaminated land remediation activities will remove the contamination 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 and the Millennium Development Goals.

5.3. FINANCIAL AND ECONOMIC SUSTAINABILITY

This project will develop alternatives to conventional chemical pesticides but with a focus on documenting and reporting evidence for social and cost benefits of adopting alternative strategies, through Component 3.3 on comparing trained and non-trained farmers. Through this approach a sustainable farming system will be promoted, with a sustainable yield, using fewer 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. The routine use of pest monitoring also brings important cost reductions to farmers.

The pilot project on container management will demonstrate the technical and financial viability of such container management schemes. By rolling out the pilot in parallel with a legislative review, the project will be able to capitalize on the opportunity to introduce mandatory cost recovery measures through regulation.

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; 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. In addition the project will assist in building capacities of legislative and pesticide specialists from neighbouring countries through the sharing of experiences in the development of a comprehensive pesticide framework, and will invest in knowledge management and experience sharing resources and activities to clearly demonstrate the underlying pesticide life cycle concept.

The project will also engage national structures, such as Coordination Committees, to coordinate national mechanisms and priority actions as required by the NIP – taking advantage of recent UNEP work on the costs of inaction and mainstreaming research and publications to encourage an improvement in post registration capacity.

5.5. APPROPRIATENESS OF TECHNOLOGY INTRODUCED

The technologies to be used in the project must be relevant to the climatic and ecological conditions of the region, 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 2, below..

Table 2: Relevance of technologies to be used in the project

Technologies considered	Relevance
High temperature incineration of POPs obsolete pesticides and associated wastes	<ul style="list-style-type: none"> ✓ Expensive, but appropriate for high-risk obsolete pesticides that cannot be safely disposed of in Central Asia. ✓ Not appropriate for wastes that can be safely managed in Central Asia, for example soils
Triple rinsing and recycling of empty containers.	<ul style="list-style-type: none"> ✓ 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.

Bioremediation and phytoremediation of soils contaminated with pesticides	<ul style="list-style-type: none"> ✓ 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 thermal treatment
Alternatives to conventional chemical pesticides	<ul style="list-style-type: none"> ✓ 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, soil decontamination, registration and pesticide surveillance. 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 and regions not explicitly included in the project. The project has allocated specific resources to ensure that the knowledge and lessons learnt from these pilots are written up and documented in a form that will maximise learning and sharing by project stakeholders and beyond.

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

APPENDICES

APPENDIX 1: RESULTS MATRIX

OBJECTIVE			ASSUMPTIONS	
To reduce releases of POPs from obsolete pesticide stockpiles and strengthen capacity for sound pesticide management throughout the life cycle in 4 Central Asian countries and Turkey			Strong political support from national governments and availability of hazardous waste disposal options.	
Component 1: Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment				
Outcome 1	Outcome Indicator	Baseline	Milestones and targets	Assumptions
900 tonnes of POPs and obsolete pesticides are disposed of in an environmentally sound manner; and risks from obsolete stocks, contaminated sites and empty pesticide containers are further quantified and reduced	a) Technical capacity available for environmentally sound disposal options for POPs and other hazardous wastes in the Central Asian region	There is currently no environmentally sound option for disposing of POPs wastes, as there are no internationally acceptable facilities and export is prohibited in the three of the project countries (KAZ, KYR and TAJ). A PPG feasibility study in all 5 countries indicates cement kilns could be technically possible, if export continues to be prohibited. A follow up investigation of KYR facilities is underway (GCP/RER/040/EC). There are also other projects in the region (active and proposed) that aim to pilot SCWO, build new HTI and upgrade existing HTI.	Year 1: Follow up investigation on the feasibility of POPs pesticides disposal in AZE, TAJ and TUR completed Political advocacy on lifting of export ban organized Year 2: Disposal strategy (new technology in the region or export) agreed Year 3: test destruction in new regional facility completed	Political/legal barriers that prevent transportation of hazardous waste through the region; or disposal in new local disposal facilities can be overcome Private current owners of stocks will collaborate in actions to reduce risk In kind co-finance from countries is provided as agreed in order to support inventory and field work
	B) 900 tonnes of POPs and other obsolete pesticides safeguarded and disposed	TUR –1 239 tonnes of waste safeguarded	Year 1: National inventories of stocks updated and validated in AZE, KAZ, and TAJ Year 2: Risk reduction and disposal strategies for	Governments provide central storage locations and facilitate

			<p>obsolete stocks adopted in AZE, KAZ and TAJ and start of implementation</p> <p><u>Year 3:</u> Inventoried stocks safeguarded in AZE, KYR and TAJ (if disposal options in KYR and TAJ available). Start of disposal in AZE (KYR and TAJ)</p> <p><u>Year 4:</u> Disposal completed for min. 900 tonnes in AZE (KYR and TAJ)</p>	necessary works
	c) % of high risk populations engaging in behaviours that expose them to sources of obsolete pesticides	<p>Communication strategies in KYR have identified exposure routes from stockpile sites in communities through children's behaviours and unofficial evacuation of products. Similar and varied exposure routes have not been formally documented or quantified in any country.</p>	<p><u>Year 1:</u> KAP survey to describe behaviours and set baseline % of respondents</p> <p><u>Year 2-3:</u> Communication activities designed and implemented in 3 countries</p> <p><u>Year 4:</u> KAP survey indicates declines of 30-50% in % of respondents engaging in high risk behaviours identified in 1st KAP.</p>	

Component 1: Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
1.1 National Inventory of obsolete pesticides and associated wastes finalized in 3 countries	1. Tonnes of identified stocks entered and validated in PSMS	Current PSMS data based on PPG/ GCP/RER/040/EC: GCP/RER/035/TUR: AZE 10.354 tonnes South KAZ Oblast 0,5. tonnes KYR 333 tonnes TAJ 1.239 tonnes TUR 2.235 tonnes Estimates - not identified and need analysing Inventory training done in KAZ during PPG	Sampling and analysis of inventoried stocks and update of PSMS for AZE, KYR and TAJ	National inventory in Kazakhstan completed			Project Progress Report (PPR) Analytical results PSMS records	Project Management Unit/CTA National project teams
1.2 Risk reduction and disposal strategy for sound management of obsolete and POPs pesticides completed.	2. Number of EAs and EMPs adopted 3. Disposal capacity	3 Environmental Assessments and Management Plans drafted for AZE, KYR and TAJ. A PPG Feasibility Study (5 countries) identifies cement manufacturing capacity which could be modified to dispose of obsolete pesticides. A second phase study for KYR is underway (FAO EC project)	EAs and EMPs updated for 3 countries Assessment of feasibility of new technology for ESM in AZE, TAJ and TUR Advocacy for transboundary movements/ export	3 EA and EMPs adopted 1 (KAZ) drafted	4 EAs and 4 EMPs adopted		EAs and EMPs reports	Project Management Unit/CTA National project teams

Component 1: Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
1.3 900 metric tonnes of obsolete and POPs pesticides are safeguarded and disposed in AZE and KYR and TAJ.	4. Tonnes of wastes a) safeguarded and b) destroyed	Central store renovation and repackaging of 150 tonnes of obsolete and POPs pesticides in KYR (UNEP DDT project)		60t DDT safeguarded in KYR by UNEP DDT project	Tender(s) for waste disposal and safeguarding services 900 tonnes safeguarded in AZE/KYR / TAJ	900 tonnes destroyed from AZE (plus KYR and TAJ if disposal is possible)	PSMS risk profile; Contract documents Basel Convention destruction certificates.	Project Management Unit/CTA; National project teams
1.4 Risk associated with one critical contaminated site in one country is reduced	5. Rapid Environmental Assessment score for the site has reduced	IHPA has estimated that there are 400 000 tonnes of contaminated soils in AZE, KAZ, KYR and TAJ	Selection of one critical contaminated site in one country	Tender for risk reduction on 1 critical contaminated site Contractor for risk reduction measures selected	Risk reduction measures at one critical contaminated site in one country implemented		REA data base risk profile	LOA partner BI National project teams
1.5 Container management capacity developed in the region and risks of empty containers reduced in AZE	6. Number of farmers (M/F) a) reusing containers and b) practicing triple rinsing	Triple rinsing is not practised in the region	Container management review carried out in in AZE	Identification of commonalities for all countries and dvpt of regional strategy for container managemen		Completion of container management pilot in AZE	Report on container management pilot	Project Management Unit/CTA; Component 2 and 3 t ¹ eam leaders National project teams

¹ Data collection on container management practices will be combined with farmer field activities in component 2 and in component 3

Component 1: Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
	7. Number of containers collected in AZE	No collection system in place Baseline to be gathered during inception	Targets to be set during inception	Start of pilot implementation of strategy for container management in AZE				Contractor
1.6 High risk behaviours by exposed populations are quantified and reduced	8. Proportion of high risk populations practicing high risk behaviours which expose them to obsolete pesticides	Anecdotal evidence and media reports of major exposure incidents, but no systematic description of high risk populations or behaviours Good networks of national NGOs in 040 project	Training for national NGOs on KAP, identification of likely exposure routes, and KAP done in 15 villages per country	Communication strategy developed and rolled out in KGZ, TAJ, AZE	As Year 2	KAP survey in same 45 villages 50% reduction in respondents reporting behaviour (e.g. children playing, taking products, etc)	KAP survey reports Media and communications materials on exposure routes National communication outputs	Communications, visibility and gender mainstreaming expert

Component 2: Strengthening the legal, institutional and regulatory framework for of pesticide life cycle management				
Outcome 2	Outcome Indicator	Baseline	Milestones and targets	Assumptions
Regulatory and institutional framework for pesticide management strengthened in five countries	a) National legislations comply with international standards in Azerbaijan, Kyrgyz Republic and Tajikistan.	Legal Assessments conducted for Azerbaijan and Tajikistan (EC project) and Kyrgyz Republic (FTPP) have identified specific gaps in the existing laws, and recommend development of secondary legislation	Year 2: Draft revised and harmonized pesticide legislation in Azerbaijan, Kyrgyz Republic and Tajikistan Year 3: Drafts consulted and approved by stakeholders for presentation to government for adoption	Governments of Azerbaijan, Kyrgyz Republic and Tajikistan willing to review and amend national legislation
	b) Data requirements for pesticide registration are more comprehensive	Registration of pesticides is possible in all countries without the full data requirements set out in the Code of Conduct and FAO/WHO specifications	Year 1: Training provided and manuals and guidance translated and published Year 4: Labelling and packaging requirements; operator exposure data; pesticide specification data all required for dossiers	Recommended improvements in registration, surveillance and enforcement are implemented by governments

Component 2: Strengthening the institutional and regulatory framework for pesticide life cycle management								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
2.1 Revised legal frameworks in line with the Code of Conduct developed	9. Number of identified non-conformances between national legislation and Code	Azerbaijan legal assessment: 5 ¹ Tajikistan legal assessment: 8 Kyrgyz Republic: 5		2 drafts of revised legislation for national consultation (AZE, TAJ)	3 rd national consultation 2 drafts submitted to governments	3 drafts submitted to parliament	Revised draft legislation Consultation reports Submission of legislation to parliament	Project Management Unit/CTA National project teams
2.2 Registration procedures and capacity strengthened by training and collection and consideration of field data on pesticide use and impacts	10. Quality and comprehensiveness of data requirements for registration regulations in Tajikistan, Turkey, and Kazakhstan	Turkey: no operator exposure asst Kazakhstan: As above, no pesticide specifications Tajikistan: As above, outdated list of registered products; no labelling or packaging reqmts	Operator exposure training in Turkey & Tajikistan Training on me-too products in Tajikistan	Packaging and labelling trg (TAJ) Draft of registration regulation requires exposure assessment (TUR) Specification training (KAZ)	List of registered products in Tajikistan updated and published 5 operator exposure assessments for hazardous products in Tajik conditions	10 assessments in Tajikistan All new AI dossiers contain operator exposure assessment and PPE (TUR) Registration requires pesticide specification (KAZ)	Operator Assessment reports from specialized software	National teams

¹ source: Legal Assessments – Major Findings & Recommendations (see bulleted list under ‘Major Findings of the Legal Assessment’ in each report)

Component 2: Strengthening the institutional and regulatory framework for pesticide life cycle management								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
2.3 Field data on PPE and spray operations is used to provide advice to farmers	11.Current and best case operator exposures quantified	Extension services do not cover detailed spray operations (e.g. nozzles for drift reduction, targeted spray)	Identify critical crops Field surveys of current spraying operations	Comparison of predicted (output 2.2) and actual exposures Best practices proposed				
	12.Dissemination of results to extension advisors & farmers including # of publications/ events	Province-level directorates of agriculture annual events	Targets to be set in inception					

Component 3: Pesticide use and risk reduction through pest monitoring and promotion of alternatives				
Outcome 3	Outcome Indicator	Baseline	Milestones and targets	Assumptions
Outcome 3 Farmers will use IPM alternatives to Highly Hazardous Pesticides (HHP), and reduce pesticide application frequencies	a) Reduction in pesticide application frequency in four countries	Conventional pesticide applications do not consider pest pressures Alternatives are not widely known so the only option considered is often pesticides	Year 1: Data collected on conventional pesticide application rates Year 2 - 3: Monitoring of pesticide use in target sites in all countries Year 4: 20% reduction in pesticide application compared to conventional; reported to policy makers	Extension services (public or private) in three countries have capacity to train farmers and provide extension advice Project is signed off in time by KGZ in order to continue existing FFS in Chui region, rather than start afresh
	b) Pest and disease prevalence data used to inform extension service advice	Pest and disease monitoring is not a standard practice to guide decisions and advice for treatments The availability of advice to farmers is rather low in most countries.	Year 2: National training of at least 10 extension agents per country Year 3 - 4: pest monitoring data entered on. forecasting models and extension advice provided to farmers	
	c) Farmers applying IPM methods and familiar with alternative pest control methods	TCP project data on farmer practices in preparation The use of IPM alternatives to conventional pesticides by farmers is limited or not practiced in all countries.	Year 1 – 2: Continuation of existing TCP FFS and monitoring of trained and untrained farmers Year 3-4: At least 50% of trained farmers apply IPM in their own fields	

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 Pest and disease monitoring to guide plant protection decisions in key crop(s)	13. Number of advisors (M/F) trained and number of farms participating	AZE, KYR, TAJ have district agronomists but no pest monitoring is systematically conducted or training of advisors. NGOs, farmers unions or private advisors exist in some countries	National workshop to identify priority crops and regions	Minimum 10 extension advisors trained per country = 30	100 farmers participating per country Data entered to forecasting models, treatment advice given	100 farmers (M/F) Data entered	Training reports & assessments Software reports	Implementation partner Component 3 Team Leader.

established in 3 countries (AZE, KYR, TAJ)	14. Frequency of pesticide applications reduced	DEXiPM has data on treatment frequency index for certain cropping systems. These will be confirmed when priority crops selected.	Priority crops selected and baseline survey conducted		pesticide input and yields compared with conventional fields	pesticide input and yields compared with conventional fields	Output 3.3 field surveys for KAZ and KYZ Software	National NGO or contractor for baseline Farm advisor
<u>Output 3.2</u> Integrated pest management practices tested, validated and promoted to male and female farmers	15. Number of farmers (M/F) participating in IPM demonstration sites and applying methods in their own fields	FAO/TCP/3403 FFS in three pilot areas in Chui region (Kemin, Chui and Issyk-Ata) = 45 farmers Kazakhstan has institutes doing research on IPM alternatives	Update and continue existing FFS in KYR Identify IP and priority crops	165 farmers Establish trials in KAZ	165 farmers 50 farmers in KAZ/???	165 farmers		
<u>Output 3.3</u> Quantify and promote the benefits of IPM and alternatives to HHPs, to farmers and pesticide management decision makers	16. Profit, pesticide use and exposure comparisons for trained and untrained farmers	Data collected by current TCP project on profit, health or pesticide use by trained farmers	Review and collate trained farmer data from FFS	Establish data collection for untrained farmers				PAN UK & national NGOs
	17. Dissemination of results and experience		Study tour to KAZ and/or TUR	100 community & decision makers take part in IPM Field Days		Publication of comparison results (IPM/conventional/pest monitoring) Field visit by other countries		National NGOs and National Plant Protection Consultant

Component 4: Project achievements and lessons monitored and shared				
Outcome 4	Outcome Indicator	Baseline	Milestones and targets	Assumptions
Project results are shared between project countries and outside stakeholders	a) Number of project monitoring reports as per requirements	None	Year 1: 1 PIR, 2 progress Year 2: 2 PIR, 4 progress, 1 MTR Year 3: 3 PIR, 6 progress, 1 MTR Year 4: 3 PIR, 7 progress, 1 final report, 1 MTR, 1 Evaluation	
	b) High level commitment from countries to life cycle management	Technical officers promote life cycle management but face weak involvement and support from decision makers	Year 3: High level representatives of all countries attend PSC meetings Year 4: 5 roadmaps for life cycle management published	

Component 4: Project achievements and lessons monitored and widely shared for maximum influence								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
<u>Output 4.1</u> Project monitoring system fulfils all applicable donor and stakeholder reporting requirements	18. Quality and timely project reports.	Project results framework with outcome and output indicators and targets.	Two six-monthly progress reports. Annual project implementation review report.	Two six-monthly progress reports. Annual project implementation review report.	Two six-monthly progress reports. Annual project implementation review report.	Two six-monthly progress reports. Annual project implementation review report.	Reports	Green Cross CH
	19. Midterm and final evaluation reports	None		Mid-term evaluation and report		Final evaluation and report	Evaluation reports.	External evaluators

Component 4: Project achievements and lessons monitored and widely shared for maximum influence								
Output	Indicator	Baseline	Milestones and target values				Data Collection and reporting	
			Year 1	Year 2	Year 3	Year 4	Means of verification	Responsibility for data collection
<u>Output 4.2</u> Project evidence and lessons are taken into consideration in pesticide and agriculture policy making, and widely disseminated to key national and international audiences	20. Number of high level participants attending project events and meetings		1 Director level participant at SC meeting 2 high level participants at IHPA Forum	3 Directors @ SC	5 Directors @ SC 5 high level participants at IHPA Forum	5 Directors @ SC	PSC reports and participant lists	CTA
	21. Media coverage of publications and awareness materials		Targets to be set during inception					Component Team Leaders; Communications and awareness consultant

APPENDIX 2: PROVISIONAL WORK PLAN

This work plan assumes the project EOD for the second quarter of 2016

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.	Reduction of releases from POPs and other obsolete pesticides posing high risk to public health and the environment																	
Output 1.1.	1.1.1. Regional inventory training																	
	1.1.2. Update of inventory, including sampling of unknowns, laboratory analysis and entering of data into PSMS in AZA, KYR, TAJ																	
	1.1.3. National inventory in KAZ, including sampling of unknowns, laboratory analysis and entering of data into PSMS																	
Output 1.2.	1.2.1. Regional training on EMP																	
	1.2.2. Finalization of EA/ EMP in AZE, KYR, TAJ, including approval by national governments Drafting EA / EMP for KAZ, including approval by government																	
	1.2.3. Advocacy and consultation to identify disposal strategy (export or new technology in region)																	
Output 1.3.	1.3.1. Pilot disposal of obstocks in new technology in AZE, KYR or TAJ																	
	1.3.2. Tendering for safeguarding and disposal.																	
	1.3.3. Implementation of safeguarding and disposal in AZE, KYR and TAJ																	
	1.3.4. Quality control and monitoring of safeguarding by governments of AZE, KYR and TAJ, supported by FAO																	

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 1.4	1.4.1. Training on Rapid Environmental Assessment (REA)																	
	1.4.2. Selection of one highly contaminated site in one country based on specific EMP for risk reduction																	
	1.4.3. Tendering for risk mitigation measures and implementation, including experience sharing																	
	1.4.4. Monitoring and evaluation of the risk reduction measures and experience exchange																	
Output 1.5	1.5.1. Review of national container management options completed in AZE.																	
	1.5.2. Identification of commonalities for all project countries and development of regional strategy																	
	1.5.3. Implementation of strategy on pilot bases in AZE and experience exchange																	
Output 1.6	1.6.1. Selection of national NGOs in AZE, KYR and TAJ and awareness raising training																	
	1.6.2. Identification of high risk sites with likely exposure routes to communities																	
	1.6.3. KAP surveys and development of communication strategies																	
	1.6.4. Implementation of communication strategy																	
Component 2.	Strengthening the legal, institutional and regulatory framework for of pesticide life cycle management																	
Output 2.1. Revised legal frameworks in line with the Code developed in three countries	2.1.1. 2 drafts of revised legislation for national consultation (AZE, TAJ)																	
	2.1.2. 2 drafts submitted to governments																	
Output 2.2.	2.2.1. Training on packaging and labelling																	

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
Registration procedures and capacity strengthened Tajikistan, Kazakhstan and Turkey	2.2.2. Training for 5 staff from Turkey & Tajikistan on predictive models for pesticide operator exposure																	
	2.2.3. Training on quality control of pesticides according to the FAO/WHO-Manual on specifications																	
	2.2.4. Training of registrars in equivalence of active ingredients and formulations																	
Output 2.3. Field data on typical and best practice techniques for both PPE and spray operations elaborated	2.3.1. Current and best practices are described for spray operations in critical crops																	
	2.3.2. Actual operator exposures quantified																	
	2.3.3. Dissemination of results to extension advisors & farmers, publications/ events																	
Component 3.	Pesticide use and risk reduction through pest monitoring and promotion of IPM alternatives																	
Output 3.1. Pest and disease monitoring to guide crop protection decisions in key crop(s) established in AZE, KYR and TAJ	3.1.1. National workshop to establish the operational plan.																	
	3.1.2. A baseline survey considering pesticide use and products in priority crops selected and exposure to people																	
	3.1.3. Develop required training materials and organize and deliver training for extension advisors																	
	3.1.4. information system for pest and disease data, advice, & pesticide treatments																	
	3.1.5. Reporting and publication of results, including national policy workshops and national pest and disease monitoring plan																	
Output 3.2.	3.2.1. Update KYR TCP FFS programme. In KAZ, establish the operational plan																	

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
Integrated pest management alternatives tested, validated, and promoted to farmers	3.2.2. Continuation of IPM FFS in KYR and data collection. In KAZ, establish trial, data collection and organising Field days for stakeholders to disseminate results																	
Output 3.3. Quantify and promote the benefits of IPM and alternatives to HHPs, to farmers and pesticide management decision makers	3.3.1. Exchange visit during regional workshop in Turkey to enhance experience in pest																	
	3.3.2. Comparative assessment and conduct a cost-benefit analysis																	
	3.3.3. Awareness raising and visibility strategy to show benefits of IPM and field visit for advisors from other countries to the pilot project countries sites																	
Component 4.	Project achievements and lessons monitored and widely shared for maximum influence																	
Output 4.1. M&E	4.1.1. Monthly reports on progress in achieving project outputs and outcomes																	
	4.1.2. Independent mid-term and final evaluations																	
Output 4.2. Learning & Dissemination	4.2.1. Workshop and experience sharing of the different pilots																	
	4.2.2. National life cycle roadmap produced in each country																	

APPENDIX 3: RESULTS BUDGET

Budget for Component 1

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component : Obsolete pesticides and contaminated sites						Total GEF
					1.1	1.2	1.3	1.4	1.5	1.6	
5570	CONSULTANTS										
5542	INTERNATIONAL CONSULTANTS										
*	CTA	Month	27	11,000	66,000	66,000	66,000	33,000	33,000	33,000	297,000
	SEC Procurement officer						74,000				74,000
*	Communications, visibility and gender mainstreaming expert	Month	11	8,000	24,000	24,000	8,000		16,000	16,000	88,000
	Inventory completion, sampling and PSMS trainer	Month	3.6	10,000	36,000						36,000
	EA and EMP development KZ, Completion of drafts AZ & TJ	Month	2	10,000		20,000					20,000
	Disposal option review	Month	5	12,000		60,000					60,000
	Container management consultant	Month	5	10,000					50,000		50,000
	Safeguarding supervision trainer	Month	4	10,000			40,000		-	-	40,000
5542	Sub-total (international)				126,000	170,000	188,000	33,000	99,000	49,000	665,000
5543	NATIONAL CONSULTANTS										
	Component team leader, 5 countries	Month	90	2,000	60,000	60,000	60,000		0	0	180,000
5543	Sub-total (national)				60,000	60,000	60,000	0	0	0	180,000
5570	TOTAL CONSULTANTS				186,000	230,000	248,000	33,000	99,000	49,000	845,000
5900	TRAVEL										
	International travel CTA	unit	20	3,000	60,000						60,000
	Social and economic mainstreaming & awareness	unit	4	3,000						12,000	12,000
	Inventory completion, sampling and PSMS trainer	unit	5	3,000	15,000						15,000
	EA and EMP development KZ, Completion of drafts AZ & TJ	unit	4	3,000		12,000					12,000

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component : Obsolete pesticides and contaminated sites						Total GEF
					1.1	1.2	1.3	1.4	1.5	1.6	
	International travel consultant	unit	10	3,000		30,000					30,000
	Safeguarding supervision trainer	unit	3	3,000			9,000				9,000
	Regional workshop travel and DSA	person	47	1125	17,700	17,700	17,700				53,100
	National Teams Travel Inventory, EMP, Disposal,	unit	3	20,000	20,000	20,000	20,000				60,000
	International travel disposal information exchange	unit	5	3,000		15,000					15,000
5900	TOTAL TRAVEL				112,700	94,700	46,700	0	0	12,000	266,100
5650	CONTRACTS										
	Testing of new facility for ESM for suitability for pesticides (emission monitoring etc)	lumpsum	1	270,000			270,000				270,000
	LOA IHPA (regional and national consultation process disposal options)	lumpsum	1	239,800		239,800					239,800
	LOA Blacksmith Institute (rapid environmental assessment training and pilot in 1 country	lumpsum	1	136,950				136,950			136,950
	Analytical Services Inventory	samples	500	300	79,800			70,200			150,000
	LOA MKI (inventory, EMP, mgmt support, awareness raising)	lumpsum	1	462,330	182,000	70,800				209,530	462,330
	Container pilot	unit	1	100,000					100,000		100,000
	Safeguarding and Disposal AZ, KG, TJ	tonnes	900	3,000			2,700,000				2,700,000
	Contract for risk reduction measures contaminated site	lumpsum	1	181,158				181,158			181,158
5650	TOTAL Contracts				261,800	310,600	2,970,000	388,308	100,000	209,530	4,240,238
6000	EXPENDABLE PROCUREMENT										
	Personal Protective Equipment Inventories	unit	266	200	53,200						53,200
	Pesticide sampling equipment (bottles etc)	bottles	7980	4	31,920						31,920
6000	Expendable procurement Budget				85,120	0	0	0	0	0	85,120

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component : Obsolete pesticides and contaminated sites						Total GEF
					1.1	1.2	1.3	1.4	1.5	1.6	
6100	NON-EXPENDABLE PROCUREMENT										
	IT (computers, cameras, hard drives, printers)	lumpsum	1	25,000	25,000						25,000
	Pesticide sampling equipment	lumpsum	4	1,000		1000	3000				4,000
6100	TOTAL Non expendable procurement				25,000	1,000	3,000	0	0	0	29,000
6300	GENERAL OPERATING EXPENSES										
	Inventory, EMP, Disposal, REA, Awareness workshops + SC (3.5)	unit	8.5	5,000	21,250	21,250					42,500
	Translation, publications,	pages	1200	15	3,000	3,000	3,000	3,000	3,000	3,000	18,000
	Medicals for staff	lumpsum	7	1,000	4,000		3,000				7,000
6300	TOTAL GOE				28,250	24,250	6,000	3,000	3,000	3,000	67,500
TOTAL					698,870	660,550	3,273,700	424,308	202,000	273,530	5,532,958

Budget for Component 2

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Life cycle management			Total GEF
					2.1	2.2	2.3	
5570	CONSULTANTS							
5542	INTERNATIONAL CONSULTANTS							
*	CTA	Month	10	11,000	33,000	33,000	44,000	110,000
*	Communications & gender mainstreaming	Month	3	8,000		8,000	16,000	24,000
	Legal	Month	3	12,000	36,000			36,000
	Pesticide registrations (label & pkg, equivalence, EUROPOEM, specifications)	Month	5	12,000		36,000	24,000	60,000
5542	Sub-total (international)				69,000	77,000	84,000	230,000
5543	NATIONAL CONSULTANTS							
*	Component 2 Team Leader	Month	12	2,000	8,000	8,000	8,000	24,000
	Legal	Month	9	2,000	18,000			18,000
	Pesticide registration (labeling and packaging, operator exposure)	Month	5	2,000		10,000		10,000
	Operator exposure monitoring	Month	9	2,000			18,000	18,000
5543	Sub-total (national)				26,000	18,000	26,000	70,000
5570	TOTAL CONSULTANTS				95,000	95,000	110,000	300,000
5900	TRAVEL							
	Legal - international consultant, 2 per country	5 day mission	6	3000	18,000			18,000
	Legal - 2 day national workshop, 2 per country	participant	360	100	36,000			36,000
	Legal - regional workshop 3 countries				30,000			30,000
	Training on pesticide specifications (Kaz)	participant day	90	100		9,000		9,000
	Registration and exposure monitoring international consultant	mission	7			10,144	8,700	18,844
	Pesticide exposure monitoring (national - Turkey)						20,000	20,000
	National workshop and training - labelling, equivalence, exposure	Person days	260	100		18,000	8,000	26,000
	Experience sharing visits to pilot projects - double up with SC for 3	Participant	45	2,950		44,250	88,500	132,750
5900	TOTAL TRAVEL				84,000	81,394	125,200	290,594
5650	CONTRACTS							
	Analysis of exposure monitoring	sample	400	60			24,000	24,000
	Translations of FAO and other guidance and toolkits					15,000	5,000	20,000
5650	TOTAL Contracts				0	15,000	29,000	44,000

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 2: Life cycle management			Total GEF
					2.1	2.2	2.3	
6000	EXPENDABLE PROCUREMENT							
	Passive sampling devices (personal exposure and drift)	sample	400	7			2800	2,800
6000	Expendable procurement Budget				0	0	2,800	2,800
6100	NON-EXPENDABLE PROCUREMENT							
	Pesticide respiratory exposure sampling equipment	pumps	10	150			1500	1,500
6100	TOTAL Non expendable procurement				0	0	1,500	1,500
6300	GENERAL OPERATING EXPENSES							
	Regional Workshop costs - venue + interpretation	Workshop	8	5000	20,000	10,000	10,000	40,000
	Communications and publications		3	10000	10,000	10,000	10,000	30,000
	Other GOE				1,000	3,000	1,000	5,000
6300	TOTAL GOE				31,000	23,000	21,000	75,000
TOTAL	COMPONENT 2				210,000	214,394	289,500	713,894

Budget for Component 3

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 3: Alternatives			Total GEF
					3.1	3.2	3.3	
5570	CONSULTANTS							
5542	INTERNATIONAL CONSULTANTS							
*	CTA	Month	7	11,000	22,000	22,000	33,000	77,000
*	Communicaions & gender mainstreaming	Month	2	8,000	8,000		8,000	16,000
	IPM Specialist - team leader	Month	5	10,000	27,273	22,727		50,000
5542	Sub-total (international)				57,273	44,727	41,000	143,000
5543	NATIONAL CONSULTANTS							
	Communication strategy & delivery	Month	16	2,000			32,000	32,000
	Component Team Leader	Month	49	2,000	59,600	38,400	38,400	136,400
	Statistics and data analysis	Month	2	2,000			4,000	4,000
5543	Sub-total (national)				59,600	38,400	74,400	172,400
5570	TOTAL CONSULTANTS				116,873	83,127	115,400	315,400
5900	TRAVEL							
	International IPM specialist	5 day mission	14	2,950	23,600	17,700		41,300
	National consultants	Person days	80	100	9,000	16,000		25,000
	Experience sharing visit	Participant	30	2,950			88,500	88,500
	FFS costs	Participant days	3200	9		57,600		57,600
	Inception workshop - national	Participant days	80	100	6000	2,000		8,000
	National pest monitoring workshops	Participant days	90	100			9,000	9,000
	Regional training & pest monitoring visit(kaz or Tur)	Person days	15	2,950			44,250	44,250
5900	TOTAL TRAVEL				38,600	93,300	141,750	273,650
5650	CONTRACTS							
	Pest monitoring contract	Lump sum	3	25,000	75,000			75,000
	FFS delivery	Lump sum	2	28,000		56,000		56,000
	Cost Benefit comparison (PANN UK)	Lump sum	1	120,000			120,000	120,000

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Component 3: Alternatives			Total GEF
					3.1	3.2	3.3	
5650	TOTAL Contracts				75,000	56,000	120,000	251,000
6000	EXPENDABLE PROCUREMENT							
	Pheromone / FFS materials				4,000	80,000		84,000
6000	Expendable procurement Budget				4,000	80,000	0	84,000
6100	NON-EXPENDABLE PROCUREMENT							
	IT (computers, printers)				12,300	1,000		13,300
	Equipment & software				92,000	5,000		97,000
6100	TOTAL Non expendable procurement				104,300	6,000	0	110,300
6300	GENERAL OPERATING EXPENSES							
	General Operating Expenses				5,000	10,000		15,000
	Workshop costs - regional trg						5,000	5,000
6300	TOTAL General Operating Expenses				5,000	10,000	5,000	20,000
TOTAL	Component 3				343,773	328,427	382,150	1,054,350

Budget for Component 4

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Output 4.1	Output 4.2	Total GEF
					Total	Total	
5570	CONSULTANTS						
5542	INTERNATIONAL CONSULTANTS						
	Evaluation expert(s)	Lumpsum	2	66500	133,000		133,000
*	CTA	month	4	11000	11,000	33,000	44,000
5542	Sub-total (international)				144,000	33,000	177,000
5543	NATIONAL CONSULTANTS						
*	National Project Consultants	Month	7	2,000	6,000	8,000	14,000
							0
5543	Sub-total (national)				6,000	8,000	14,000
5570	TOTAL CONSULTANTS				150,000	41,000	191,000
5900	TRAVEL						
	International evaluations	travel	2	3500	7,000		7,000
*	Inception & 1st Project Steering Committees	Participant	30	3000	90,000		90,000
5900	TOTAL TRAVEL				97,000	0	97,000
5650	CONTRACTS						
	LOA - Green Cross Switzerland	Lumpsum			132,000		132,000
5650	TOTAL Contracts				132,000	0	132,000
6300	GENERAL OPERATING EXPENSES						
	Translation and publications	Lumpsum				4,200	4,200
	Steering Cttee venue & interpretation	Workshop	5	5000	25,000		25,000
6300	TOTAL General Operating Expenses				25,000	4,200	29,200
TOTAL	Component 4				404,000	45,200	449,200

Budget for PM

Oracle Code	Description (ORACLE)	Units	No. of units	Unit Cost	Output 5.1	Output 5.2	Total GEF
					Total	Total	
5570	CONSULTANTS						
5542	INTERNATIONAL CONSULTANTS						
*	HR and Procurement officer SEC	month	17	12000	200,584		200,584
	HR and Procurement officer AGPMC	Month	8	12000	96,000		96,000
	Administrator FAO country offices	Country	3	30000	90,000		90,000
5542	Sub-total (international)				386,584	-	386,584
5543	NATIONAL CONSULTANTS						
							-
5543	Sub-total (national)				-	-	-
5570	TOTAL CONSULTANTS				386,585	-	386,584
5900	TRAVEL						
							-
5900	TOTAL TRAVEL				-	-	-
6300	GENERAL OPERATING EXPENSES						
							-
6300	TOTAL General Operating Expenses				-	-	-
TOTAL	Project Management				386,584	-	386,584

APPENDIX 4: DRAFT TERMS OF REFERENCE

International Consultant: Chief Technical Adviser – Pest and Pesticide Management

A Chief Technical Adviser (CTA) will be selected by FAO. Under the overall supervision of the Project Steering Committee (PSC) and the FAO Budget Holder, and under the direct supervision of the FAO Lead Technical Officer, the CTA will be responsible for the day-to-day management of the project. The CTA will have the primary responsibility for all technical aspects of the project, supervising regional, international and national consultants to ensure the delivery of quality technical outputs. Additionally, the CTA will train national teams in specific areas related to inventory, environmental assessment, safeguarding o National consultant: pesticides etc. Specifically, the CTA will carry out the following tasks:

- Act as Secretary to the Project Steering Committee (PSC);
- Prepare and follow up on annual project work plans and budgets;
- Manage the project monitoring system tracking output and outcome indicators as established in the project's logical framework;
- Coordinate and manage the various project component teams;
- Monitor and supervise short-term consultants and contracts to ensure timely delivery of outputs to an acceptable standard;
- Conduct periodic monitoring visits to project sites;
- Consolidate all reports and outputs from the component teams and prepare and submit project progress reports and other reports to the FAO Lead Technical Officer;
- Dissemination of technical guidelines related to various aspects of integrated pest and pesticides management;
- Update and delivery of training programmes for national teams of participating countries on aspects related to elimination of obsolete pesticides, containers management, pesticides management etc;
- Ensure the timely drafting of specifications and terms of reference as required (consultants, equipment, contracts, supplies, etc.) for different project activities;
- Identification and supervision of specialist training suppliers, and participation as lecturer in workshops and training courses related to pest and pesticides management as appropriate;
- Ensure information sharing with other GEF-funded POPs projects in and outside the region.

Requirements:

1. University degree in Agronomy and / or plant protection or integrated pests and pesticide management pest or in a related subject matter.
2. A minimum of ten years experience in field project implementation of pest and pesticides management .
3. A minimum of ten years working in Central Asia and /or with developing countries to develop capacity in the area of pest and pesticides management .
4. Detailed understanding of international conventions, internationally accepted best practice and relevant agreements on pest and pesticide management.
5. Knowledge or ability of understanding the FAO Guidelines.
6. Excellent oral and written communication skills in Russian and English.

Social and economic mainstreaming & awareness Communications coordinator

The consultant will ensure that project planning and delivery of activities covering the complete pesticide life-cycle will include an emphasis on assessment of the Social and Economic dimension of

pesticide use in the region, with emphasis on vulnerable groups and communications. The consultant will:

- Be responsible for collection and analysis of information, data and statistics and project / meeting services to support programme projects, products and services
- Collect and analyse relevant technical, social, economic, environmental, institutional and technology related information, data and/or statistics to support the delivery of programme projects, products and services
- Undertake analysis, provide technical input for plans and reports and edits/revises technical/scientific documents.
- Participate in the development of improved work methods, tools and systems
- Update databases and web pages
- Participate in multi-disciplinary project/work teams
- Collaborate in the development of training tools and materials and the organization of workshops/seminars etc.
- Participate in the organization, conduct and follow-up of meetings, consultations and conferences, develop/produce of required materials and the provision of information and assistance to partners
- Develop and implement surveys and studies which will facilitate the integration and mainstreaming of the social and economic dimensions of pesticide use in all activities of the project;
- Expand the existing project partnership through developing links to NGO partners, private sector, academic institutions, UN Agencies and other development partners;
- Manage the implementation of the project communications and visibility plan with emphasis on social and economic aspects at regional and national level;

Component National Team Leader – Component 1

Under the direct supervision of the CTA, the Component National Team Leader – Component 1 will be responsible for leading the national team in carrying the different activities across the component. All the work has to be carried out in liaison with all relevant technical departments and national stakeholders The Component Team Leader – Component 1 will:

- Facilitate missions of the CTA, FAO TO, LOA partners and consultants, assist in arrange meetings with the stakeholders and beneficiaries and national trainings and workshops
- Assist in organizing the inventory training, including selection of participants
- Setting up the national inventory team
- Assist in organizing the EA/EMP training, including selection of participants
- Assist in organizing the Rapid Environmental Assessment (REA) training
- Assist in carrying out the consultation process for disposal options.
- Assist in organizing the awareness raising training, including selection of participating NGOs
- Lead the inventory activities in the country and make sure that the highest quality of work is guaranteed
- Mobilize cash and in kind contributions from the government to the project (Resources to be specified in the individual ToR for each country Component 1 Team Leader)
- Prepare a draft of the Risk reduction and disposal strategy (EA and EMP)
- Liaise with technical departments and governmental stakeholders to guarantee that barriers in decision making in the implantation of safeguarding and disposal implementation are solved in an efficient way.
- Assist in selecting an organization for carrying out risk reduction measures at contaminated land site (if applicable in the project country)

- Assist in selecting an organization for carrying out a container management pilot (if applicable in the project country)
- Assist in the selection of an organisation for carrying out awareness raising activities
-
- Have access a quick internet connection for e-mail and Skype communication
- Have quarterly meetings with the Task Team Leaders of other project components
- Submit a monthly report summarizing key events and implementation issues and forward plan.
- Travel to relevant project meetings, workshops and sites and prepare mission reports with clear indication of findings and recommendations.
- Carry out any other activities relevant to the project.

COMPONENT 1 CONSULTANTS

International Consultant(s) – Inventory, EA/ EMP Development, Safeguarding and Disposal of Pesticide Stocks

Under the supervision of the CTA and FAO Lead Technical Officer and in cooperation with MKI the consultant(s) will undertake the following:

- Train national teams in inventory, EA/ EMP development safeguarding and disposal techniques based on FAO developed guidelines;
- Review and update the list of equipment and supplies, and associated budget, required for the completion of the inventory, EA / EMP development, safeguarding and disposal operations;
- Develop detailed environmental management plans (EMP) for the safeguarding operation, working with national teams including health and safety procedures
- Supervise and monitor the safeguarding and disposal operations

Requirements:

1. A degree in agriculture, chemistry, environmental science or a related subject;
2. At least 10 years of relevant working experience;
3. Experience in training of and carrying out inventories , developing EMP's in relation to safeguarding and disposal operations;
4. Understanding of international standards and good practice in relation to safeguarding and disposal operations;
5. Experience in training and carrying out safeguarding pesticides.
6. Experience in supervising and monitoring disposal operations

International Consultant – Disposal Option review

Under the direct supervision of the Chief Technical Adviser, the FAO LTO (obsolete pesticides) and IHPA, the consultant will be responsible for the following activities:

- Liaise with other national and regional projects and initiatives that are aimed at establishing facilities and technologies for the ESM of hazardous waste
- Examine the technical and logistical issues associated with use of proposed new facilities/technologies for ESM for obsolete pesticides;
- the estimated costs in terms of investment in the disposal technology itself and the development of possible pre-treatment options such as blending;

- the possible health impacts at the point of disposal, pretreatment or post disposal due to harmful emissions to land water or air infrastructure requirements; and environmental and human health monitoring requirements
- formulate a policy paper for review and subsequent adoption by the national environmental authorities
- Travel to project countries if required
- Support IHPA in the Advocacy and Consultation process for disposal options

Requirements:

1. BSc in Advanced Technology or related subject and additional relevant training
2. 12+ years of experience in hazardous waste management
3. Detailed understanding of international conventions, internationally accepted best practice and relevant agreements on pest and pesticide management.
4. Knowledge or ability of understanding the FAO Guidelines.
5. Excellent oral and written communication skills in English

International Consultant: Container Management

Under the overall supervision of CTA and FAO Lead Technical Officer, the consultant will:

- Will update the PPG studies on Container management in the region.
- Propose a strategy for establishing and operating a pilot container management collection storage and recycling scheme for the containers generated in Azerbaijan, 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
- Identify commonalities for all project countries and develop a regional strategy for container management
- 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 Central Asia.
4. Excellent report writing skills in English; working knowledge of Russian would be an advantage.

National Consultant(s) – Inventory, EA/ EMP Development, Safeguarding and Disposal of Pesticide Stocks (To be hired through the MKI LOA)

Under the supervision of MKI and the International Consultant the national consultant(s) will undertake the following:

- Assist in the training of national teams in inventory, EA/ EMP development safeguarding and disposal techniques based on FAO developed guidelines;

- Assist in the review and update of the list of equipment and supplies, and associated budget, required for the completion of the inventory, EA / EMP development, safeguarding and disposal techniques;
- Assist in the development of detailed environmental management plans (EMP) for the safeguarding operation, working with national teams including health and safety procedures
- Assist in supervision and monitoring the safeguarding and disposal operations

Requirements:

1. A degree in agriculture, chemistry, environmental science or a related subject;
2. At least 5 years of relevant working experience;
3. Experience of developing inventory, EMP's in relation to safeguarding operations;
4. Understanding of international standards and good practice in relation to safeguarding and disposal operations;
5. Experience of safeguarding pesticides.

National Consultant – Soil Decontamination (to be hired through BI LoA)

Under the direct supervision of the Chief Technical Adviser and the FAO Lead Technical Officer, the consultant will be responsible for the following activities:

- Support Blacksmith Institute to 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, support BI in the development of detailed site specific sampling plans ;
- Following the completion of the sampling and analysis programme, which will be completed in a stepwise progression to allow for the identification of hot spots, the consultant, working with national teams, will use the data to:
 - Assist in the Development of site specific Environmental Management Plans (EMPs);
 - Assist in the Development of site specific remediation strategies based on risk management approach;
 - Assist in the 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; and
- Supervise and monitor the implementation of each proposal for soil remediation.

Requirements:

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

Local NGO or company for container management pilot

Under the direct supervision of the Chief Technical Adviser and the FAO Lead Technical Officer and in cooperation with the International Consultant Container Management the NGO or organization will:

- Raise awareness raising and training on triple rinsing for extension advisors
- Establish 1 pilot Container Management Scheme as a demonstration scheme with a view to developing lessons learnt/ guidance document for other countries in the region, including collection, rinsing, transport, storage and recycling as described by the review developed in the frame of output 1.5.1

Requirements:

1. The NGO or company must have an environmental and or agricultural profile;
2. 5 years experience with environmental agricultural capacity building;
3. 5 years experience implementation of technical environmental agricultural pilot projects;
4. Experience in working with rural communities.

Local NGOs for awareness raising (To be hired through MKI LoA)

Under the direct supervision of MKI and the Social and economic mainstreaming & awareness Communications coordinator the NGO will:

- Take part in the communication, awareness raising and KAP survey training
- Identify approx. 3 priority sites per country for intervention, linked as far as possible to the highest priority sites in PSMS (above ground stocks) and the REA (contaminated land) with likely exposure routes to communities
- Carry out the KAP surveys to identify high risk behaviours and develop communication strategies
- Implement communication strategies and regular monitoring of behaviour (including at least one more KAP survey by end of project)

Requirements:

1. The NGO must have an environmental profile
2. At least 5 years experience with awareness raising on health and environmental risks of obsolete pesticides.
3. Experience in carrying out social and economic surveys;
4. Experience in working with groups at risk in rural communities.

COMPONENT 2 CONSULTANTS

International Consultant - Pesticides Legislation

Under the technical supervision of the Chief, Development Law Service (LEGN), the operational supervision of the FAO Representation in project countries, and in collaboration with the Officer of the Plant Production and Protection Division (AGPP), the incumbent will:

1. Before his/her in-country missions, review the National Legal Consultant's report and submit comments thereon;
2. Travel to the three countries to carry out extensive consultation with government stakeholders on the national legislation in place governing pesticides management, including Integrated Pest Management (IPM) and Integrated Vegetation Management (IVM).
3. Based on the feedback received in the consultations above and taking into account any existing initiative for legislative reform, the objectives of the Stockpiles Program (ASP) project

as well as the international obligations of the government of XXX, prepare draft legislation at the parliamentary level or subsidiary in order to upgrade the legal framework on pesticides management;

4. Discuss the main elements of the draft legislation with government stakeholders in a workshop;
5. Upon his/her return to the HQs, prepare a report in writing summarizing the undertaken activities, presenting the draft legislation and making recommendations for its implementation.

Requirements:

Degree in law. Experience in legislative drafting and familiarity with agricultural legislation, preferably on plant protection. Proficient in English.

International Consultant: Pesticide Management & Exposure

Under the supervision of the NTC and FAO LTO, and in liaison with technical departments and other national stakeholders, the consultant will;

- Train government staff in use of models for predicting and mitigation of exposure of spray personnel to pesticides
 - Demonstrate, train and instruct staff in use, evaluation of results and parametrization of models to predict operator exposure to pesticides (such as EUROPOEM) in Kazakhstan and Turkey
 - Plan and prepare for a programme to measure actual pesticide exposure in Turkey using appropriate personal sampling devices that test for dermal and respiratory exposure under actual practical application conditions in Turkey
 - Advise State extension services on contracting of analytical services to analyze personal sampler devices including appropriate quality assurance measures
 - Review and assess the results and compare to results of predictive models;
 - Prepare a detailed report on the comparison with recommendations for further improving the predictive power of the operator exposure model
- Train and support national authorities in principles and practice of applying pesticide specifications in national registration scheme
 - Prepare and deliver a national training for government staff in Kazakhstan
 - Provide support in revision of phytosanitary regulation with respect to provisions for defining appropriate quality, including in dossier data requirements
- Train and support authorities in Tajikistan in reviewing and strengthening registration requirements relating to packaging, labelling and classification of pesticide products

Requirements:

1. Advanced degree in organic chemistry
2. 10 years experience in analytical and pesticide chemistry and regulation
3. 5 years experience related to laboratory certification and management
4. Ability to work in English.

National consultant: Component 2 Team Leader

Under the direct supervision of the CTA, the consultant will be responsible for the following activities:

- Participate in the inception and final workshop and present the project objectives with a wide group of stakeholders, taking their inputs into account when developing component workplans, budgets, and activities
- Assist in selection of implementing partners among NGOs , universities, research institutes to provide training to technical advisers and assist the development of an LoA;
- Assist to identify in a participatory manner, with active involvement of female and male beneficiaries and implementing partner, the cropping systems and sites for field activities of the component;
- Assist the international and national consultants in delivering the technical and organizational elements of the component outputs, including regularly visiting project field sites, participating and assisting in delivery of training, planning of all follow up actions to implement training, and delivery of field activities
- Develop and deliver any training, communications, or other materials needed for the component including print, electronic or other
- Organize and facilitate the national trainings, policy workshops and the field visit of advisors from other countries, including participate in the trainings and assist the International Consultant to organize trainings;
- Provide M&E data

National Consultants – Legislation Review (3 countries)

Under the technical supervision of the Development Law Service (LEGN) Officer, the RTE and the FAO Representation in the country and in collaboration with the Plant Production and Protection Division (AGPP) Officer, the National Legal Consultants will:

- Before the first mission of the Legal Officer, and based on his instructions, prepare a report in writing reviewing the national legislation and policies in place for pesticides management, including Integrated Pest Management (IPM), pesticides residues and disposal of obsolete pesticides, and assessing it in the light of the international obligations of the government. identify the legal gaps and prepare a list of laws and regulations which require enactment reforms;
- When necessary, translate legislation from Russian to English;
- Submit the above report to the Legal Officer and review it based on his/her comments;
- Before every mission of the Legal Officer, prepare an agenda of meetings with government stakeholders and assist government counterparts with the organization of the workshop;
- During the mission of the Legal Officer, participate in the meetings and assist him/her on any mission activity, including the development of draft legislation;
- Provide assistance for the organization and participate in the national workshops for discussing legal recommendations and proposals;
- Assist in the drafting of the national primary and implementing legislation and their translation into Arabic;
- Prepare final reports after the missions of the Legal Officer and a final report including comments to the draft legislation.

- As requested by the Legal Officer, make inputs into the final project legal report;
- Undertake any other function that may be necessary for the implementation of the project.

Requirements:

Degree in law. Experience in legislative drafting and familiarity with agricultural legislation, preferably on plant protection. Proficient English.

National Consultants: Pesticide registration, labeling and operator exposure) – TUR, TAJ,

Under the direct supervision of the NTC and FAO Lead Technical Officer, the consultant will be responsible for the following activities:

- Consult with project partners and consultants, including national regulators and national industry, responsible for delivery of outcomes 2 and 3 to understand the project expected results of training on data requirements
- Support the international consultant in planning and delivering the training sessions and prepare training materials and reports
- Develop and adapt training tools and guidance for use in the countries including drafting technical regulation for registration

Requirements:

1. Advanced degree in agricultural sciences
2. 10 years experience in pesticide application
3. Excellent communication skills in Russian and/or Turkish and/or English.

National Consultant – Pesticide Application Expert in TURKEY

Under the direct supervision of the NTC and FAO Lead Technical Officer, the consultant will be responsible for the following activities:

- Consult with project partners and consultants responsible for delivery of outcomes 2 and 3 to understand the project expected results on the survey of pesticide application techniques, selection of regions, crops, and average and proposed best practice in pesticide application
- Prepare a work plan on the survey
- Contact and consult the Provincial Agricultural Extension services for choice of crops, farms, timing and pesticides
- Develop the tools to describe the agricultural spray operation practices
- Carry out the survey and prepare a detailed report and evaluation

Requirements:

1. Advanced degree in agricultural sciences
2. 10 years experience in pesticide application
3. Excellent communication skills in Turkish and English.

Contract: - Analysis of exposure monitoring (TUR)

Following the operator exposure field data collection in Turkey, a contract will be agreed with a suitable lab accredited to analyse pesticide residues on sampling devices as proposed to be used in Output 2.3.

Contract: Translation and publication of guidance and toolkits

COMPONENT 3 CONSULTANTS

International Consultant: IPM Specialist

Under the direct supervision of the CTA, the consultant will be responsible for the following activities:

- Participate in the inception workshop and discuss the project objectives with a wide group of stakeholders;
- Assist in selection of an implementing partners among NGOs , universities, research institutes to provide training to technical advisers and assist the development of an LoA;
- •Guide the national consultant and the implementing partner assist to identify in a participatory manner, with active involvement of female and male farmers and implementing partner, the cropping systems, project and demonstration sites for establishment and development of demo trials for testing, adopting and implementing IPM technologies;
- Guide the national consultant and the implementing partner to identify the list of tools, equipment and machinery need for training of advisors on pest monitoring (3 countries) and on IPM alternatives trials (2 countries) and develop the technical specifications for tender;
- Guide the national consultants and the implementing partners in the elaboration of the experimental design to test monitoring and innovative IPM tools.
- Support the implementing partner in the establishment of trials to test and demonstrate efficiency of monitoring and of IPM pest control tools;
- Support national consultant and the implementing partner to conduct a cost-benefit analysis
- Assist the national consultant and the implementing partner in developing training modules and training materials for advisors
- Visit the project sites and participate in the trainings on pest monitoring and assist the implementing partner to organize trainings for advisors;
- Participate in the national policy workshops on pest monitoring as well as in the Field Days;
- Support the implementing partner to create IPM database information systems (where applicable);
- Assist the national consultant and IP to prepare farmer-oriented brochures and guidelines on IPM;
- Assist in organization of the field visit of advisors from other countries;
- Participate in the final workshop.

Requirements:

1. PhD in agronomy or agriculture engineering or other relevant subject;
2. 6-8 of experience on crop management, particularly in IPM practices
3. Excellent communication skills in English.

National consultant: Component 3 Team Leader

Under the direct supervision of the CTA, the consultant will be responsible for the following activities:

- Participate in the inception workshop and discuss the project objectives with a wide group of stakeholders;
- Assist in selection of an implementing partners among NGOs , universities, research institutes to provide training to technical advisers and assist the development of an LoA;
- Assist to identify in a participatory manner, with active involvement of female and male farmers and implementing partner, the cropping systems, project and demonstration sites for establishment and development of demo trials for testing, adopting and implementing IPM technologies;
- Assist to identify the list of tools, equipment and machinery need for training of advisors on pest monitoring (3 countries) and on IPM alternatives trials (2 countries) and develop the technical specifications for tender;
- In close collaboration with the international and the IP identify the priority crops and related pests, demonstration sites and monitoring tools to be used (such as traps, agro-meteorological stations, pest and disease forecast models, etc.) and procure and deliver them to sites
- Elaborate the experimental design to test monitoring and innovative IPM tools in cooperation with the implementing partner and the international consultant;
- Assist the implementing partner in the establishment of trials to test and demonstrate efficiency of monitoring and of IPM pest control tools;
- Assist the implementing partner to conduct a cost-benefit analysis
- Assist the international consultant and the implementing partner in developing training modules and training materials on application for advisors on monitoring and innovative pest control tools;
- Visit the project sites and participate in the trainings on pest monitoring and assist the implementing partner to organize trainings for advisors;
- Support creation of IPM database information systems;
- Participate in the national policy workshops on pest monitoring as well as in the Field Days;
- Assist the implementing partner to create IPM database information systems (where applicable);
- In close collaboration with the international consultant and IP prepare draft of a farmer-oriented brochures and guidelines on IPM;
- Participate in awareness raising campaign;
- Assist in organization of the field visit of advisors from other countries;
- Participate in the final workshop.

Requirements:

1. MSc or PhD in agronomy, agriculture;

2. 5-8 of experience on crop and pest management, conducting trainings and developing training manuals
3. Fluent in Russian and/or English

National Consultant: IPM awareness raising – NGO, KYR, KAZ

Under the direct supervision of the International Consultant, the consultant will be responsible for the following activities:

- Consult with project partners and consultants responsible for delivery of outputs 3.1 and 3.2 to understand the project expected results on pest monitoring and IPM 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 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. 5 years experience in communications for development
3. 2-3 years experience related to agricultural or IPM awareness raising
4. Excellent communication skills in English.

National Consultant: Statistician

Under the direct supervision of the International Consultant and Implementing Partner for the Comparative Assessment, the consultant will be responsible for the following activities:

- Contribute to the development and test data collection tools and training of NGO partners responsible for conducting field work
- Analyse the data collected from the comparative assessment between trained farmers and untrained in terms of pesticide use, exposure etc.
- Analyse the data collected from the cost-benefit analysis of pest monitoring and IPM alternatives against conventional management, under Output 3.3

Requirements:

1. Advanced degree in agriculture, statistics, or related subject
2. 5 years experience in agricultural statistics
3. Excellent communication skills in Russian and English

Contract: Implementing Partner for Pest Monitoring (3 contracts in 3 countries, Output 3.1)

An implementing partner (IP) will be selected among the local NGOs, universities, research institutes to provide training to technical advisers actively providing extension services to the farmers in

agriculture sector development, and a contract or a LoA will be signed to carry out following activities, under the direct supervision of the CTA, National Component 3 Team Leader and FAO SEC:

- In close collaboration with the international and national consultant identify the priority crops and related pests, demonstration sites and monitoring tools to be used (such as traps, agro-meteorological stations, pest and disease forecast models, etc.) and procure and deliver them to sites
- Assist the international and national consultant in the development of training programs for advisors, identify trainees and organize training for advisors
- Create an IPM database information system (IT expert) and collect data
- Assist in the preparation and publish farmer-oriented brochures and guidelines on pest monitoring
- Translate and print training modules and materials

Contract: Implementing Partner for IPM demonstration in Kazakhstan and Kyrgyz Republic (Output 3.2)

An implementing partner (IP) will be selected among the local NGOs, universities, research institutes with experience in applying the FFS methodology or in organizing demonstration days for farmers, to test, validate and promote IPM alternatives to stakeholders (farmers, advisors) and a contract or a LoA will be signed to carry out following activities:

- In close collaboration with the international and national consultant identify the priority crops (in the case of Kazakhstan) and related pests, demonstration sites, IPM tools to be used (i.e. biopesticides, biological control) and the experimental design.
- Establish trials and carry out pest control and field operations at project sites
- Together with the national consultant, organize Field days in Kazakhstan to promote IPM alternatives tested to farmers or at the already established FFS in KYR, and advisors exchange visits from other countries
- Collect seasonal data from experimental plots where IPM alternatives are being tested including untreated and conventionally managed plots
- Assist in the preparation and publish farmer-oriented brochures and guidelines on IPM alternatives
- Translate and print training modules and materials

Contract: Implementing Partner for Cost Benefits Comparative Study (PANUK-Output 3.3)

An implementing partner (IP) will be selected with experience in IPM and FFS methodologies as well as indirect costs of pesticide use and conducting field surveys. Under the supervision of the CTA and close coordination with the IPM Specialists, Component 3 Team Leaders, GCCH and Communication and Gender Mainstreaming Expert, the contractor will coordinate and deliver a comparative assessment of the costs and benefits of three different crop production and pest management strategies piloted by the project. These are: conventional pesticide use (AZE, KYR, KAZ, TAJ); pesticide use based on pest monitoring (AZE, KYR, TAJ); and IPM (KYR, KAZ) This will be achieved through:

- develop a statistically valid methodology and data collection tools to quantify and compare the full costs and benefits of different pest management strategies, to include as a minimum basic economic information (e.g. costs of inputs and income from yields) and an estimate of indirect costs based on a systematic approach to document health and environmental impacts

- subcontract local partners to conduct the field surveys and provide any necessary training on field surveying methods, economic analysis, health or environmental monitoring, or data analysis and presentation
- Oversee delivery and provide consolidated reports on baseline surveys in Year 1 to identify pesticide use in priority crops, estimate exposure/risk, and decide on key crops to monitor pests
- Conduct a comparative assessment on pesticide use between IPM trained and untrained farmers in KYR and KAZ to identify pesticide and impact differences; and conduct a cost-benefit analysis to compare pest monitoring and IPM alternatives against conventional management for the four countries, working closely with national partners
- Provide a consolidated report in a format to be agreed with the Project Technical Committee summarizing the differences between conventional practice, pest monitoring and IPM with respect to economic, social and environmental costs and benefits for farmers and communities.
- Participate in regular Project Technical Committee meetings or other project events as required

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

APPENDIX 6: ENVIRONMENTAL AND SOCIAL REVIEW FORM



ESRF-Central Asia
POPs.pdf