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FOOD PRODUCTION, PROCESSING & MARKETING ACTIVITY (FPPM)

ENVIRONMENTAL MITIGATION AND MONITORING PLAN (EMMP)

MAY 2012 (REVISED VERSION)

This publication was produced for review by the United States Agency for International Development. It was prepared by DAI.

FOOD PRODUCTION, PROCESSING & MARKETING ACTIVITY (FPPM)

ENVIRONMENTAL MITIGATION AND MONITORING PLAN (EMMP)

Program Title: Food Production, Processing & Marketing Activity (FPPM)
Sponsoring USAID Office: USAID/DRC
Contract Number: AID-623-C-11-00008
Contractor: DAI
Date of Publication: May 2012 (REVISED VERSION)
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The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ABBREVIATIONS

Adaptive	Monitor achievement of goals and adjust project actions to compensate or exploit success management
APTM	Association des Producteurs et Transformateurs de Manioc
BSP	Business Service Provider
COTR	USAID Contracting Officer's Technical Representative
DCA	Development Credit Authority, which provides a Loan Portfolio Guarantee (LPG)
EA	Environmental Assessment
EDD	Environmental Due Diligence
EGSSAA	Environmental Guidelines for Small-Scale Activities in Africa, or the USAID Bureau for Africa http://www.encapafrika.org/index.htm See also ENCAP.
EMMP	Environmental Mitigation and Monitoring Plan
EMMR	Environmental Mitigation and Monitoring Report
ENCAP	Environmentally Sound Design and Management Capacity for Partners and Programs in Africa (a USAID project) http://www.encapafrika.org/index.htm
Environment	Natural environment; following common USAID practice, "environment" is conceived broadly to include impact on the human population. MCC practice emphasizes natural and social environment.
ERR	Environmental Review Report
FI	Financial institution (such as a bank or micro-finance institution)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act http://www.epa.gov/oecaagct/lfra.html
FPPM	Food Production, Processing & Marketing Project
FY	Fiscal Year
GAP	Guideline for Good Agricultural Practice
GDRC	Government of DRC
IEE	Initial Environmental Examination
ME	Ministry of the Environment
MEO, REO,	Mission Environmental Officer, Regional Environmental Officer, Bureau Environmental BEO Officer

MFI	Micro-finance Institution
PAN	Pesticide Action Network http://www.pesticideinfo.org/
PERSUAP	Pesticide Environmental Review/ Safer Use Action Plan
PIC	The Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade http://www.pic.int/TheConvention/Overview/tabid/1044/language/en-US/Default.aspx
POP	Persistent Organic Pollutants http://chm.pops.int/default.aspx
Regulation	Code of Federal Regulations, Title 22, part 216 216 http://www.usaid.gov/our_work/environment/compliance/reg216.pdf
TD	Threshold Decision
USEPA	United States Environmental Protection Agency
Value Chain	Actors that produce, process, transform or sell a commodity or related group of commodities.

EXECUTIVE SUMMARY

This Environmental Mitigation and Management Plan (EMMP) uses the Initial Environmental Examination, other USAID guidance and project expertise to develop mitigation actions, specify monitoring practices, set timelines and identify responsible parties for environmental compliance¹ for the Food Production, Processing and Marketing Activity (FPPM). It describes the project Environmental Management System (EMS) to implement the EMMP. Descriptive sections review environmental issues relevant to FPPM. Following USAID guidance, a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) as a proposed amendment to the Initial Environmental Examination (IEE) is presented with this EMMP.

The EMS described in this EMMP includes measures to

- Screen that proposed activities are included under approved environmental documentation and screen for environmental risks,
- Review proposed activities (if the level of risk warrants review) to determine mitigation measures so that the activities can be implemented without significant environmental risk, leading to an environmental mitigation and monitoring plan for the specific activity (A-EMMP),
- Implement, monitor and document mitigation measures and environmental issues, including measures drawn from the new FPPM PERSUAP amendment to the IEE,
- Review environmental compliance, report to USAID and adapt to new requirements and knowledge,
- Support environmental compliance with project staff, administrative procedures, tools, manuals, publications and expertise.

This EMMP provides the limited set of formats to accomplish the basic operations of the EMS and additional recommended tools to guide some of the more complex compliance tasks, among them how to review environmental aspects of work with enterprises and how to do environmental due diligence with partner institutions. To achieve the purpose of this EMMP, FPPM technical and administrative staff have to provide their expertise and attention to refine the specific measures that will mitigate environmental risk using the activity A-EMMP.

The following are the key steps to meet compliance requirements and mitigate and monitor environmental impact under FPPM (Table 1):

¹ Steps based on ENCAP FACTSHEET: EMMPs REVIEW DRAFT 22 JULY 2011.

TABLE 1: MANAGER’S CHECKLIST SUMMARY OF EMS AND ENVIRONMENTAL COMPLIANCE

Prepare FPPM Compliance Documents

- Draft, submit and edit this EMMP, including formats for screening and environmental review.
- Develop, submit and review PERSUAP or IPM/SUAP; edit per USAID comments
- Include environmental terms and considerations in grants and finance manual, grants agreements, sub-contracts, staff SOWs and other project documents.
- Yearly, review and if necessary amend the EMMP, PERSUAP, IEE and project procedures, policies and documents in light of experience and annual review meeting with USAID.

Basic Operations of the EMS

- **Screen activities.** Screen every grant, subcontract and work plan activity prior to obligating funds for the activity using Annex 1. Screening for IEE Coverage and Risk Level to ensure that the activity is covered by approved environmental documentation and to determine environmental risk following the IEE. Keep the screening document on file. If the activity is a new kind of activity not covered in this EMMP or the IEE, amend the IEE. If local knowledge or experience indicates more risk than the IEE determined, treat the activity at the higher risk level.
- **Environmental Review.** If screening (Annex 1) finds risk level 3 or 4², or if there is chance of indirect environmental risk³, do an environmental review Annex 2 Environmental Review Report (ERR). Check the level of risk using local knowledge and experience. In the ERR, design the Activity Environmental Mitigation and Monitoring Plan (A-EMMP), consulting the mitigation measures identified in this EMMP, the attached PERSUAP and the IEE. Include the ER with the package of documents that USAID reviews for the activity.
- **Environmental Due Diligence.** Evaluate the capacity of the IP to implement environmental requirements. A recommended (optional) due diligence form for IPs is provided ANNEX 4: ENVIRONMENTAL/SOCIAL DUE DILIGENCE (EDD) FOR IPS.
- **Local factors.** Due diligence requires visiting the location where a subproject is to occur to determine local issues and mitigation measures.
- **Cleaner production.** When providing substantial technical assistance to a processing enterprise, evaluate their need and capacity to improve environmental impact. A recommended form is provided ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/ P2)⁴
- **A-EMMP.** For any activity with mitigation measures, extract the A-EMMP from the ERR form, transmit it to the Implementing Partner (including it in the grants agreement is good practice) and see that it is implemented by the IP or, failing that, by FPPM staff.
- **Environmental Clearance.** Before obligating funds for any grant or subcontract with an IP, sign off using ANNEX 3A: GRANT AND SUB-CONTRACT ENVIRONMENTAL CLEARANCE, signed by the project financial director and grants manager. Make sure that environmental compliance is covered in each grant agreement or IP subcontract so that the IP is required to implement the A-EMMP, report implementation of each mitigation measure and cooperate with monitoring. Model language is provided in Annex 9.
- **Pesticide clearance.** Prior to purchase or procurement of any pesticide, this clearance form is required: ANNEX 3B: PESTICIDE PROCUREMENT CLEARANCE FORM.

Implement Mitigation Measures

- **Monitor with A-EMMR.** Monitor implementation of the A-EMMP using an Environmental Mitigation and Monitoring Report (EMMR) that is based on the EMMP (a format for an EMMR⁵ is provided in the text). Every IP reports each year and at end of the activity using the A-EMMR. Project staff report every year using the A-EMMR for an activity that is directly implemented. Project staff provide assistance to IPs as needed. Supplement A-EMMR with field visits to project participants (villages, value chain actors) to review environmental and social issues, if any exist.

² Environmental risk categories used in this report: **Category 1:** Very low risk of significant negative impact or “categorical exclusion”. **Category 2:** Insignificant risk of negative impact, but not categorical exclusion; “negative determination”. **Category 3:** Medium risk of impact but if best practices and mitigation measures followed, no significant negative impact: “negative determination with conditions”. **Category 4:** Potential risk of significant negative impact, “positive determination”.

³ For example, if the IEE determines categorical exclusion for a training that covers activities that, when implemented, generate environmental risk, this is “indirect risk”; treat the activity as Category 3.

⁴ If the project supports any construction or major rehabilitation, it will need prior screening, ERR and inclusion of construction best management practices (BMPs). Consult ECA.

⁵ Note that the EMMR requires reporting on each mitigation measure.

- **Tracker.** The project will keep track of all screening activities, recommended determinations, their current status, issues and follow-up. A draft tracker format is provided in **ANNEX 10: COMPLIANCE TRACKER**, to be amended by the project.
- **Handle higher levels of risk.** If there are riskier activities Category 4, you will need further environmental review or assessment, or you need to adjust the activity to reduce risk. Consult the FPPM ECA or the DAI ECA.

Environmental Reports to USAID

- Quarterly report. Having monitored implementation of mitigation measures (A-EMMRs and field meetings), FPPM summarizes implementation of mitigation measures and any environmental issues in the quarterly project report.
- Annual report. Yearly, the Project ECA develops the project EMMR with the status of implementing each mitigation measure and any issues. Report to USAID using the EMMRs.
- Meet IPs. Meet yearly with the IPs to adjust the system as needed to deal with issues.
- Meet USAID. Meet yearly with USAID COR to adjust the system as needed to deal with issues.

Preparation for Implementation

- Staff. Name a Project Environmental Officer (PEO) and name staff in each project regional office to achieve environmental compliance. All require training in their environmental responsibilities. Notify each of environmental responsibilities by letter.
- Technical assistance. Provide environmental compliance expertise for operation of the EMS, oversight and technical matters (PERSUAP, others as needed for this EMMP)
- Train administrative staff. Assign responsibility for checking compliance to project grants manager and financial manager. Explain environmental clearances required prior to obligating funds to IPs or purchasing pesticides. All require training in their environmental responsibilities. Notify each of environmental responsibilities.
- Train IPs. Train Implementing Partners and staff to meet EMS responsibilities as defined in EMMP.
- EDD training. Train staff to do CP/P2 assessments and IP EDD.
- Project administrative manuals. Include environmental review in the financial manual and the grants management manual; include environmental compliance in all grants and subcontracts.
- PERSUAP. Prepare a PERSUAP as amendment to the IEE (submitted attached to this EMMP); train and use on recommendations in the EMMP.
- GAP Farmer Field School manuals. Conduct best practice reviews to specify mitigation measures for broad classes of project activities. Write a Project manual of good agricultural practices incorporating environmental mitigation measures and IPM.
- Post-harvest GAP Farmer Field School manuals. Write a Project manual of good post-harvest agricultural practices incorporating environmental mitigation measures.
- Training materials. Prepare training materials on IPM including safer agrochemical use (including post-harvest and processing) based on PERSUAP.
- Information system. Create information system for screening, ERR, EDD, Action EMMPs and monitoring report.

Special Measures for FPPM

- Monitor issues in field visits to villages and enterprises, providing characterization reports and BMPs; some issues are on the border between environmental and social impact.
 - Forest cover and deforestation monitoring and mitigation
 - Value chain characterization and gender assessment to include environmental issues.
 - Workshops on environmental policies and procedures with GDRC and partners.
 - Review proposed policies with GDRC and USAID. Assist GDRC to strengthen environmental management.
 - Identify local environmental experts and value chain actors. Train local environmental experts in USAID requirements and business services practices.
-

Implementing the EMS will require training and training materials. Most of the training materials concern a) operation of the EMS or b) pesticides and good agricultural practices.

TABLE 2: TRAINING MATERIALS AND EVENTS (ADDITION DETAILS IN TABLE 14)

	Audience	Details	Timing
Training Materials			
Powerpoint and technical bulletin: USAID environmental regulations and best practices for FPPM	Project technical staff, Partners, Grantees, Other IP trainers, GDRC, with participation of USAID	Powerpoint in French; covers regulations and this EMMP	2012
2. Powerpoint and technical bulletin: Environmental practices for Implementing Partners	Partners, Grantees, supporting staff, Other IP trainers	Powerpoint in French; a presentation on responsibilities of IPs under FPPM	2012
3.FPPM technical bulletins on Good Agricultural Practices (GAP) for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for Seed Production, Production with Pest Control and Post-harvest Practices.	USAID, Project technical staff, Partners, Grantees, Other IP trainers, GDRC.	May be merged with technical bulletin on IPM. In French and English. IPM plans will cover each crop/value chain separately. May take form of looseleaf binder incorporating available bulletins from institutions. 150 copies, hard copy and electronic formats	August 2012 Revised yearly
4.FPPM Technical Bulletins on Pesticides Resources 4a. List of Active Ingredients (and Product Names) Permitted for Use by FPPM. 4b. List of Key Websites for Pesticide and IPM Research 4c. Pesticide practices for enterprises 4d. Pesticide practices for institutions (including partners) 4e. FPPM technical bulletins on IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) covering seed production, production, pest control and post-harvest, including non-pesticide and pesticide technologies identified in PERSUAP. 4f. Pesticide Monitoring Guide: How to Monitor Pests, Pesticide Effectiveness, Issues of Pesticide Use in Project Area	Project technical staff, Partners, Vendors, Other IP trainers, Grantees	2 formats: Bound photocopy format Electronic format Key websites include review the www.epa.gov website for recent actions taken by US EPA relevant to products Monitoring guide describes 1) main pests affecting food crops, 2) monitoring at farm and village level, 3) project monitoring of use, effectiveness Include 1) labels of all approved pesticides, 2) restrictions on use and handling, 3) preparation instructions, 4) safety precautions for use, 5) measures to reduce need for pesticides and 6) IPM	September 2012 Revised yearly
5.FPPM Folders and/or Posters on Safe Handling of Pesticides for Producers, the Public, Processors to support Farmer Field Schools	Project technical staff, Partners, Grantees Vendors and value	in French and Lingala or local languages May be poster, folder, booklet,	October 2012 and revised yearly

	Audience	Details	Timing
5a. Guide to Pesticides and Practices of Global Concern to support Farmer Field Schools	chain actors Farmers and families	etc. Includes: 1) hazards of pesticides, 2) selection of least hazardous pesticide, 3) measures to reduce need for pesticides, 4) safe preparation and use of pesticides Training materials are to be used with Farmer Field Schools and other venues.	
5b. Producer Guide to support Farmer Field School to Pest Control and IPM Practices (general principles) to support Farmer Field Schools			
5c. Producer Guide to support Farmer Field School to Safer Pesticide Use, Risks, and How to Minimize the Impacts of Pesticides on Human Health and the Environment to support Farmer Field Schools			
6. Pesticide practices for companies and institutions • For institutions • For customers	Best practices for: • Vendors • Micro-finance institutions • Enterprises	Format: loose leaf binder Good practices for purchasers (in French and Lingala)	November 2012 and revised yearly
7. Additional training material as required by issues	Training is one way to mitigate environmental risk.	TBD	Continuing
Training Events			
1. Environmental Compliance Workshop (3 days, 10 days apart)	Staff STTA USAID IP	To review risks and draft the EMMP.	2011
2. STTA on-site in project offices (estimated 2 – 4 days per year for each IP)	IP	To ensure that the A-EMMP is implemented and monitored.	Continuing
3. Environmental Compliance Workshop 2012, 2013 (2 days, 1 week apart)	Staff STTA USAID IP	To train staff and ensure compliance.	2012 2013
4. Environmental Roundtable Discussion Trial of 6 workshop presentations	USAID GDRC Staff	To assist GDRC, maintain best relations and support project objectives.	2012
5. Workshops on IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for seed production, production, pest control and post-harvest.	Staff IP Value chain actors	To develop and disseminate practices required by the PERSUAP.	continuing
6. Web posting of technical bulletins (see list above)	Project	To disseminate technical information among donors, GDRC and value chain actors.	2013
7. Workshop on Good Agricultural Practices for Cassava, Maize, Legumes, Rice, Trees and Reforestation for Seed Production, Production with Pest Control and Post-harvest	Producers Processors Value Chain Actors	To disseminate recommended technologies.	continuing

	Audience	Details	Timing
8. Producer training and technical assistance for Good Agricultural Practices, IPM, Safer Pesticide Use, Risks: How to Minimize the Impacts of Pesticides on Human Health and the Environment IPM	Producers Processors Value Chain Actors	To disseminate recommended technologies.	continuing
9. Pesticide Training and Technical Assistance for Private Institutions and Value Chain actors	Producers Processors Value Chain Actors	To disseminate recommended technologies.	continuing
10. Additional training as required by an A-EMMP	As needed	To disseminate recommended technologies and strengthen local organizations.	To be determined

Budget. Implementation of this plan will require staff and training. The EMMP calls for one local project staff member dedicated to environmental compliance, local environmental STTA, and international STTA. Two EAs are proposed, plus the PERSUAP. Participation of DAI environmental expertise in yearly reviews and reporting is specified. Training materials will be required, some with modest cost. The benefits and costs of physical mitigation measures and GAPs are to be borne by assisted enterprises, apart from demonstrations.

FPPM PROJECT OVERVIEW

The Democratic Republic of Congo Food Production Processing and Marketing (FPPM) Project, with life-of-project funding of \$31.7 million, is to be implemented from FY2010 through FY2014 to serve the Kinshasa market-shed . The purpose of the award is to achieve broad-based agricultural growth. The overall goal of the award is to increase food security and reduce poverty while contributing to increasing resilience of agro-ecosystems. FPPM will support food availability in the DRC, stimulate economic growth and increase incomes in rural areas, and establish a base for the longer term development of a productive and market responsive agricultural sector. The FPPM Project Contractor, DAI, with partners and under supervision of USAID, will implement a program of activities oriented around three components with supplementary fast-start and cross-cutting actions:

TABLE 3: SUMMARY OF FPPM PROJECT ACTIVITIES

Component One: Increased Agricultural Productivity – demonstrate increased value and volume of domestic production and sales of agriculture products that serve rural, peri-urban, and urban populations within the Kinshasa market shed First Year Work Plan heading: 1. Production.

Component Two: Improved Market Efficiency – demonstrate an increase in opportunity for agricultural buyers and sellers, and minimization of farm-to- market transaction costs; First Year Work Plan heading: 2. Transformation and marketing.

Component Three: Developed Capacity to Respond to Market opportunities – demonstrate that the mix of interventions responds optimally to market opportunities in targeted areas, and that the capacity of farmers and associations to conduct these activities is strengthened First Year Work Plan heading: 3. Capacity Building.

Non-Mandatory Actions: Initiate non-mandatory sets of activities that support the three principal components; .

Fast-Start Activities: Undertake actions identified in the DAI proposal that fit under one or another of the three principal components and can be initiated immediately upon contract signature;

Transversal or Horizontal Activities: Undertake actions that affect more than one component, including environmental review, developing a gender strategy, monitoring/ evaluation, and administration..

When the Initial Environmental Examination (IEE) covering FPPM was written, road rehabilitation and rehabilitation of market infrastructure (storage facilities, collecting centers) was part of FPPM. Currently, funding for those activities is not included in the FPPM budget.

ENVIRONMENTAL AND SOCIAL ISSUES

This section of the EMMP provides background on agricultural issues relevant to FPPM. Over 70% of the population of DRC is engaged in agriculture, and broad-based agricultural expansion offers the best opportunity for poverty alleviation and growth⁶. Realizing the positive role of agriculture will require attention to environmental sustainability, including social sustainability, and potential environmental or social issues as a core element of agricultural strategy.

E1. ENVIRONMENT AND ISSUES

This section describes the environmental background for FPPM, particularly environmental issues of agriculture.

Project area. The project area comprises the agricultural hinterland of Kinshasa, covering Bandundu, Bas Congo and Kinshasa.

Ecoregional conditions of Bandundu, Bas Congo and Kinshasa. Using terrestrial habitats of western DRC defined in the DRC 118/119 report, most of the project area is in the Western Congolian Forest-Savanna Mosaic, with small areas of Atlantic Equatorial Coastal Forests and Central African Mangroves near the coast, and the Southern Congolian Forest-Savanna Mosaic. Savannah, gallery forests, islands of dry forest, and human settlements dot the mosaic landscapes, with rich – but decimated - fauna.

Macro-environmental conditions are generally favorable for cassava and groundnuts, with sandy soils and moderately high rainfall. Land for low-input production of maize is found in pockets and along rivers, including land under gallery forest. Environmental conditions for cassava in the area that supplies most cassava to Kinshasa – Bandundu and Bas-Congo (earlier called Bas-Zaire) have been summarized by Goossens⁷.

The areas of Bandundu and Bas-Zaire are respectively 295,750 km² and 54,804 km². Each of these regions is linked to Kinshasa by a paved road [then, as now]. Bandundu (east of Kinshasa) has three rural subregions, Mai-Ndombe, Kwilu and Kwango, and two urban subregions, the towns of Kikwit and Bandundu. Bas-Zaire (west of Kinshasa) has three rural subregions, Lukaya, Cataractes and Bas-Fleuve and two urban subregions, Matadi and Boma.

The Bas-Zaire [Bas-Congo] region ... is sandy at the estuary of the [Congo] River and argillaceous-sandy to argillaceous [clay] in the Bas-Fleuve. The soil in the Cataractes and Lukaya subregions is again sandier, especially in the eastern part. The Bas-Fleuve subregion is characterized by its forest formations. The Cataractes and Lukaya subregions are mainly savannas and the estuary of the Zaire River is characterized by its mangroves and swamps (S.E.P, 1987). The Mai-Ndombe is part of the Central Basin and has mainly forest vegetation and swamps. The vegetation of central Kwango is mainly savanna. A combination of forest and savanna prevails in the northern Kwango and Kwilu. In a general way, soils in Bandundu

⁶ "Initial Environmental Examination & Request for Categorical Exclusion" for USAID/DRC/Economic Growth, n.d.

⁷ Goossens, Frans (1996) Cassava Production and Marketing in Zaire. Leuven, Belgium: Leuven University Press.

are composed of limono-argillaceous sands and of sandy limons. In the south, mainly in the Kwango subregion, soils are sandy or sandy-argillaceous and belong to the Kalahari type.... The main cassava production zones for the Kinshasa market are Cataractes, Kwilu and the western part of Mai-Ndombe.

The climate in [DRC] is favorable to agriculture. The climate in Bandundu and Bas-[Congo] belong to the type A of the Köppen classification, which means a wet equatorial climate with an average temperature of more than 18 degrees C in the coldest month and an annual rainfall (in cm) that is higher than two times the average temperature increased by 14. The dry season, with precipitation nearly zero, lasts from the beginning of May until the second half of August. The small dry season in January-February implies a slow-down of rainfall. Average annual rainfall varies between 1500 mm and 1600 mm with about 150 rainy days. The main harvest period for cereals and groundnuts is the beginning of the dry season (April – June). The planting period is September-October. The agricultural calendar results in a yearly period of relative abundance, between April and July, and of relative shortage of food staples from October to January. Cassava is generally planted in September-October, but harvested during the whole year. Seasonal price fluctuations of most crops are small while the rainy season is relatively long (7-8 months), as well as the potential planting, growing and harvest periods.

In addition to Bandundu⁸ and Bas-Congo, the project will work in Kinshasa's rural hinterland, particularly the Plateau of Bateke, characterized by sandy soils. Anecdotally, a Brazilian working on cassava processing for the APTM project marveled at the cassava yields and quality of the roots on the plateau soils, which he thought were superior to results in his experience in Brazil.

Rainfall is sufficient or plentiful for horticulture. In Bandundu it is up to 2,000 mm per year in the north with no dry months and 800 mm per year in the south, with 5 or more dry months. Altitude ranges from 350 to 900 m over sea level. Rainfall in Bas-Congo is mostly in the range of 1,200 to 1,500 mm per year.

Bandundu vegetation includes equatorial rainforest in the north, mixed grasslands/savannah with gallery forests and savannahs in the south. Bas-Congo has coastal forest near the Atlantic and some remnant forests, which have been over exploited for valuable timber and charcoal, with savannah to east.

Human adaptations. Human adaptations in the north of Bandundu include hunting, fishing and timber harvest, with slash-and-burn horticulture, and horticulture in the center and south. Fishing is generally practiced for subsistence or sale. In the south, soil and population are concentrated along river banks. There is some artisanal exploitation of diamonds in the south. Declining soil fertility is general as primary vegetation recedes. Population density averages 25/km², dense along highways and sparse to north, with a range of 8 to 130 people per km².

Bas-Congo has the major ports of DRC with corresponding infrastructure and transport to Kinshasa. Subsistence horticulture is general, with limited commercial fishing. There is limited mining, but large reserves have been found.

⁸ Republique Democratique du Congo/ Minstere de l'Agriculture, Peche, Elevage. « Etude specifique du secteur agricole dan la province du Bandundu et proposition pour un Plan de Developpement 2008–2012 ; Rapport de Sythnese Cover sheet shows icons of FAO, GDRC, EU with number GCP/GLO/162/EC.

Kinshasa is the capital city of DRC with a population of about 10 million, bordered by the rural Bateke plateau with mix of subsistence and limited commercial agriculture. Population density is more than 200/KM2 because of the city, generally dense along roads. The 118/119 report observes of the area from Kinshasa westward: “Formerly forested, the landscape is now fields with scrubby fallows, and even the riparian forest is often cleared for cultivation. Crops and fuel wood/ charcoal are the major products of this landscape.” The same report notes that burning the savannah for horticulture or hunting may maintain the savannah by preventing succession to forest, but that is not certain.

Recognized environmental issues for FPPM. The FPPM IEE, the DRC 118/119 report, and other sources identify environmental issues pertinent to the FPPM project or similar projects. They fall into clusters: of issues related to horticulture, biodiversity, value-chain issues, impact on rural life and institutional issues.

TABLE 4: BASELINE SYNTHESIS OF ENVIRONMENTAL ISSUES RELATED TO AGRICULTURE AND FPPM

1. AGRICULTURE CLUSTER

- **Expansion of cropped area, impact on biodiversity or tropical forests.** Agricultural expansion as a result of shifting cultivation (particularly in Eastern DRC, but to some degree in the project area’s northern extreme) results from demographic pressure and civil strife; future deforestation may be driven largely by the expansion of palm oil plantations into forest regions (IEE). Expansion in areas of gallery forest and long-term fallow is more of an issue in the project area. Need to stop destruction of remnant forests in Bandundu is an important issue identified by FAO/DRC/EU. 118/119 report notes issues of deforestation, fuel wood use, poaching in project area and claims, "agriculture is a primary cause of deforestation...."
- **For Bandundu, need for sustainable agricultural models for each agro-ecological zone (identified by FAO/DRC/EU).**
- **Extensive production techniques.** FAO/DRC/EU suggest need in Bandundu for development and diffusion of agricultural techniques that use less land; control of land allocation in fragile environments.
- **Bush fires.** Set for brush clearance or hunting in many areas result in progressive disappearance of the woody species most sensitive to fire and the re-growth of herbaceous species (IEE). Slash-and-burn prevails in project area.
- **Soil erosion.** Water erosion in cultivated areas is related to natural conditions (heavy seasonal rain) and lack of conservation practices, excessive cutting of forests, shrubs and bushes, specifically loss of trees along roads, crop cultivation on slopes and other.
- **Chemical contamination.** Pesticide, herbicide and fertilizer use has dropped in the last decades due more to economic declines than to changing technologies or promotion of low-input horticulture. One important exception is for short-cycle horticulture on the Plateau de Bateke, where vegetables are produced for Kinshasa.
- **Improper pesticide use.** Interviews consistently reported low levels of pesticide or agrochemical use, but also limited capacity to regulate use and little education or distribution of educational materials in local languages on safe use.

2. BIODIVERSITY

- **Biodiversity.** Largely indirect issues for FPPM linked to forest habitat issues, potential for actions near protected areas and wildlife-crop protection issues. Large mammals (elephants, rhinoceros, etc.) are found in the savannah mosaic. Hunting, fishing, forestry controls to protect biodiversity are a priority for FAO/DRC/EU in the moist forest in the north of the project area. Gallery forest and savannah mosaic forest issues less widely recognized (see 118/ 119 report), but endangered species present: see (<http://www.nationalgeographic.com/wildworld/profiles/terrestrial/at/at0718.html>).

3. POST-HARVEST AND PROCESSING

- **Water quality and water use:** Water quality, pollution and waste issues are most relevant to processing facilities and markets.
 - **Waste management:** Organic waste (peelings, for example) and non-organic waste (containers, plastics, and oil products) are issues for processing operations and markets.
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- **Food quality, safety, and adequacy:** Interviews consistently noted issues of food quality for both domestic and international sources and safety.

4. VILLAGE LIFE

- **Land tenure, village organization:** Assure sufficient land reserves for villages in forest zones (FAO/DRC/EU). See discussion of village organization and land tenure in this report.

5. INSTITUTIONS

- **Institutional issues:** FAO/DRC/UE suggests for Bandundu an “agro-ecological monitoring committee” for each administrative unit to include producer organizations (farmers, fishers, livestock owners, hunters). Improved diagnostics needed. Capacities of technical assistance reinforced and tools for resource management.
 - **Institutional support and agricultural policy:** The DRC government is developing environmental standards, ready for adoption according to interviews, but the implementation of policy is likely to be difficult.
 - **Major data gaps:** Despite generation of remote sensing, most information on environmental conditions, village resource use patterns, social practices and agricultural KAP in rural areas is out of date.
-

Following are more detailed discussion of several complex issues.

E2. SUSTAINABLE CULTIVATION AND ENVIRONMENTAL ISSUES

The foundation of FPPM is improved production, processing and marketing of agricultural products. The approach taken to environmental mitigation of potential impacts of agriculture in this EMMP comprises the following steps: 1) review of general practices in the project area as currently understood, specifying general mitigation measures including those taken from the IEE and USAID DRC Biodiversity and Tropical Forest Assessment (118/119), sufficient to begin many actions in the project area, 2) during Year 1, increase understanding of conditions in the project area by undertaking project PERSUAP or IPP/SUAP, through rapid characterization studies, and from project experience, 3) during Year One of project, develop a project agricultural manual with recommended practices (including mitigation measures), supplemented with training materials, 4) understand landscape level issues of impact on forests, protected areas, village resources or others through rapid village characterizations and monitoring, 5) monitor and adapt mitigation measures, including compensatory actions.

The IEE establishes the conditions for improving production and local processing of agricultural products (cassava, maize, beans, rice, others).

Some of the common impacts [of agricultural interventions] include: degradation of marginal lands that displace previous land uses, deforestation, degradation or destruction of protected habitats, biodiversity loss, cropland degradation, introduction of exotic species, soil erosion, reduction of soil fertility, siltation of water bodies, reduction in water quality and policy impacts of agriculture.

The impacts identified are related to agriculture in individual fields and and to aggregate, cumulative or landscape impacts, somewhat removed from the individual field.

Though FPPM plans do not focus on animal husbandry, the IEE contemplates that option, noting that,

animal husbandry is integral to rural livelihoods. Grazing, mixed farming and industrial systems all pose different environmental challenges. Common challenges include

overgrazing, policy and legal problems associated with traditional and modern husbandry practices, access to critical resources, harm to vegetation, loss of farm fertility.

The USAID DRC 118/ 119 report identifies unsustainable intensification, migration to new areas and over-reliance on large-scale fires as issues related to agriculture. The report notes that,

urban demand for food and increased crop values through easier market access tip the scale in favor of more intensive cultivation, with the reduction or elimination of fallows, and this process is occurring around Kinshasa and the densely populated areas in Eastern DRC.

The 118/119 report also notes that migration from more densely populated areas exacerbates environmental issues related to traditional cultivation. It reports that very large concessions for biofuel plantations threaten forests. The same report notes threats from mining concessions. Lighting fires for clearing land or hunting affects woody species on the savannahs. The 118/119 DRC report notes that Bas Congo is one of the “most serious areas for bushfires.”

The DRC 118/119 report notes that the issue is not slash-and-burn horticulture in itself because “when it is suited to a local context,” shifting cultivation of the kinds practiced in the project area are “not destructive,” since they generally allow long fallow.

E3. ISSUES OF FORESTS AND PROTECTED AREAS

The DRC Biodiversity and Tropical Forest Assessment (118/119) is the principal source of USAID guidance on threats to forests and biodiversity, including threats from agriculture⁹.

General descriptions of the state of forests in DRC¹⁰ suggest low to modest rates of deforestation. The 118/119 report uses the figure of 0.33% per year. But the forests of Bas-Congo and Bandundu (especially gallery forests, secondary forests, dry tropical forests, and savannah forest mosaic) are more at risk than in most areas of the country:

The annual rate of deforestation is estimated at 0.20 % per annum (Duveiller et al., 2008), which, despite being the highest among Congo Basin countries, remains relatively low. However,...an extensive network of rural roads linking villages means the forest is fragmented and agricultural clearings several kilometers wide are gradually isolating forest blocks.

The rate of deforestation is much higher than the national average in heavily populated regions with a strong agricultural sector and subsistence farming remains the primary cause of deforestation in DRC. The province of Bas-Congo, the territories of Bumba and Lisala in Equateur and the Great Lakes region in the east of the country are examples of this strong local dynamism. The dense humid forests are also very densely populated in some areas. For

⁹ USAID (2010) Democratic Republic of Congo: Biodiversity and Tropical Forestry Assessment (118/ 119). Prosperity, Livelihoods and Conserving Ecosystems Indefinite Quantity Contract (PLACE IQC) Task Order EPP-I-03-06-0021-00.

¹⁰ Website: State of The Forests in Central Africa : Regional and National Syntheses with pdf “The Forests of the Democratic Republic of Congo in 2008” by Richard Eba’a Atyi and Nicolas Bayol with contributions from: Sébastien Malele Mbala, Jacques Tunguni, Philomène Mwamba Kyungu, and Franck Yata. Available at the web site: <http://www.observatoire-comifac.net/edf2008.php?l=en>

example, in the Tumba Mai-Ndombé forest, located between two lakes and straddling the provinces of Equateur (Bikoro territory) and Bandundu (Inongo territory), socio-economic studies (Bayol et al., 2008) assessed population density at more than 30 inhabitants per km². A high population growth rate of 2.4 % annually (Fa et al., 2003), cf. above) and little support for modernizing food production raise fears of rapid deforestation in the future. The planned development of industrial plantations (palm oil in particular) constitutes a further threat to the forests in DRC.

Around major urban centers, the collection of fuel wood is an important cause of forest degradation and deforestation. Intensive wood collection in the province of Bas-Congo has contributed to forest degradation.

The USAID-funded Central African Regional Program for the Environment (CARPE), with participation of the Universities of Maryland and South Dakota and the NGO OSFAC¹¹, has made available remote sensing files on forest cover and deforestation¹². The project area marketshed of Kinshasa (potentially covering Bas-Congo, Kinshasa, and Bandundu) has substantial areas of savannah with primary or secondary forests along the rivers or gallery forests. The part of Bandundu most distant from Kinshasa has substantial areas of primary forest.

Macro factors are one reason that deforestation has remained below .5%. A World Bank assessment notes that agricultural land in DRC is slightly less than 23 million hectares (ha), only approximately 10 percent of the total 228 million ha of the country, and a much smaller percentage than that of neighboring countries. Further, cropped area has been declining. Annual staple food crops account for 86 percent of land farmed; and, between 1991 and 2002, the areas under cultivation for most crops declined (cassava: 2.4 million ha to 1.9 million ha, maize 1.2 M to 1.4 M, legumes 344 K to 212 K). While this is an issue for food security, it indicates decreased macro-pressure on forest from small-holder horticulture.

Population pressure, market access, and roads are factors linked to deforestation in theory, supported by land use maps that show areas near to roads and transport routes as often deforested as are the areas close to population centers. Reliance on charcoal and fuel wood for cooking in urban areas is an incentive for cutting trees. The project area of Bas-Congo, Kinshasa and Bandundu has relatively high population density (comparable to that of the Goma – Bukavu area of the east and the Katanga marketshed) and the Kihasa marketshed is classed as high population density, high agricultural potential and high market access (using maps in World Bank 2006). In April, 2010 Greenpeace held a forum in Oshwe (Bandundu Province) on “The Future of Forest in the Oshwe Territory, Bandundu Province,” with civil society groups and forest communities.

The 118/ 119 report notes that most attention is given to the moist forest in DRC, but dry forest, savannah mosaic, and mangroves (which prevail in the project area) are at-risk and constitute habitats for biodiversity and eco-tourism, and provide resources for human use.

Forest livelihoods. Forest resources are a significant part of human livelihoods in DRC. The DRC 118/119 report notes that “...forests are critical to the livelihood of about 40 million Congolese, providing

¹¹ Observatoire Satellital des Forets d’Afrique Centrale (OSFAC; www.osfac.net) monitors forest cover in Cameroon, CAR, Republic of Congo, DRC, Gabon and Equatorial Guinea. Headquarters are in Kinshasa. Partners include several international environmental NGOs.

¹² See http://carpe.umd.edu/facet_atlas . The hardcover/ CD data set is available as Forets d’Afrique central evaluees par teledetection (FACET) (2010) Etendue et perte du couvert forestie en Republique democratique du Congo de 2000 a 2010.

food, medicine, domestic energy, building materials, and cash.” That report estimates the value of artisanal timber at \$60 million, and over \$1 billion each for bushmeat and firewood.

In the project area, forests and biodiversity contribute to human livelihoods. The north of Bandundu has hunters and other forest dwellers. A survey in Bandundu found use and sales of caterpillars, mushroom, ferns, kola nut, *Gnetum* spp. and palm wine¹³. That report also notes the importance of hunting. Honey, other foods and herbal medicines are produced in the forest. Tourism is an important industry in the East, less in the project area. Non-forest timber products are important for households with access to forest, including the gallery forests in much of the marketshed, more extensive forest to the northeast or coastal forests on the coast.

ICRAF has been working on forest pilots in DRC, including the project area. The urban demand for cooking leaves (*fumbwa*, a vine) has lead ICRAF to domesticate the vine for growing on *Calendra* trees for sale locally and in Europe. Another initiative compatible with forests is increase in producing honey and other bee products. ICRAF works with 125 seed producers in Bas-Congo, part of the project area, and produces fruit and fertilizer trees.

Protected areas and ecotourism sites. Protected areas in the more remote part of the project area include part of the Salonga National Park, partially in Bandundu and partially in Kasai, with a very large area of tropical forest. Several smaller areas include the Bombo-Lumene Game Reserve (on the Plateau de Bateke, near Kinshasa) and a biosphere reserve (at Luki in Lucuna on the lower Congo). The DRC 118/119 report notes, “The Bombo-Lumene Reserve, less than two hours drive east of Kinshasa, has a lot of disturbance from cultivation and poaching, but still has scenic areas with grasslands and forested ravines with tourism potential and with some existing tourism facilities. Also, there are spectacular sites along the Congo River which could be developed....” That same report notes that the Inkisi Basin and falls in Bas Congo have potential for both cultural and traditional ecotourism. The lower Congo River and estuary are also identified as potential eco-tourism sites.

Forest issues. FPPM poses no actions to directly affect tropical forest. Indirect risk for the primary forests of Bandundu is reduced because the forested areas and parks with primary forest are relatively distant from the Kinshasa market, transport costs are high, and land is available closer to Kinshasa. There is a centripetal tendency that is likely to limit impact on protected areas and primary forests to the north of the project area.

Still, some forests are more accessible. The presence of gallery forests (primary or secondary) along rivers in much of the project area, coastal forest near the mouth of the Congo River, and a wildlife reserve near Kinshasa, combined with the incentive of natural fertility for low-tech maize production, suggests attention to forest sustainability. A project that will promote farm production for transport and marketing to urban centers has the potential to extend incentives for production in currently forested areas. Finally, although savannah is not as prominently featured in conservation reports, it is the habitat of large mammals.

FPPM will recognize the risk of indirect negative environmental impacts on forests from program actions and act to avoid, prevent, reduce, mitigate or offset those risks.

¹³ Hoare, Alison. 2007. “The Use of Non-Timber Forest Products in the Congo Basin: Constraints and Opportunities.” The Rainforest Foundation.

E4. AGROCHEMICAL USE AND FIFRA AGROCHEMICAL INFORMATION

De facto, low-input agriculture is the norm in DRC. Awareness of purposely low-input agriculture is still modest. In DRC, Guidelines for Good Agricultural Practice (GAPs) are not in common use. Anecdotes of pesticide toxicity are reported.

Fertilizers. The common method of increasing soil fertility is slash-and-burn land preparation. Cutting and burning fallow or primary vegetation provides access to naturally fertile soils and ash adds nutrients. As population pressure near cities leads to decreased fallow or primary vegetation, purchased or produced fertilizers are likely to be used in increasing quantities.

Currently, utilization of purchased fertilizers in DRC is limited by high cost with uncertain return, lack of vendors or technical assistance, limited experience among small-holders, and labor-intense farming systems built on manual horticulture rather than inputs. The returns to fertilizer use are not as clear as would be the case with more experience, and IITA notes that information about crop response to fertilizers is largely out of date. Even when input use increases production, most farmers have not had reliable access to markets, so net returns are not assured (though FPPM will be working to improve market linkages).

Fertilizers known to be available on the Congolese market, including but not limited to the following, reported by Luamba.

TABLE 5: FERTILIZERS AVAILABLE IN DRC

Nitrous fertilizer based on ammonium

- UREA
- Ammonium Sulfate
- Ammonium Nitrate
- Lime Cyanamide
- Other nitrogen fertilizers

Other nitrous fertilizers

- Calcium Ammonium Nitrate (CAN)
- Calcium Nitrate
- Nitrate of Soda

Phosphate fertilizers

- Superphosphate above 35% (46%)

Fertilizer compounds or complexes

- Complex NPK > 10 kg, eg NPK17.17.17
- Mixtures of NPK, for example NPK15.15.15 (15% N, 15% P2O5 and 15% K2O)
- DAP Di Ammonium Phosphate (18% N and 46% P2O5)

Various (animal manure, waste, plants)

- Guano
 - Household waste and night soil
 - Volcanic lavas (Kivu) and termite hills (Lubumbashi)
-

-
- Organic fertilizer
 - Biological fixation of atmospheric nitrogen (FBA) 14
-

Source : Luamba report to FPPM

Pesticides. Purchased insecticides, biocides, and herbicides are found only occasionally in the project area, largely used by atypical farmers. Most small-scale producers do not use pesticides, though in the Bateke Plateau of the project area, vegetable producers do sometimes use them. Herbicides are similarly uncommon.

DRC has a pesticide regulation (2005). It is a signatory to international conventions prohibiting certain pesticides and uses a list of banned chemicals covering the USEPA, European Union, POP convention, PIC convention and PAN Dirty Dozen (<http://www.pic.int/>, <http://www.epa.gov/international/toxics/pop.html>, <http://www.pesticideinfo.org/>).

However, enforcement of prohibitions on importing banned chemicals is weak, according to government officials, and some of the chemicals available for purchase do not meet international standards. Governance and administration are not tight, and limited literacy and limited perception of the dangers of some pesticides are factors that increase risk.

FPPM is intended to provide training that will include safer use of FIFRA agrochemicals in the context of IPM. The project will train farmers and SMEs in post-harvest and processing methods that may include chemical use in the context of cleaner production/ pollution prevention. Research and seed production may benefit from using fertilizers and pesticides in the context of IPM. Finance institutions assisted by the project may finance agricultural and SME investments of beneficiaries who may use fertilizers, pesticides or other FIFRA chemicals. The value chain approach used by FPPM offers the opportunity to work with inputs suppliers, business service providers, buyers and others with leverage to multiply its influence on how large numbers of value chain suppliers and actors use agrochemicals.

This EMMP suggests that due diligence for FI partners should involve an Environmental Due Diligence (EDD) procedure that may result in training for FI partners in environmental issues. When an enterprise is to get substantial technical assistance from FPPM, it should review production methods using a Cleaner Production/ Pollution Prevention format (CP/ P2).

The draft Pesticide Evaluation Report and Safe User Action Plan (PERSUAP) is attached to this revised EMMP. The executive summary of the PERSUAP is presented as Attachment 9 to this EMMP, including the list of approved pesticides and the main actions required to implement the PERSUAP recommendations.

E5. SME AND VALUE CHAIN ISSUES AND ISSUES

The environmental risks of FPPM support for enterprises that are value-chain actors are specific to the sector and the enterprise that will be involved.

Cassava processing. Cassava, like certain varieties of lima beans or almonds or the seeds of apples, apricots and some other fruits, contains chemicals (cyanogenic glycosides) that can release cyanide.

¹⁴ Resources for nitrogen fixing are of interest for an integrated soil management program.

“Bitter” cassava contains more of the chemical and “sweet” varieties contain less. Processing drives off the potentially toxic chemicals. Consumption of uncooked cassava¹⁵ or consumption of products that are insufficiently processed (as may occur when the demand for products is high) can lead to health issues.

Dried cassava is hygroscopic (absorbs moisture from the air) to such a degree that the surface of dried roots can develop molds, fungus and bacteria, and the processor has to scrape the dried roots before processing. If the processor is not meticulous, the color and perceived quality of the processed products suffers. The discolored product sells at a lower price, but is still consumed.

Processing generates a considerable volume of peels, but once sun-dried or composted, the peels can be used for fertilizer or even animal feed.

Most cassava processing for the Kinshasa market is highly labor intensive. Despite promotional efforts, there are only a few factories functioning and the activity is semi-industrial. Generally, rural women work in their villages with family, without village level enterprises. Only some villages have a grating machine or hammer mill (possibly supplied by an NGO), not always sustainable in the rural context. One reason that mechanization is unusual is that women work at very low wage rates, often \$1 per day. Enterprises are at risk, and there is no certainty of profit.

Visits to processing facilities indicated no government inspections. The association of cassava processors (*Association des Producteurs et Transformateurs de Manioc* or APTM) is in contact with FPPM and is a potential route for diffusion of environmental information.

Issues for processing plants are incomplete processing, spoilage, disposal of waste water from processing, disposal of peels, competition with a labor-intense industry that, even with low wages, provides some benefits to rural women.

Markets expansion. Currently the physical infrastructure of food markets is minimal with insufficient resources for waste disposal. As local production increases, so will the volume of products and waste.

Input suppliers. Visits to inputs suppliers showed limited knowledge of risk, limited technical staffing at even the central level of larger firms and minimal or no buyer education materials or detailed labeling of agrochemicals. Training in selection and use of FIFRA agrochemicals will support these value-chain actors.

E6. HUMAN IMPACT: LAND TENURE, LOCAL VILLAGE ORGANIZATION AND AGRICULTURE

Land tenure. IITA notes that with commercialization of cassava there are generally positive impacts on employment, income, schooling, domestic relations and housing, but that land tenure is a big issue with commercialization of any crop, including cassava. Much of the production of cassava on the savannahs is still shifting cultivation, which affects land tenure arrangements and requirements for land at the village level (see Fresco¹⁶).

¹⁵ Of most varieties; there are special varieties in East Africa that are eaten raw.

¹⁶ Cassava in Shifting Cultivation, by Louise Fresco, covers the situation in central Congo with a farming systems approach.

The DRC 118/119 report cites inconsistencies among land and resource tenure laws and incomplete resolution of ambiguity. Customary tenure is recognized, but so are private property and several classes of private concessions.

DRC's legacy of legal dualism has resulted in relatively secure statutory land tenure and property rights for natural resources accruing to a small percentage of the population, i.e. those with permanent private concessions. The remainder of the population copes with more insecure customary land tenure and property rights. While this dualism actually may have been instituted with the benign intention of retaining traditional management systems, in many areas it has resulted in confusion, as lands with legal titles intersect with those managed under customary use rights and as the pressure to utilize land resources increase with population growth and economic development.

The World Bank (2006) summarizes land tenure for agriculture as follows,

Food production in DRC is almost entirely in the hands of small-scale farmers engaged in traditional agriculture....The traditional land tenure arrangements, similar across the country, seem to work very well. Access to land does not appear to be a priority problem.

But the same report cites three cases of provinces with land pressure, including Bas Congo as having relatively high population density and large tracts granted to foreign plantation enterprises (World Bank 2006, using 1998 data). The report calls for directing the benefits of agricultural development to poor people, keeping production in the hands of smallholders, and a land policy that gives smallholders access to land or other assets in an equitable manner with attention to women's rights.

In much of the FPPM project area, the traditional social organization is relevant to the land tenure system and formation of village descent groups. As among many Central Bantu of the former Kingdom of Kongo, rights to cultivate land are passed matrilineally (membership in a landholding group is passed from mother to daughter or from a man's mother's brother to the man, not from the father) and the village is an important kinship and production unit¹⁷. This cultural pattern has been long-recognized in the savannahs of the western DRC including the project area, where women do much or most of the horticultural labor¹⁸. The old Kingdom of Kongo lasted into the early twentieth century. It was hierarchically organized with a basic unit being the corporate village that, among other things, organized agricultural production; conversely, the Kingdom provided political space for the continuation of the matrilineal corporate village in the face of colonial European models. In the north of Bandundu, in the forest, the cultural patterns are different and rights pass patrilineally (along lines of kinship through men, beginning with the father).

In the savannah villages visited while preparing this EMMP, local farmers recognized the importance of matrilineal inheritance of land rights and the various influences that affect its continuance as part of everyday life.

The cited volume on matrilineal kinship recognizes that as agriculture changes or as gender roles change there may be changes in the system of land allocation. Particularly, it suggests that patrilineality emerges in association with irrigation, cattle-raising and commercial farming. Current anthropology gives more

¹⁷ Matrilineal inheritance is not to be confused with matriarchy; men may still control some resources, but inherited from mother's brother and passed to sister's son.

¹⁸ The Congo situation is analyzed in some detail in a classic monograph: Schneider, David and Kathleen Gough (eds.) (1961) *Matrilineal Kinship*. Berkeley and London: University of California Press.

emphasis to the play of individual strategies and modern external forces on ideal patterns of land tenure. An anthropologist with experience in Central Africa notes,

The more typical pattern is the persistence of the matrilineal kinship system, to which one belongs by birth, and, at the same time, the growing importance of the father figure – his power over his children, for example, and his access to land and other resources, including those made available via outside institutions such as development organizations and agencies. Some see this as a sign that matrilineality is losing ground; others suggest the very opposite, that matrilineality is persisting in spite of the many blows it has received over the last centuries.

It is useful to recognize the emergence of private holdings in some situations, the modern flux between political grants of land and village systems and the reasons that the former government of Zaire chose to recognize village land chiefs. IITA notes that links with one's father's family become more important in the Kinshasa area. While preparing this EMMP, NGOs noted that commercial production near Kinshasa has led to share-cropping, land rental, changes in family structure, emergence of large land holdings displacing villagers and other effects that may be characterized as impact on the human population. On the other hand, some noted that the interests of a chief may diverge from those of villagers, so broad distribution of benefits may be an issue.

FPPM will take no direct actions to impact land tenure arrangements. But indirect effects on small-farmer strategies and on gender roles are possible as the project promotes food production for Kinshasa. Conversely, the feasibility of project initiatives in much of the project area will depend on the acceptance of the project by local chiefs, whose role is intimately linked to land tenure (see below), as well as acceptance of the project by villagers in general.

Local government, social organization and project activities. Villages will be de facto actors in value chains, and they will be affected by development of value chains. When a locality charges tolls (as some do), grants resources to an enterprise or generates enthusiasm or resistance to an activity, it is a value chain actor.

Many villages in the project area are coterminous with matrilineal kinship groups. In such villages, traditional village leaders (chiefs) have influence or authority to allocate productive resources among villagers, making decisions about production both corporate and individual. In discussing land tenure in DRC, the World Bank noted, “The informal sector must be considered not as a temporal phenomenon but as a structural factor that must be integrated in the overall development strategy.¹⁹”

Village land tenure, gender, farmer organization, local governance and social organization intersect with project implementation. While preparing this EMMP, interviewees said that it is likely that in Bas Congo and Bandundu the project will need relations with local tribes and will have to know local customs. Land tenure varies within the project area. Anecdotally, there are more and more land tenure issues or conflicts, especially in areas with dense populations. People in urban areas sometimes get title, displacing rural people.

¹⁹ World Bank (2006) citing Herdt and Marysse 1996. “Main Report Democratic Republic of the Congo Agricultural Sector Review.” Report No. 30215-ZR Environmental, Rural, and Social Development for Central Africa (AFTS3) Country Department 09 Africa Regional Office.

There are differences among the provinces that will participate in FPPM.

- Bas-Congo has 12–30 related tribes (depending on how they are counted), all of the “Kongo Kingdom.” All are matrilineal, with the role of village chief passing (usually) from the former chief to his sister’s son. Clan chiefs may be women, a “reine” (queen), typically widows. Villages are said to consist of people of a single clan plus their spouses (typically from other villages, as the clans are said to be exogamous). The majority of household heads are men. But if there is a widow, she directs the family, and the headship will pass from the husband of a woman to her daughter’s husband.
- Bandundu also has about 30 tribes of the Kongo Kingdom, similar to those of Bas-Congo. To the north, it has people of patrilineal Nkundo ethnicity and influence of people from Kasai and others from Equateur. Bandundu has many non-Kongo tribes, e.g. Nkanu, Yaka, Suku, Pende, Mbala, Teke, etc. From FPPM perspective, the Pende, whose most important center is Idiofa, are very important.
- Kinshasa was the “big market” of the Kongo Kingdom, with residents of many tribes. The rural area is the Plateau of Bateke, with Bantu tribes that are still matrilineal. But inheritance near to Kinshasa is said to be more flexible than in the villages (through both mother and father), and the influence of more wealthy or powerful individuals (or companies) is said to be shown in land holdings.

Women provide most of the labor for production of food crops using traditional technology, and relations between men and women are embedded in larger social and cultural context. This will provide opportunities and constraints on how the project works with women. It may also affect how the project counts “families” for monitoring results, since the traditional criterion counting each “family” (sharing a cooking pot) may become complex in a village where the family may be a matrilineal lineage or extended family.

The World Bank agricultural strategy paper (2006) notes that “producer organizations need to be strengthened, assisted, and encouraged to deal with agricultural services such as primary processing, improved storage and conservation, marketing, input supply, and linking with microfinance institutions. In the absence of strong private sector involvement, strong producer organizations are the only way to ensure sustainable development of agriculture.” It supports community-driven development programs and communities that choose, design, and execute microprojects.

At the village level, the village association (*association paysanne* (AP) or *organization paysanne* (OP)) may be coterminous with the lands allocated by a local chief. The local chief can allocate land for AP or OP activities, or can prevent activities. Often the associations are mixed women and men, usually with a majority of men, but some (like those associated with the ATPM project) have mostly women.

In-so-far as villages control resource use, work with villages offers the option of local zoning for conservation or mitigation. The World Bank agricultural strategy notes that “poor management of natural resources” can make a productivity focused strategy “counter-productive” absent mitigation measures; but it judged that such issues were outside the scope of its review.

Gaining the cooperation of villages and village chiefs will make project implementation easier. There is also a risk that chiefs and producers may not agree on initiatives, so working with farmer organizations might foment conflict. An IITA scientist related one case in which a cassava processing plant was installed and a local chief granted sub-clan land for producing raw material. But then the suppliers of raw material lacked land for subsistence production. They expected another subclan to share their land, and that led to violent conflict between the sub-clans. Another area of potential discord is change from

matrilineal succession to bilateral succession in land near Kinshasa as commercial activities increase. Anecdotaly, some development work became mixed with religious promotion, resulting in conflict. In general, organizing producers on new lines can create the conditions for factionalism and strife.

FPPM will recognize the risk of indirect impacts on land tenure from program actions and the potential impacts of working in the social context of western DRC. FPPM will benefit from characterization of local social conditions and careful evaluation of pilot activities with villages and farmer organizations. Practically, these monitoring measures can be handled by participatory village-level appraisals; if there are issues, specific mitigation measures will be required.

EMMP GUIDANCE AND METHODS

This section of the EMMP presents the purpose of the EMMP, the guidance used for this EMMP, guidance on a EAs, means to comply with DRC law, results of field visits and priorities for training. It lays the basis for the following section on FPPM procedures to implement the EMMP and comply with the IEE.

G1. PURPOSE OF THE EMMP

The purpose of the Environmental Mitigation and Monitoring Plan (EMMP) is to plan the project Environmental Management System (EMS) to implement the project Initial Environmental Examination/ Threshold Decision and their conditions (IEE and Threshold Decision) and take other actions in favor of compliance with the project contract, Regulation 216, and USAID environmental guidance. The EMMP builds in best practices from USAID sources (such as ENCAP), DAI experience and other sources. It also builds in the results of interviews in the project area with government officials and project staff regarding conditions and risks in the project area.

Beyond compliance, the EMMP will positively support value chain actors and business services providers by providing sustainable practices. Achieving positive environmental results is an important part of DAI's approach to FPPM. DAI will build appropriate environmental content into project activities even some that do not require environmental mitigation because they rat a "categorical exclusion."

This EMMP describes the procedures to be implemented by FPPM to

- recognize potential negative environmental impacts of program actions,
- avoid, prevent, reduce, mitigate or offset those potential negative environmental impacts,
- comply with local law,
- positively build in good management practices that improve the project beyond compliance,
- positively improve environmental management capacities of partner institutions and beneficiaries,
- monitor and report environmental compliance, and
- plan project actions to adapt to changed circumstances and respond to issues.

G2. GUIDANCE FOR THIS EMMP

This EMMP responds to guidance from USAID and the Government of DRC. Documents that guide this EMMP include the following:

- the Initial Environmental Evaluation (IEE) and Threshold Decision for the Economic Growth Program dated May 23, 2010,
- the FPPM contract between USAID and DAI and the project work plan being prepared in June, 2011,

- Title 22 of the Code of Federal Regulations (22 CFR 216 or “Reg 216”), which defines USAID’s procedures to evaluate environmental impact and take into account environmental sustainability. Reg 216 covers all USAID projects²⁰; ADS 204 “Environmental Procedures” (revised 2/19/2009, which explains “how to apply Title 22”)²¹, and
- USAID written and verbal guidance, when compatible with above sources.

G3. GUIDANCE: THE IEE/THRESHOLD DECISION

An Initial Environmental Examination and Threshold Decision (IEE) addresses potential negative impacts and mitigation strategies. FPPM is covered under the consolidated IEE for all of the activities managed and funded by the EG Office in the DRC. This EMMP reviews the specific project activities using the EG IEE.

The IEE establishes that a complete EMMP will be developed with the project work plan during start-up. The IEE covers FPPM activities known at the time it was developed, but allows for new activities not covered in the IEE, to be discussed in an annexed EMMP, within 90 days of award.

Activities that are **Categorically Excluded** are those that have no impact on the environment. Per Regulation 216, these include education, technical assistance, or training program except to the extent such programs include activities directly affecting the environment, analysis, studies, academic or research workshops and meetings, and document and information transfers.

The IEE establishes **Categorical Exclusions from Environmental Examination** for the following activities, with Component headings added by this EMMP:

- Agricultural extension and advisory services, production planning and community organization and mobilization [Component Three: Developed Capacity to Respond to Market opportunities]
- Training and capacity building at all levels of the agricultural and aquaculture production chain [Component Three: Developed Capacity to Respond to Market opportunities]
- Support to research and information for the development of the market supply chain [Component Three: Developed Capacity to Respond to Market opportunities and Transverse Activities].

The exception clause for categorical exclusion indicates that training about agricultural practices such as on-farm land preparation, selection and use of on-farm irrigation equipment, or other techniques that may affect the environment directly should be screened for potential issues.

The IEE /threshold Decision establishes a **Negative Determination with Conditions** is recommended per 22CFR216.3 (a) (2) (iii) for the following planned activities (with Component headings added in this EMMP):

- Improved production technology through improved seeds and planting stock and practices [Component One: Increased Agricultural Productivity]

²⁰ http://www.usaid.gov/our_work/environment/compliance/reg216.pdf

²¹ <http://www.usaid.gov/policy/ads/200/204.pdf>

- Supply of planting tools [Component One: Increased Agricultural Productivity]
- Road rehabilitation and rehabilitation of market infrastructure (storage facilities, collecting centers) [Component One: Increased Agricultural Productivity]
- Increasing trucking and transport capacity in selected areas (providing trucks/river transport/other transport services) [Component Two: Improved Market Efficiency]
- Setting up micro-credit schemes for micro- and small enterprise development and facilitating access to credit [Component Two: Improved Market Efficiency]
- Improving the local processing of agricultural products (cassava, maize, and rice, others as proposed and agreed to in a separate EMMP) [Component Two: Improved Market Efficiency]
- Biophysical aspects of improved animal husbandry, aquaculture and forestry production, management and processing [Components One and Two]
- Integrating agriculture adjacent to areas of important biodiversity and forested areas [Components One and Two]
- Reforestation and afforestation including integrated agro-forestry and agro-ecological systems management [Components One and Two]

The IEE does not establish that any activity merits a “Recommended Action: Positive determination.”

The IEE defers consideration of pesticides issues. The Pesticide Evaluation Report/ Safer Use Action Plan (PERSUAP) is attached to this EMMP following USAID direction. The provisions from the PERSUAP are incorporated in this EMMP.

G4. GUIDANCE: REGULATION 216

The IEE is based on Regulation 216; however, the IEE notes that activities may change, and our knowledge may become more precise. Currently, USAID broadly interprets the “use or procurement” of pesticides to cover training that may involve pesticide use or other matters. The use of pesticides for seeds production, potential inclusion of pesticides in MSE technical assistance or financing, and other matters supported the USAID guidance to include an environmental review of pesticide risk issues and mitigation measures to promote IPM and avoid impact. The proposed PERSUAP constitutes a proposal to amend the IEE.

G5. GUIDANCE: PROJECT CONTRACT

The FPPM contract requires that the Contractor will provide guidance for implementing environmental review and mitigation, as well as certain products: an EMMP and annual reports. The contract specifies that expertise and resources will be required.

The environmental requirements of the contract are paraphrased for brevity and summarized here (Table 7).

TABLE 6: SUMMARY OF FPPM CONTRACT ENVIRONMENTAL GUIDANCE

Contract sections C.16 ENVIRONMENTAL MONITORING AND MITIGATION

- Comply with Regulation 216 based on the Initial Environmental Examination (IEE).
- Comply with host country environmental regulations unless otherwise directed in writing by USAID
- No activity implemented unless an environmental threshold determination has been reached for that activity in the IEE or an Environmental Assessment (EA).
- Review all activities to determine that they are within the scope of the approved Regulation 216 environmental documentation as part of its initial and annual Work Plans in collaboration with COTR and MEO or BEO. New activities outside the scope of the approved Regulation 216 documentation require prior amendment for USAID review and approval. Halt activities not in the scope of the approved Regulation 216 documentation.
- Prepare an EMMP or M&M Plan describing how the contractor will, in specific terms, implement all IEE and/or EA conditions that apply to proposed project activities within the scope of the award. Include monitoring the implementation of the conditions and their effectiveness. Integrate a completed EMMP or M&M Plan into the initial and subsequent work plans.
- Develop an environmental review process for any grant fund and the EMMP.
- Use necessary environmental management expertise and provide an illustrative budget for implementing the environmental compliance activities. Ensure appropriate resources and qualified people and equipment are dedicated to environmental monitoring and mitigation.
- Report on environmental issues, mitigation measures and negative determinations in quarterly project progress reports to the USAID COTR.
- Identify a project staff member to follow up on environmental compliance and monitoring issues, and who will be the contact person for USAID and others on these issues.

Contract section H.17 ENVIRONMENTAL COMPLIANCE AND MANAGEMENT

- Comply with host country environmental regulations unless otherwise directed in writing by USAID.
 - All activities to be covered by environmental threshold determinations “approved Regulation 216 environmental documentation.”
 - Review all activities to determine that they are within the scope of the approved Regulation 216 environmental documentation as part of its initial and annual Work Plans in collaboration with COTR and MEO or BEO. New activities outside the scope of the approved Regulation 216 documentation require prior amendment for USAID review and approval. Halt activities not in the scope of the approved Regulation 216 documentation.
 - The plan for environmental compliance and achieving optimal development outcomes will require environmental management expertise, an EMMP, a review process for a grant fund, and resources (budget).
 - COTR approves the approach for environmental compliance and management.
 - Research and Technology Dissemination to include ... reducing gender barriers ... supporting small and medium agro-enterprises, including producer organizations/associations .. support for environmental regulatory compliance and organizational governance ... Improving the social, economic, and environmental sustainability of capacity for innovation.. [C.9.2].
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G6. GUIDANCE: USAID CONSULTATION

In its review of the draft initial work plan provided by the FPPM start-up team, the FPPM COTR has directed FPPM to include a Pesticide Environmental Review/ Safer Use Action Plan or PERSUAP in the initial work plan following pro-active consultation with USAID regional personnel.

- The USAID Environmental Procedures for pesticide “use” (as provided by USAID Environmental Procedures: Text of Title 22, Code of Federal Regulations Part 216, Reg. 216), suggest that all projects involving assistance for the procurement or use, or both, of pesticides shall be subject to the procedures prescribed in 22 CFR 216.3 (b)(1)(i)(a-1). “Use” is interpreted broadly to include the handling, transport, storage, mixing, loading, application, clean up of spray equipment, and disposal of pesticides, as well as the provision of fuel for transport of pesticides, and providing technical assistance in pesticide management.

- “Use” is said to occur if training curricula include information on safer pesticide use even if it does not involve actual application of pesticide. It also applies if pesticide procurement is facilitated by credit or loans. USAID also strongly encourages including instruction in IPM and alternatives to pesticides in any training on pesticide use as defined above. Under this approach, pesticides are considered a tool of ‘last resort’ and pesticide choice should as far as feasible be the ‘least toxic’ choices. In contrast, support to limited pesticide research and pesticide regulatory activities are not subject to scrutiny under the pesticide procedures.

The EMMP is to include the required PERSUAP, which is attached to this document. Further information on guidance related to the PERSUAP is included in that document.

Other elements of guidance for this revised EMMP are the following:

- The EMMP will describe FPPM staffing by their position (including field offices) and what capacity those positions require, on environmental compliance. Whoever holds relevant positions should be able to demonstrate capacity for environmental activities. A capacity management plan for DAI is required and, in that context, environmental trainings that support that capacity.
- The EMMP is to include producing training materials that would be bound as a resource for others as well (for farmers in local languages/for example).
- The commitment and plan for annual/quarterly reporting for Reg. 216 should be more clearly emphasized.
- The environmental management system (in TAMIS or otherwise) will review catch all new activities.
- The EMMP should estimate the cost of compliance.
- The EMMP should show how FPPM will identify exactly who is monitoring what, and where, and when, etc.
- When the EMMP is done, the project and sub-partners will sign off on the document as part of the process to ensure understanding.

G7. GUIDANCE: DRC ENVIRONMENTAL REGULATIONS

Consultation with Ministries of Agriculture and Environment is a positive step during development of the PERSUAP and contributes to improving the value chains since these ministries are value chain actors. However, preparation of this EMMP found no requirement that FPPM conduct a detailed environmental impact assessment for the project. If assisted enterprises construct new facilities, then those facilities would be subject to national environmental review. FPPM may choose to provide technical assistance in this area, but it is not an FPPM or USAID obligation.

The situation may change. USAID has supported DRC in development of a new, draft environmental law which is said to be close to approval. Therefore, FMMP would be required to maintain relations with GDRC to be aware of changing laws and, conversely, to provide technical assistance that improves value chain functions. GDRC regulations relevant to pesticides are noted in the PERSUAP.

G8. METHODS FOR THE EMS

This section describes the methods and elements of the project EMS including an environmental tracking system, use of forms based on USAID documents for standard activities (ERRs and EMMRs), project environmental staff and experts, and continuing liaison/review with USAID. Each of these items is developed more fully below.

G8A. ELEMENTS OF AN EMS

Elements of the EMS are:

TABLE 7: KEY ELEMENTS OF THE ENVIRONMENTAL MANAGEMENT SYSTEM

Key EMS Element	Definition	Notes
Project EMMP	An Environmental Management and Monitoring Plan (EMMP) defines the EMS for the whole project, comprising a description of the EMS, a work plan, budget, policies, procedures, tools and systems to achieve the objectives of the project EMS.	This is a document to be provided early in the project but after the activities or the project are well defined. It includes environmental screening, selection of environmental mitigation measures and Best Management Practices (BMPs), oversight of their implementation, reporting and other elements.
Basic Document: Initial screening	The first task to review an activity is to determine that it is covered by the IEE and this EMMP and to assess its level of environmental risk.	Screening uses a dedicated document and check list.
Basic Document: Action ERs and A-EMMPs	EMMPs for individual activities and grants, as required, with monitoring of implementation.	For activities that do not fall clearly under negative determinations in the IEE, environmental conditions and mitigation measures are specified and tracked.
Basic Document: Grant and Sub-contract Clearance	This is an internal document used by finance and administration to document that all environmental requirements are met prior to obligating funds.	
BMPs	A library of Best Management Practices (BMPs) that reflect local conditions	Serves to make practice more uniform. Updated as project proceeds.
EAs, PERSUAPs, BMP reviews, other reviews	Environmental Assessments (EAs), the PERSUAP, reviews of best practices and related review documents, as required.	Teams get into the field to resolve any issues and to recommend best practices. Environmental reviews vary in scope and complexity from rapid preliminary assessments to full EAs. TAMIS allows immediate retrieval of EAs.
Project environmental staff and experts; internal and external training	FPPM Environmental Officer, other project staff and consultants to operate the EMS, train partners, assist counterparts, monitor implementation, and report results.	Fiscal and human resources for the effective operation of the EMS and application of the requirements of the EMMP, as well as training in environmental awareness and environmental compliance issues for partners, grantees and priority stakeholders.
Liaison and review with USAID	Liaison with USAID during start-up and annual planning to support environmental compliance, deal with unforeseen issues, and identify needs for supplemental screenings, environmental impact analysis and/or modifications to the standards and best practices set forth in the EMMP.	Annual review of environmental issues, support for any required modifications of the IEE, transparent reporting of environmental compliance measures, periodic reviews within the project and with USAID to learn from experience and resolve problems.

G8B. TAMIS

An additional tool of the EMS is an automated environmental module. The TAMIS Environmental Management Module, a computerized tool developed by DAI to ensure comprehensive implementation of environmental activities, includes screening, integration with project administration, mitigation measures, reporting, and approvals. The TAMIS module has three elements or sub-modules: screening, Action EMMPs, and Knowledge Management (see figure).

The TAMIS Environmental Module and associated training materials will be adapted to DRC and FPPM after the EMMP is approved. The TAMIS screening sub-module is used to classify activities in line with the project IEE, Threshold Decision, Regulation 216 documents, and (when available) relevant DRC regulations. The Action EMMP records mitigation measures and monitoring. The Knowledge Management sub-module accumulates BMPs and experience. The EMS is designed to be effective immediately using the documents described in this EMMP; implementation of the automated system will aid compliance, but is not required.

G8C. FPPM PROCEDURES TO MEET DRC ENVIRONMENTAL REGULATIONS

Beside complying with USAID regulations, this EMMP proposes that FPPM will meet with GDRC at least once per year to review environmental issues of FPPM implementation.

G8D. METHODS TO DEVELOP MITIGATION MEASURES FOR FPPM ACTIVITIES

The Action Environmental Mitigation and Monitoring Plan (A-EMMP) is the summary of the specific mitigation measures required for a proposed action. The A-EMMP is developed with the Environmental Review and the A-EMMP form is part of the ERR.

The team preparing the A-EMMP will consider all of the significant risks identified in the environmental review form (ER). There are many sources of mitigation measures to include in the E-EMMP. The team preparing the A-EMMP should review the relevant project documents (Table 8 of this report, PERSUAP or IPM Safe Use Action Plan (SUAP), Project manual of good agricultural practices, Project manual of good post-harvest agricultural practices, CP/P2 assessments, Village characterization study and BMPs, Environmental Due Diligence (EDD), Forest cover and deforestation report, Gender assessment or Construction BMPS, if needed). A good source of mitigation measures is the ENCAP Africa web site, <http://www.encapafrika.org/>. These sources will complement the local knowledge of staff members and local experts, which sometimes are the best source of practical mitigation measures.

It is the responsibility of the Environmental Compliance Advisor and the technical staff to review activities and specify mitigation measures, making specific any measures that are overly general in this EMMP.

When the A-EMMP is complete, the mitigation measures must be specific enough to determine if they have been implemented or not. If the mitigation measures are still general when the A-EMMP is drafted, the responsibility to define specific measures rests with the COP (or the project environmental officer acting as agent of the COP) working with the project technical team. The DAI home office is available for consultation.

There are four ways to design specific mitigation measures for FPPM activities.

- 1) Standard mitigation measures. Many of the environmental mitigation measures that meet the IEE conditions for the FPPM project can be specified in in general terms. They arise from the IEE directly, the EMMP discussion of issues and the PERSUAP attached to this EMMP. The standard measures still need to be made more specific during environmental review using local knowledge and negotiating terms with an IP.
- 2) EMMP tools. Mitigation measures for subprojects will be written as part of environmental review of the activity using the tools provided in the annex to this EMMP.
- 3) Additional environmental review and assessment. On a complex project, with many kinds of activities and environments, mitigation measures will evolve during the project and additional environmental review or assessment may be required for activities that carry environmental risk (EAs or extended ERs or amendment to the IEE) or are in difficult environments. The PERSUAP attached to this EMMP determines additional mitigation measures.²²
- 4) Incorporate GDRC regulations.

G8E. SPECIAL NOTE ON MFIS

The IEE requires that USAID give attention to the impact of finance institutions:

For support to micro-finance institutions and MSEs, the EG Team shall assist MFI and MSE credit and service providers to institutionalize environmental reviews of credit and service projects and individual activities. MSEs and MFIs shall receive training in the use of environment guidelines. The guidelines will illustrate how environmentally sound practices can be used to improve the effectiveness and efficiency of doing business. A micro credit guide will be elaborated to sustain the entire process and management practices will be set up to minimize the impacts of the activities on the environment.

- Such activities shall also be subject to USAID environmental review. The Environmental Review Form in the EGSSAA shall be tailored as needed, to assist in identifying potential environmental impacts that are likely to occur as a result of such micro enterprise activities. The ERF helps to classify such potential impacts into low risk medium risk and high risk categories.
- Mitigation measures will be identified for all medium and high risk categories. (SO Team will use guidelines in USAID Bureau for Africa’s Environmental Guidelines for Small-Scale Activities in Africa (EGSSAA) Part III, “Guidelines for Micro and Small enterprises”) In addition, the SO team leader shall visit all such projects during implementation to ensure that they are not likely to cause any adverse environmental impacts, with a view to correcting and or initiating additional mitigation measures.

Consequently, standard measures have been included for MFIs.

²² A PERSUAP constitutes an amendment to the IEE.

G8F. SPECIAL NOTE ON ROADS

The IEE establishes conditions for the rehabilitation of roads and market infrastructure (storage facilities, collecting centers), activities which are not currently in the project work plan. The IEE determines that the activities originally foreseen are “negative determination with conditions.” If funding for such activities were restored to FPPM, the conditions set by the IIE would be the following:

- The FPPM project may build or rehabilitate a limited number of feeder roads. Interventions will be implemented in accordance with EGSSAA Part II Chapter 14, Rural Roads, specifically; some of the most significant environmental impacts of rural road infrastructure include soil erosion, (failing to keep water off of road surfaces) and subsequent water quality degradation, siltation of nearby rivers and streams, lakes and wetlands. Management of fuel and lubricants at road camps must be addressed, and an M&E plan developed. Road and quarry “borrow pits,” can sometimes be created, when roads are being rehabilitated or built, and roads can block surface and sub-surface water flows, when not properly planned and executed. Poorly installed culverts in wet or meadow areas may concentrate water and form gullies. Implementing partners will address, in their EMP, site specific mitigation and monitoring plans for each of the above listed concerns, as well as the additional concerns described in the EGSSAA. Operation and maintenance of all infrastructure investments will be included as a component of the EMP, and that plan should address both new investments in rehabilitated and newly constructed feeder roads, as well as plans for the decommissioning of existing roads and infrastructure.
- Infrastructure development activities often require new construction, as well as the rehabilitation of existing facilities. The FPPM project may build or rehabilitate market infrastructure facilities. An EMP will be required for each facility, to address both the environmental impact of the construction activities themselves, and the sustainability and appropriateness of the infrastructure. Common environmental impacts of the rehabilitation of infrastructure include both direct and indirect impacts to land and environmental resources. Implementers will consult EGSSAA, Chapter 3, Small Scale Construction, as well as information on solid waste management, energy, and other applicable guidelines. Common impacts include damage to valuable ecosystems, sedimentation of surface waters caused by the extraction of construction materials, contamination of ground and surface water supplies, adverse social impacts, and other concerns.

Since the IEE does not determine these activities to merit a positive determination, an Environmental Assessment would be options. Still, as required, FPPM would develop an EMP (“environmental management plan” or “Action Environmental Mitigation and Management Plan A-EMMP” by the term used in this report) based on the above guidance.

This would require several steps. 1) Environmental review to verify that the action is within the scope of the original IEE. 2) If the action is within the scope of the original IEE, continue with a comprehensive, detailed environmental review covering essentially the same elements as an environmental assessment. FPPM would provide COTR with the SOW and final versions of the A-EMMP. 3) If the activity is outside the scope of the original IEE, review with USAID to amend the IEE.

G8G. TOOLS AND REPORTS TO DEVELOP MITIGATION MEASURES

This EMMP and the PERSUAP defines many of the mitigation measures required compliance with regulation, but the final list of mitigation measures requires local knowledge , details of the activities to be implemented and consultation with several sources. These are incorporated in the A-EMMP. Key documents, to be produced by the Project, are the manual of good agricultural practices, Project manual of good post-harvest agricultural practices, individual CP/P2 assessments, village characterization study, Environmental Due Diligence (EDD) formats, a special reviews of forest cover and deforestation. The following table specifies those tools:

TABLE 8: TOOLS AND REPORTS TO SPECIFY MITIGATION MEASURES

Review Of Best Management Practices	Review Will Include:
PERSUAP (draft attached to this report)	<ul style="list-style-type: none"> • PER to assess pesticide risk, define best practices in context of IPM, identifies pesticides for FPPM use or procurement. • SUAP (Safer Use Action Plan) defines the mitigation measures required (see Table 5a-c). • Contribute to training materials.
Project manual of good agricultural practices (to be developed)	<ul style="list-style-type: none"> • Define good agricultural practices to be promoted by the project, with any mitigation measures (see Table 5a-c). • Define on-farm conservation measures to be promoted by the project, with any mitigation measures. • Define village-level or landscape conservation measures that may be promoted by the project, with mitigation measures. • Contribute to training materials.
Project manual of good post-harvest agricultural practices (to be developed)	<ul style="list-style-type: none"> • Define good agricultural post-harvest practices to be promoted by the project, with any mitigation measures (see Table 5a-c). • Define on-farm post-harvest conservation measures to be promoted by the project, with any mitigation measures. • Define good practices for processing and commercialization operations to be promoted by the project, with any mitigation measures; make consistent with the project CP/P2 format. • Define mitigation measures for value chain issues (water quality, waste management, worker safety, worker safety, others). • Include good processing and commercialization practices in the project CP/P2 format • Contribute to training materials.
CP/P2 assessments (for enterprises, to be developed as needed during project)	<ul style="list-style-type: none"> • Draft format attached. • Create system to review production systems of assisted enterprises. • Define pollution prevention and cleaner production measures to be implemented for assisted small and medium-scale enterprises; standardize with continuing experience. • Contribute to training materials.

Review Of Best Management Practices	Review Will Include:
Village characterization study	<p>Characterize village agricultural practices (including use of pesticides, use of fire, postharvest practices), resource management practices, resources (forest access and use, deforestation risk, others), biodiversity issues, constraints on value chain participation, social organization including land tenure, gender relations, receptivity to communications.</p> <p>Define community outreach Best Management Practices (BMPs).</p> <ul style="list-style-type: none"> • Practices to gain village acceptance and participation. • Practices to respond to environmental and social issues. • Practices to include communities in positive environmental actions. <p>Define project procedures and mitigation measures when environmental review finds any of the following issues or opportunities.</p> <ul style="list-style-type: none"> • Effects on land tenure systems. • Requirement for village authorities to participate or give assent for project activities. • Potential conflict related to project activities or affecting project activities. • Opportunity for landscape-level conservation measures, including sustainable use, zoning, conservation. • Effects on local forest cover. • Gender issues (coordinate with gender review). • Potential for forest use offsets. • Contribute to training materials.
Environmental Due Diligence (EDD) system (for institutions or enterprises, to be developed as needed during project)	<ul style="list-style-type: none"> • Draft format attached. • Specify the capacities of well run institutions that act as subcontractors, grantees or financial intermediaries using USAID funding. • Contribute to training materials.
Forest cover and deforestation	<ul style="list-style-type: none"> • Define geographic areas where expansion of horticulture occurs in areas covered by tropical forest or areas of greatest conservation significance. • Define mitigation measures to mitigate or compensate impact on forest or areas of conservation significance. • Provide methods to monitor and evaluate impact of the project at the village and landscape level.
Gender assessment (to be reviewed for pertinence to environmental compliance)	<ul style="list-style-type: none"> • Separate document; pertinent to environmental measures to reduce risk of negative impact on human population.
Construction BMPS (only if needed)	<p>No currently planned activities will require construction. In the hypothetical situation that such activities are planned, the project will define the following:</p> <ul style="list-style-type: none"> • Best management practices for small-scale construction • Limits on the scale of construction that may be done without dedicated environmental assessment

G8H. CLEANER PRODUCTION (CP) AND POLLUTION PREVENTION (P2) ASSESSMENT

Reviewing the environmental aspects of enterprises that receive substantial technical assistance from FPPM is part of required environmental due diligence. CP/P2 format provided with this EMMP is recommended, but not required to accomplish this review.

Cleaner production/ pollution prevention assessments (CP/P2) are a simple and effective way to review activities with processing and marketing enterprises. Clean production and pollution prevention has been used for sustainable development for more than a decade. Like EDD, it is a flexible concept that USAID uses, but does not define in detail. For a USAID-financed project, USEPA training is a good source used by DAI to develop CP/P2 methods. More recently, GlobalGAP has developed criteria for producers' post-harvest management of fruits and vegetables which, in many respects provides insights for CP/P2 (http://www.globalgap.org/cms/front_content.php?idart=1440), but the GAP focus is on producers, not processors. The general provisions of ISO 14,000 series are applicable for some firms, but CP/P2 is applicable to many firms that will not have resources or interest to obtain ISO certification and that is certainly the case in DRC during FPPM implementation.

Following USEPA training for developing country enterprises, P2 strives to eliminate and/or reduce waste at the source of generation, with focus on water, air, solids, time and energy. P2 goals are to eliminate and/or reduce waste generation, conserve natural resources and materials, prevent spills and accidental releases and prevent product losses. Not all CP/P2 techniques will be applicable to SMEs. The USEPA training materials stipulate that CP directs activities toward production improvements, particularly for manufacturing. Six components of CP are waste reduction, non-polluting production, production energy efficiency, safe and healthy work environments, environmentally sound products, and environmentally sound packaging. Key benefits of P2 and CP programs are reduction of operating costs, reduction of ecological damage, improved company image, and reduction of civil and criminal liability.

A regulatory approach involves government establishment of laws and regulations; a market-based approach relies upon the economic system for policy implementation. The two can be complementary, with CP P2 emphasizing the market side.

TABLE 9A: BENEFITS OF CP/ P2, FOLLOWING USEPA

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- **Reduction of Operating Costs:** P2 and CP programs can reduce material costs by adopting production and packaging procedures that consume fewer resources and operate more efficiently. Waste management and disposal costs are potential savings realized from pollution prevention. Many government regulations (if they are actually applied), for example, mandate costly procedures and methods for the handling of certain wastes which can be avoided through a P2 or CP program. Efficiency measures, such as production scheduling and equipment maintenance, can decrease overall production costs. Energy costs, as well as facility cleanup costs, are also reduced through P2 and CP programs.
 - **Reduction of Ecological Damage:** P2 and CP programs provide obvious benefits for the natural environment. Air quality will increase as a result of the reduction of pollutants entering the air. Also, water and land will not be contaminated with pollutants which may potentially leak from waste generating, transporting, storage, and disposal activities.
 - **Improved Company Image:** P2 and CP programs can improve company image, both within and outside of its walls. Employees react positively to a safe working environment especially when they are included in the planning and implementation of P2 and CP programs. Surrounding communities and potential customers will also react favorably toward the establishment of a P2 or CP program because they are concerned with the health, safety, and sustainability of their neighborhoods. These benefits are as applicable in DRC as anywhere.
 - **Reduction of Civil and Criminal Liability:** Implementing a P2 or CP program decreases liability because the total volume of waste generated is reduced.
-

A checklist is an essential tool in developing a P2 or CP program. USEPA training recommends a two-stage process: first, a site visit and then detailed planning. Detailed assessments focus upon specific areas targeted by the preliminary assessment. Three steps to complete a detailed assessment: designing a detailed assessment team(s), reviewing data and sites, and organizing and documenting process

information. A CP/P2 analysis is not limited in the kinds of improvements it can suggest. EPA notes several important ones, some of which are applicable to FPPM beneficiary firms when the limits on DRC technology are taken into account.

TABLE 9B: POTENTIAL CP/ P2 ENTERPRISE IMPROVEMENTS

- **Process efficiency improvements:** A method of doing more with less by designing new systems or modifying existing ones; the most effective means of conserving materials and resources. Examples: High pressure, low volume (HPLV) spray guns for painting operations; centralized fluid distribution systems; water flow restrictors; energy-saving light fixtures.
- **Material substitution:** Replace hazardous chemicals with less toxic alternatives of equal performance. Examples: Using water-based paints instead of solvent-based paints; replacing solvent degreasers with aqueous cleaning systems.
- **Inventory control:** Reduce product losses due to product expiration and overstocking. Examples: Restricting access to supply areas; maintaining accurate inventory records to prevent over-stocking.
- **Preventive maintenance:** Includes any activity that might prevent equipment malfunctions and environmental releases. Examples: routinely inspecting equipment and storage containers; fixing problems immediately; following standard operating procedures.
- **Improved housekeeping:** Keeping a clean shop conserves resources and materials, prevents product losses, and prevents spills and leaks. Examples: keeping aisles clear; cleaning up spills and absorbents immediately; maintaining storage shelves in good order.
- **In-process recycling:** In-process recycling is considered source reduction if materials are not removed from the process (i.e., waste is not generated) or if materials are redirected back into the process.

CP/ P2 can also be incorporated into value chain analysis. FPPM has conducted value chain or subsector assessments of the principal food crops. These assessments focus on production, processing and marketing of food crops, rather than on environmental issues at each stage of the chain. This EMMP proposes that the existing value chains be supplemented with assessment of the environmental issues at each stage of the value chain. This will feed the CP/ P2 and EDD reviews.

The following table, adapted to each subsector, will satisfy the need for more information about environmental issues.

TABLE 9C: ENVIRONMENTAL DIMENSION OF VALUE CHAIN

Value Chain/ Stage	Inputs	FIFRA Inputs	Outputs	Hazardous Or Waste Outputs	Worker Or Neighbor Safety Issue	Other Environ- Mental Issue	Mitigation Measures

G8I. TRAINING FOR PRODUCERS AND VALUE CHAIN ENTERPRISES AS MITIGATION

FPPM Environmental review, EDD, CP/P2, and the procedures proposed in the PERSUAP or IPM-SUAP, complemented by the expertise of local people, will determine the content of environmental training to address environmental issues for subprojects. To be effective, training will have use multiple methods and develop training materials of several kinds. The training materials appropriate for the technical team in a factory are likely to be different from those useable in a local processing center. In

much of the project area, the majority of the women who do productive work are not literate and best understand their tribal language.

Some training materials have been developed by the CATALIST project²³. One page, double side, color technical sheets in Kinaruanda language for use in Rwanda are useful examples for a DRC project.

There are some examples of training materials in DRC. The Ministere de l'Environnement, Conservation de la Nature, et Tourisme has a community forestry pamphlet. The IFDC Catalist project has produced useful work on fertilizers. But development and distribution of environmental and sustainable development materials by FPPM will be a substantial task.

This EMMP proposes that FPPM produce training and training materials in the following:

- IPM and safe use of agrochemicals for producers using agrochemicals.
- CP/ P2 for processors, including waste management and worker safety.

During ER, project environmental staff will work with technical staff to develop training materials for sustainable production practices and review the need for training in the activities under environmental screening and review, specified below (Tables 2, 10d, 13, 15, 16).

G8J. OTHER TOOLS

When it is required for Regulation 216 compliance, a PERSUAP or IPM-SUAP is part of Regulation 216 environmental documentation. It constitutes an amendment to the IEE.

²³ IFDC CATALIST (2010) « Modes d'Application des Engrais et Risques lie a Leur Mauvaise Utilization. » Fiche Technique 6. Kigali, Rwanda : CATALIST.

IFDC CATALIST (2011) « La securite alimentaire congolaise ; est-elle necessaire et possible ? » CATALIST.

THE FPPM ENVIRONMENTAL MANAGEMENT SYSTEM

Based on the guidance and background reviewed, this EMMP plans an environmental management system (EMS) for FPPM that includes screening, environmental review (ER), environmental due diligence (EDD), recommended determinations, mitigation measures, action-EMMPs, actions to meet DRC regulations, partner training, monitoring, reporting and evaluation with USAID.

The elements of the EMS are listed in Table 1 in the Executive Summary, which will not be repeated here. Rather, this section describes key elements of the EMS in more detail. Key elements of the EMS are presented as “basic documents” (which will be developed for all or most subproject activities) and “recommended tools” (recommended methods that will be adapted and used as needed).

EMS1. BASIC DOCUMENTS OF THE EMS

The minimum EMS requirements for every grant, subcontract or class of activities is a) an initial environmental screening document, b) for any activities with an environmental risk, an environmental review report (ERR), and c) an environmental clearance document. These will be referred to as “Basic Documents.” Actions that involve pesticide use of procurement require additional documentation.

EMS2. BASIC DOCUMENT FOR INITIAL ENVIRONMENTAL SCREENING

- When required: prior to each grant or subcontract with an IP; to finalize work plan
- Who produces: project environmental advisor with technical staff
- Where used: attach to USAID approval of subproject and work plan.

The IEE requires basic screening of project activities to ensure that they are of a kind covered by the IEE and to distinguish those with no potential environmental impact from those which require environmental review report (ERR). The IEE gives FPPM the criteria for judging if an activity may proceed without further environmental review, or if it requires review.

However, current USAID good practice is to review even education, training, policy work or other work of kinds that may have been determined to merit “categorical exclusion,” but which incur risk indirectly when trainees or practitioners implement supported training or policy work. These are sometimes referred to as “tricky activities” in training materials used by USAID²⁴.

²⁴ Jim Hester, USAID’s AEC has written on the topic: “When is a training or policy activity NOT a categorical exclusion? In essence, the answer to this question depends on what is being planned or taught or encouraged, and whether adverse environmental impacts may result when trainees carry through on their training, or a policy is implemented. If adverse impacts may result, the training/technical assistance (policy strengthening) activity in question would not necessarily be categorically excluded.” He provides examples from health and agriculture projects. This is current AFR expectation of good environmental review/IEE practice, used in the last couple of annual AFR regional environmentally-sound design and implementation training workshops.

Initial screening is also an opportunity to distinguish activities that offer opportunities for positive environmental actions, a non-mandatory action that furthers achieving project objectives.

Initial environmental screening will be done for each of the following:

- Grant
- Subcontract for any activity done in the field or with project beneficiaries, but excluding subcontracts for administrative services only
- Localized class of similar activities to be directly implemented in a period of two years or less.

The screening form based on the IEE and augmented for FPPM is presented in Annex 1.

Based on the initial environmental screening, some activities will require Environmental Review (ER), Environmental Due Diligence (EDD) and Action-EMMPS

EMS3. BASIC DOCUMENT FOR ENVIRONMENTAL REVIEW REPORTS (ERR, RECOMMENDED DETERMINATIONS AND THE ACTION- EMMPS

- When required: prior to each grant or subcontract with an IP; to finalize work plan for each that is judged environmental risk category 3 or 4; optional for category 2; not required if the screening document determines risk category 1.
- Who produces: project environmental advisor with technical staff
- Where used: attach to USAID approval of subproject and work plan; attach to grant agreement or subcontract; A-EMMP provided to technical staff as obligatory to implement.

The next step after initial screening for many activities is an **Environmental Review Report (ER or ERR)**. If Risk level 1 actions offer the possibility of positive environmental actions (such as environmental training not related directly to impact of the project, for example) they may choose to use ER to generate an optional Activity EMMP. The environmental review report is based on models provided in the IEE augmented to reflect FPPM conditions. Annex 2 provides the FPPM ERR form.

For moderate risk activities, the Environmental Review Report is typically a short 2 to 3 page document using the attached form. The ERR will be longer when (1) activities are of higher or unknown risk, requiring discussion, or (2) when mitigation measures are complex and require discussion.

The Environmental Review Report follows the outline provided in the IEE, as follows:

- Information about the review and the reviewer.
 - Information about the proposed activity.
 - Baseline Environmental Conditions: site specific environmental conditions due to onsite & offsite sources (USAID counts this as EDD).
-

- Checklist for Environmental Consequences (Environmental Impacts). This section includes all items in the IEE model, but it is augmented to include a) areas of potential concern that may require mitigation measures and b) positive opportunities for environmental training or other activities,
- Identified Significant Environmental Impacts, including physical, biological and social impacts
- Recommended Mitigation Measures. Additional mitigation measures may be recommended on the basis of expert analysis in the office, site visits, CP/P2 or EDD. There is no pre-set list of mitigation measures, but guiding materials for mitigation measures at the sub-sector reviews in ENCAP guidance available at <http://www.encapafrika.org/egssaa.htm> .
- Recommended Monitoring Measures.
- Recommended Determination. Based on the environmental review (ER) and due diligence (EDD), FPPM will recommend determinations for all moderate/unknown and high-risk activities.

The **Action EMMP** (A-EMMP) results from the ER. At the end of the process of environmental review and environmental due diligence, FPPM will have identified mitigation measures and positive environmental opportunities for many of the activities that have been screened. The positive opportunities are not obligatory, but allow FPPM to meet the objective of using opportunities and recognizing indirect issues.

These mitigation measures and positive actions are the basis for the action or subproject EMMP (A-EMMP), which organizes planning, implementation, monitoring and reporting.

The Action EMMP is similar to GlobalGAP “Environmental Impact Assessment, Action Plan and Guidelines,” and specific items from GlobalGAP have been incorporated in the ER form.

The action EMMP is completed by identifying the monitoring indicators, reporting frequency and parties responsible. The format of the Action EMMP table is the following:

TABLE 10A: ACTION EMMP (A-EMMP) HEADINGS

Action	Potential issue	Opportunity	Mitigation Measure(s)	Monitoring indicator(s)	Monitoring and Reporting Frequency	Parties responsible

Actions or activities and potential issues require mitigation measures, responsible parties and a monitoring frequency. Thereafter, the results will be reported to USAID using an Environmental Mitigation and Monitoring Report (EMMR).

EMS4. BASIC DOCUMENT: ENVIRONMENTAL CLEARANCE FORMS FOR GRANTS AND SUB-CONTRACTS AND PESTICIDE PROCUREMENT

Grants Clearance:

- When required: For each grant or subcontract with an IP.
- Who produces: project environmental advisor with grants manager.
- Where used: internal use, but available for audit; attach to grant agreement or subcontract.

NOTE: no disbursements allowed without this document.

All grants and sub-contracts for Implementing Partners require a final review and clearance by FPPM administration. The clearance form is provided in Annex 3A.

Pesticide clearance:

- When required: prior to each procurement of a pesticide .
- Who produces: project technical staff with support of environmental advisor and procurement staff
- Where used: attach to procurement authorization for any pesticide procurement.

This EMMP requires that prior to using or procuring pesticides the project will fill out a pesticide procurement clearance. The form is provided in Annex 3b.

EMS5. BASIC DOCUMENT: ENVIRONMENTAL REPORTS

EMS5A. ACTIVITY ENVIRONMENTAL REPORTS

- When semi-annually for each IP implementing a grant or subcontract; semi-annually for each activity covered by an A-EMMP.
- Who produces: IP or technical staff with assistance of the Project Environmental Advisor
- Where used: include in review of implementation prior to developing new work plan; if IP does not comply, project required to assume responsibility or take steps to ensure compliance.

FPPM will monitor and report on all projects that are subject to Environmental Review and that have an Activity or Action Environmental Mitigation and Monitoring Plan. The Action EMMP shows activities, mitigation measures, who is responsible for monitoring, monitoring indicators, monitoring method and frequency of monitoring.

The Action Environmental Mitigation and Monitoring Report (A-EMMR) is an extension of the Action EMMP format and will use the following format.

TABLE 10B: ENVIRONMENTAL MITIGATION AND MONITORING REPORTS (A-EMMR)

Activities	Mitigation Measure	Who Is Responsible for Monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring	Status Report 1	Status Report 2	End of Project Status Report

EMS5B. QUARTERLY AND YEARLY PROJECT EMMR

A summary report of implementation of mitigation measures and issues is required quarterly in the FPPM project report. A detailed report is required annually prior to finalizing Annual Work Plan.

- When required: quarterly and annually.
- Who produces: Project Environmental Advisor with COP.
- Where used: include Quarterly (summary) and Annual (detailed) Reports.

Each year, the status of environmental activities and implementation of mitigation measures will be summarized and reported to USAID. FPPM will also report positive environmental actions. The project Environmental Mitigation and Monitoring Report (EMMR) or Environmental Status Report (ESR – the term used in the FPPM contract) will be the basis for reviewing FPPM compliance with USAID environmental regulations.

On the basis of the Yearly Project EMMR, the FPPM COP will meet with the USAID COR (and MEO if USAID so determines) to review environmental aspects of FPPM and improve performance.

EMS6. BASIC DOCUMENT: ENVIRONMENTAL TERMS IN THE IP AGREEMENT

FPPM will include environmental terms in each grant agreement, subcontract with an IP or Cooperative Agreement.

- When required: in grants manual; in financial manual; prior to signing CA, grant, or subcontract with IP.
- Who produces: Project Financial Director and Grants Manager, with assistance of the Project Environmental Advisor.
- Where used: all CAs, grants agreements, subcontract with IP.

Model language is provided in ANNEX 9: MODEL LANGUAGE FOR GRANTS AGREEMENTS. This tool complements EDD and training for IPs.

EMS7. STANDARD MITIGATION MEASURES

Project activities may begin with the following measures (Table 8).

TABLE 11: MITIGATION MEASURES

Activity	Description of Mitigation Measures
<p>Agricultural interventions (IEE)</p> <p>For Bandundu, need for sustainable agricultural models for each agro-ecological zone (identified by FAO/DRC/EU).</p> <p>Soil erosion, chemical contamination, improper pesticide use</p>	<p>Condition: “It is critical that environmental effects be taken into account when planning agricultural initiatives. Soil, water, and irrigation are the subjects of Chapter 1 of the EGSSAA, and the implementer will develop an EMP to address the environmental impacts of these interventions.” (IEE)</p> <p>Measures: Standard FPPM Agricultural Mitigation Measures</p> <ol style="list-style-type: none"> 1. General: Characterization study agricultural KAP including environmental issues. Define agro-ecological zones, describe technology in use. 2. General: Define the agricultural best practices to be promoted in an agricultural manual that includes conservation and mitigation measures. The project agricultural manual includes a technology packet with sustainable agriculture and production methods, conservation measures, integrated soil management, IPM, no-burn land preparation methods adapted to agro-ecological zones, safer use practices for pesticides, safer use practices for all other agrochemicals (fertilizer, etc.), prohibited agrochemicals (see PERSUAP) and elements drawn from Chapter 1 of EGSSAA to address the environmental impacts of these interventions. Use GAP Farmer Field School manual and training materials. 3. General: Define IPM practices, safer use practices and prohibited agrochemicals from the PERSUAP. Use GAP Farmer Field School manual and training materials. 4. General: Define best post-harvest practices in project manuals. Use GAP Farmer Field School manual and training materials. 5. Site or subproject specific: Review sustainable production issues methods as part of environmental screening and define special conditions, procedures and mitigation for the agroecological zone. Include in work plan or CA. 6. Site or subproject specific: Define required monitoring for environmental impact using EMMR, village/ beneficiary meetings, production logs on fields managed by FPPM. Assess degree of loss of forest in the village meetings or otherwise. Include in work plan or CA. 7. Site or subproject specific: Define outreach methods to adapt to social conditions in area and achieve best results. 8. Others as recommended by project technical staff, IPs, beneficiaries or experts. Include in work plan or CA. 9. Screen and monitor for landscape issues (expansion of cropped area, biodiversity issues, bush fires, changes in land tenure, changes in resource management, conflict, other); if found, see “landscape issues,” below.
<p>Improved production technology through improved seeds and planting stock and practices</p>	<p>Conditions: The plant stocks improvement will be limited to seeds selection and multiplication. Suppliers shall: 1) ensure appropriateness for the agro-climatic zone to which they are being introduced; 2) avoid introducing exotic invasive species; and 3) avoid providing or promoting genetically modified organisms (GMOs). This requires identifying and mitigating any potential direct adverse impacts on the physical environment and human health and safety (such as due to aflatoxin contamination) arising from distribution of free seeds. Lastly, non-native plants will not be introduced into protected areas. (IEE)</p> <p>Measures: Standard FPPM Seed Production Mitigation Measures</p> <ol style="list-style-type: none"> 1. Characterization attached to subproject plan defining area for seed production and distribution, including agro climatic zones to ensure 1) appropriateness for the agro-climatic zone to which they are to be distributed; 2) means to avoid introducing exotic invasive species; and 3) specifying how to avoid providing or promoting genetically modified organisms (GMOs). study agricultural. 2. Define the agricultural best practices to be used in seeds production based on the project agricultural manual that includes conservation and mitigation measures. The

Activity	Description of Mitigation Measures
	<p>project agricultural manual includes a technology packet with sustainable agriculture and production methods, conservation measures, integrated soil management, IPM, no-burn land preparation methods adapted to agro-ecological zones, prohibited agrochemicals (see PERSUAP) and elements drawn from Chapter 1 of EGSSAA to address the environmental impacts of these interventions. Use GAP Farmer Field School manual and training materials. Include in work plan or CA</p> <ol style="list-style-type: none"> 3. Define IPM practices to be used for seed production, safer use practices and prohibited agrochemicals from the PERSUAP based on GAP Farmer Field School manual. Include in work plan or CA 4. Define best post-harvest practices to be used for seed production based on GAP Farmer Field School manual and training materials. Include in work plan or CA 5. Site or subproject specific: Define required monitoring for environmental impact using EMMR, village/ beneficiary meetings, and production logs (including any use of agrochemicals). 6. Site or subproject specific: Define outreach methods to adapt to social conditions in area and achieve best results. 7. Others as recommended by project technical staff, IPs, beneficiaries or experts. Include in work plan or CA <p>Implement relevant measures from the PERSUAP</p>
Supply of Planting Tools	<p>Condition: The supply of appropriate planting tools (hoes, machetes, axes etc.) will be limited to those that do not have detrimental impacts on the environment. (IEE)</p> <p>Measure: Standard FPPM Tool Supply Mitigation Measures</p> <ol style="list-style-type: none"> 1. Characterization attached to subproject plan defining area for tool supply including environmental issues, agro-ecological zones, technology in use currently, compatibility of tools with current practices. 2. Define the agricultural best practices to be promoted including conservation and mitigation measures, integrated soil management, and others adapted to agro-ecological zone. Use GAP Farmer Field School manual and training materials. 3. If tools involve agrochemicals, define IPM practices, safer use practices and prohibited agrochemicals from the PERSUAP. Use GAP Farmer Field School manual and training materials. 4. If tools involve post harvest, define best post-harvest practices. Use GAP Farmer Field School manual and training materials. 5. Review sustainable use of the tools, cost:benefit for typical producers and compatibility with local social conditions. 6. Define required monitoring for environmental impact using EMMR, village/ beneficiary meetings, production logs on fields managed by FPPM. Assess degree of loss of forest in the village meetings or otherwise. Include in work plan or CA. 7. Site or subproject specific: Define outreach methods to adapt to social conditions in area and achieve best results. <p>Others as recommended by project technical staff, IPs, beneficiaries or experts. Include in work plan or CA. include technology characterization in village characterization, screen during environmental review and monitor.</p>
Agrochemical use and FIFRA agrochemical information	<p>Condition: Agrochemical use or procurement</p> <p>Measures: Standard FPPM Agrochemical Mitigation Measures</p> <ol style="list-style-type: none"> 1. General: Prepare project PERSUAP (attached to this EMMP) 2. General: Prepare training materials specified in PERSUAP. 3. Subproject specific: Training as specified in PERSUAP for pesticides; training for general GAP. 4. Environmental Due Diligence with financial institutions that may finance agrochemical use and training in environmental review. 5. Training in FIFRA safe use for value chain actors, including input suppliers, consultants, government regulators, following GAP. 6. CP/ P2 with value chain actors.
Biophysical aspects of improved animal husbandry, aquaculture and forestry production,	<p>Conditions: All activities will be done in accordance with best practices and will consider climate, terrain and ecosystem impacts. Aquaculture programs will consult best practices under the EGSSAA Part II, Chapter 6. (IEE)</p> <p>Measures: Standard Animal Husbandry, Aquaculture, Forestry Mitigation Measures</p>

Activity	Description of Mitigation Measures
management and processing	<p>Specific measures deferred.</p> <ol style="list-style-type: none"> 1. Screen for level of environmental risk. 2. Risk level 3: extended ER to design specific measures; if the project works with animal husbandry, project husbandry manual includes sustainable practices. 3. Risk level 4: EA or redefine activity to reduce risk.
Landscape issues: expansion of cropped area, biodiversity issues, bush fires, land tenure, change in resource management, nearby protected areas, forest at risk Integrating agriculture adjacent to areas of important biodiversity and forested areas (IEE)	<p>Condition: Proximity to protected are, ongoing deforestation, conflict between proposed landuse and current practices, change in resource management, ERR or monitoring finds landscape-level issues</p> <p>Measures: Standard Landscape Mitigation Measures</p> <ol style="list-style-type: none"> 1. Village or area screening to identify areas near protected areas, areas near tropical forest, areas near biodiversity issues, areas likely to expand production to forested areas, areas with landscape issues (expansion of cropped area, biodiversity issues, bush fires, land tenure, change in resource management, nearby protected areas, forest at risk). 2. Conduct characterization study to characterize current practices related to the landscape issue. 3. Forest-cover monitoring using remote sensing data sets. 4. Support planning and policy for sufficient land reserves for villages in forest zones (FAO/DRC/EU). 5. Support adjacent land uses, including protected areas. 6. Project agricultural manual includes technology options for sustainable production. 7. Measures to be specified in response to landscape issue. 8. Market expansion. If FFPM assists market development (see note on IEE coverage of rural roads and market infrastructure), undertake specific environmental review.
Landscape issue: Deforestation, and Protected Areas	<p>Condition Ongoing deforestation in subproject area or proposed activities likely to result in deforestation, or monitoring finds deforestation.</p> <p>Measure Standard Measure for Potential Forest Loss</p> <ol style="list-style-type: none"> 1. General: support offsets for the risk of impact by planting trees in general and along road access routes. Provide plan incorporating EGSSAA guidelines. For Year 2 and subsequently, develop and meet targets for planting or conserving trees. 2. Forest use characterization: as part of project monitoring, understand the forces and incentives for forest use, deforestation, and agricultural development. Understand use of the forest for livelihoods. 3. Village characterization for villages in proximity to forests or biodiversity resources. Characterize forest use and sustainability of adequate forest resources (FAO/DRC/EU). 4. Monitor forest cover in areas affected by the project.
Reforestation and afforestation including integrated agro-forestry and agro-ecological systems management	<p>Condition: FPPM supports reforestation</p> <p>Measures: Standard Reforestation Mitigation Measures</p> <ol style="list-style-type: none"> 1. Follow best practice guidelines EGSSAA Chapter 7: Forestry: Reforestation, Natural Resource Management, and agro-forestry. (IEE) 2. Follow PERSUAP procedures for pesticide use 3. Follow GAP Farmer Field School manual adapted to tree production
Biodiversity	<p>Condition: ER or monitoring finds biodiversity issues, animal control issues</p> <p>Measures: Standard Biodiversity Mitigation Measures</p> <ol style="list-style-type: none"> 1. To be defined according to issues; may include least destructive animal pest control, characterize biodiversity issues as part of village characterization study, Project agricultural manual includes animal management; reforestation; support for protected area
Land tenure, local village organization and agriculture	<p>Condition: ER, characterization or monitoring finds issues of land tenure, local village organization, resource management</p> <p>Measures: Standard village mitigation measures.</p> <ol style="list-style-type: none"> 1. Rapid appraisal of village to characterize local production systems, land tenure and social organization related to production systems, exchange and resource management relevant to FPPM goals. 2. Include screening of potential land tenure conflict in the FPPM environmental review form.

Activity	Description of Mitigation Measures
	<ol style="list-style-type: none"> 3. As part of project monitoring, conduct rapid appraisal visits. 4. As part of project monitoring, understand the forces and incentives for land tenure conflict in relation with agricultural development. 5. Include local social organization and gender roles in gender assessment. 6. Adopt an appropriate strategy for working in tribal areas. The strategy will be to work with local authorities within the constraints of good governance. Work with villages when appropriate. When FPPM works with an association, NGO or the private sector, contact the relevant village chief. Include potential for conflict and for cooperation in project monitoring. 7. Include local leaders in diagnostic studies. Stakeholders in the rural sector include local leaders and are not limited to NGOs, religious bodies, the private sector. 8. Include villages in design and implementation of mitigation measures, including landscape level measures, local zoning, education. 9. Use a pilot approach to working with villages and farmer organizations, with monitoring and adaptive management. 10. Monitor success of measures to include villages and village authorities in project implementation.
<p>Processing SME and value chain environmental issues water quality and water use; waste management</p>	<p>Condition: The local processing of agricultural commodities must be done in accordance with an EMP, developed in conjunction with the best practice guidelines. The activities under this program shall be conducted following the principles provided in Chapter 4.2 Food Processing: Cleaner Production Fact Sheet and Resource Guide of the USAID Environmental Guidelines for Small-scale Activities in Africa, which can be found at http://www.encapafrica.org/EGSSAA/foodprocessing.pdf . (IEE)</p> <p>Measures: Standard Post-harvest and Processing Mitigation Measures.</p> <ol style="list-style-type: none"> 1. General: develop project post-harvest GAP Farmer Field School manual and processing manual, including post-harvest and processing technology, water quality technologies and waste management. 2. For specific enterprise, adjust and apply CP P2 format or equivalent. 3. For cassava. 1) Develop best practices manual for cassava processing enterprises, 2) educate processors and buyers about the risks of consuming insufficiently processed cassava and 3) conduct CP/ P2 assessment of each enterprise that receives substantial technical assistance. 4. Assess water quality in Bas Congo in area of cassava processing. 5. Input suppliers. Train environmental input suppliers in best practices. Provide educational materials. Assess current KAP. See PERSUAP.
<p>Increasing trucking and transport capacity in selected areas (providing trucks/river transport/other transport services)</p>	<p>Conditions: ER or monitoring finds substantial increase in truck traffic.</p> <p>Measure: Standard Transport Measures.</p> <ol style="list-style-type: none"> 1. Design specific measures following IEE guidance: Management of fuel and lubricants at road camps must be addressed, and an M&E plan developed. Furthermore, increasing trucking and transport capacity may place additional strains on rural roads and bridges, and an environmental assessment of the impact of increased transportation should be included in the M&E plan. (IEE) 2. Monitor transport and assess issues including environmental issues in next year.
<p>Support for micro-credit schemes for producers or micro-and small enterprise development and facilitating access to credit</p>	<p>Conditions: Support for MFI</p> <p>Measures: Standard MFI Mitigation Measures.</p> <ol style="list-style-type: none"> 1. Environmental Due Diligence format for FI. 2. Training for FIs in environmental management and proscribed purchases. 3. Monitor practices.
<p>Institutional strengthening and agricultural policy support</p>	<p>Conditions: Institutions including GDRC receive technical assistance or training related to activities that, when implemented, have environmental impact.</p> <p>Measures: Standard Institutional Strengthening Measures.</p> <ol style="list-style-type: none"> 1. Include environmental risk and mitigation in training and technical assistance. 2. Train on supporting value chain actors on sustainable practices and policies.

EMS8. RECOMMENDED TOOLS

Recommended documents are environmental compliance documents that are needed in some circumstances, but not universally. The documents discussed in this section are recommended but may be edited or revised.

TOOL 8A: ENVIRONMENTAL DUE DILIGENCE (EDD)

- When required: prior to agreement with IP (subcontract or grantee).
- Who produces: project technical staff with support of environmental advisor and procurement staff
- Where used: attach to authorization for any IP agreement.

Environmental Due Diligence is required. A recommended form is attached. For FPPM, **Environmental Due Diligence (EDD)** is a standardized review of partner institutions or companies receiving technical assistance. The focus of EDD is on institutions, not activities, which are covered in the ERR.

USAID policy (ADS 204 which discusses EDD for GDA partners) provides a general approach to EDD for partner institutions, which should cover environmental, social and financial soundness. This EMMP supplements that general guidance with the IEE, elements from international standards (such as those of the Equator Principles, GlobalGAP or ISO) and DAI experience to prepare EDD methods. EDD will review the institutional capacity of partners to use or develop an environmental screening system or adopt policies and procedures to assure that the projects financed are environmentally sound.

The EDD criteria proposed by FPPM are provided in Annex 3A. FPPM may use other formats to implement the required due diligence.

TOOL 8B: CLEANER PRODUCTION/ POLLUTION PREVENTION (CP/C2)

- When required: during technical support to factory or processing operation .
- Who produces: project technical staff with support of environmental advisor
- Where used: include in technical file.

This EMMP provides an illustrative CP/P2 format that will have to be modified to fit the specific subsector context in DRC. It will be subject to modification as needed during implementation. The illustrative “CP/ P2 ASSESSMENT AND ENVIRONMENTAL DUE DILIGENCE FOR PROCESSING ENTERPRISES” is presented as an attachment to this EMMP.

Due diligence is required in working with processing or marketing firms along the value chain; the recommended form provided should be modified as needed.

EMS9. PERSUAP AMENDMENT TO THE IEE

The complete PERSUAP for FPPM is attached to this EMMP as Annex 9 under separate cover.

Requirement and scope of a PERSUAP. Treatment of use or procurement of pesticides is part of an IEE. If the IEE defers consideration of pesticides, use or procurement requires an amendment to the IEE prior to using or procuring pesticides. Current practice includes recommending specific pesticides approved for use or procurement. No existing PERSUAP is appropriate for FPPM because the DRC security situation has precluded agricultural programs until recently. Therefore, FPPM has developed its PERSUAP.

TABLE 12A: FPPM ACTIVITIES RELATED TO PESTICIDES, RISKS, AND MITIGATION MEASURES

Activity	Risk	Illustrative Mitigation Measures
<p>Training related to the safer use of pesticides and promotion of Integrated Pest Management, including training producers and farmers.</p> <p>Similar training for value chain actors (processors, marketers, local consultants, extension agents, others).</p>	<ul style="list-style-type: none"> • Inaccurate information presented in trainings, particularly positive promotion of banned products or out-of-date information. • Improper handling of chemicals during trainings. • Improper use during training, demonstration. 	<p>PERSUAP</p> <ul style="list-style-type: none"> • Produce educational and training materials for producers and value-chain actors on pesticides and safe use and review materials with GDRC authorities (Ministries of Agriculture, Public Health and Environment). • Annual updates of pesticide and biocides messages and agro chemical lists based on lists of FIFRA/EPA, WHO, EC, POP and PIC. • Limitation of recommendations to active ingredients in use in DRC, registered with USEPA and low toxicity per WHO; additional screening according to PER. • Annual review of recommended practices by agronomist and environmental professional. • Demonstrate Good Agricultural Practices (GAP) on demonstration plots, including IPM (such as those practices listed in the PERSUAP). • Monitor pesticide use via focus groups for social communications, KAP review of results and messages. • Yearly report and review with USAID/COTR.
<p>Demonstration or validation plots. Use of agrochemicals in technology demonstrations (validation trials, demonstration plots, demonstration postharvest) or for reforestation, including pesticide use or procurement as required technically as last resort in the context of IPM.</p>	<ul style="list-style-type: none"> • Improper materials or practices demonstrated. • Soil contamination, water contamination. • Impact on health of workers or consumers. 	<p>PERSUAP</p> <ul style="list-style-type: none"> • Use no pesticide or agrochemical on demonstration plots or for seed multiplication not in use in DRC, not on EPA/FIFRA registration lists, not low toxicity on WHO lists or not meeting PERSUAP conditions. • Implement/ demonstrate Good Agricultural Practices (GAP) on demonstration plots, especially IPM. • Register and monitor GAP (including agrochemical use, IPM, water/soil management) on demonstration plots; environmental professional or project staff reviews registers and evaluates GAP. • Yearly report and review with USAID/COTR.
<p>Seeds procurement. If purchased seeds are treated or if the project multiplies seeds, then agro-chemicals are likely to be used. Use of agrochemicals in seed multiplication, including</p>	<ul style="list-style-type: none"> • Improper materials or practices demonstrated. • Soil contamination, water contamination. • Impact on health of workers or consumers. • Improper disposal of 	<p>PERSUAP</p> <ul style="list-style-type: none"> • Use no pesticide or agrochemical for seed multiplication not in use in DRC, not on EPA/FIFRA registration lists, not low toxicity on WHO lists or not meeting PERSUAP conditions. • Implement Good Agricultural Practices (GAP)

Activity	Risk	Illustrative Mitigation Measures
pesticide use or procurement as required technically as last resort in the context of IPM.	<ul style="list-style-type: none"> unused seed. Improper use of agrochemicals in seeds production. 	<ul style="list-style-type: none"> on seeds plots, especially IPM. Register and monitor GAP (including agrochemical use, IPM, water/soil management) on seeds plots. Yearly report and review with USAID/COTR.
Post-harvest training. Pesticide or agrochemical education for agro-industry and post-harvest use of biocides in enterprises receiving technical assistance (but not procured with USAID funds).	<ul style="list-style-type: none"> Inaccurate information presented in trainings, particularly positive promotion of banned products or out-of-date information. Improper handling of chemicals during trainings. 	<p>PERSUAP</p> <ul style="list-style-type: none"> Use no pesticide or agrochemical for post-harvest, processing or marketing not in use in DRC, on EPA/FIFRA registration lists, low toxicity on WHO lists (excepting rodenticides reviewed in the PERSUAP), and meeting PERSUAP conditions. Include safe use of biocides for each enterprise requiring in CP-P2 reports. Monitor biocide use via focus groups for social communications KAP review of results and messages; environmental professional and food safety specialist reviews and evaluates. Yearly report and review with COTR.
Financial or credit support. Support or training for financial institutions (FIs) or subcontractors (NGOs, associations, others) that lend or give assistance to value chain actors who may use agrochemicals.	<ul style="list-style-type: none"> Indirect beneficiaries use or procured banned agrochemicals. 	<p>PERSUAP</p> <ul style="list-style-type: none"> Environmental Due Diligence (EDD) of FIs and other partner organizations. Training defined in PERSUAP Agreement to exclude use of banned agrochemicals and receive training to build environmental capacity.

The FPPM Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) has been prepared to ensure that the Food Production, Processing & Marketing Activity (FPPM) in the Democratic Republic of the Congo (DRC) comply with USAID’s Environmental Compliance Procedures (Title 22, Code of Federal Regulations, Part 216) as they concern use or procurement of agricultural pesticides.

The Initial Environmental Examination (IEE) covering FPPM²⁵ defers evaluation of pesticides while listing the range of agricultural sector activities that typically involve pesticide use or procurement. The PERSUAP is an amendment to the IEE to cover pesticide use or procurement in the context of such agricultural sector activities, comprising what USAID regulations call “a separate [IEE] section evaluating the economic, social, and environmental risks and benefits of the planned pesticide use...”

The PERSUAP is presented in three parts: 1) Introduction and Background, 2) Pesticide Evaluation Report (PER) and 3) Safer Use Action Plan (SUAP). Various Attachments provide tables, data and details that would be difficult to manage inside the text.

1) The Introduction and Background presents the FPPM project and summarizes USAID guidance for this PERSUAP. Guidance is drawn from Regulation 216 requirements for pesticide use or procurement and from project specific sources: the IEE, the project contract, the Environmental Mitigation and Monitoring Plan (EMMP) and USAID comments on the EMMP. The section continues with background of pesticide use in DRC and the project area. It concludes by defining the

²⁵ Initial Environmental Examination and Request for Categorical Exclusion of May 23, 2010 for Functional Objective 4 Economic Growth, FY10 – FY15.

parameters of this PERSUAP: the types of activities covered by the IEE and this PERSUAP, the crops covered, the criteria for selecting pesticides and some of the issues to be included.

2) The second section of this PERSUAP is a Pesticide Evaluation Report (PER) to recommend least toxic available chemicals in the framework of integrated pest management (IPM) for FPPM's priority food crops. It reviews the twelve standard factors related to pesticide use as specified in the USAID Environmental Procedures, introducing information from the project area:

- Pesticide EPA registration status;
- The basis for selecting recommended pesticides;
- Recommended pesticides in the context of integrated pest management programs;
- Methods of applying recommended pesticides including the availability of appropriate application and safety equipment;
- Possible toxicological hazards to humans or to the environment from FPPM-recommended pesticides and methods available to minimize them;
- The effectiveness of requested pesticides for proposed uses;
- Compatibility of proposed pesticides with target and non-target organisms;
- Conditions under which the pesticide will be used;
- Availability and effectiveness of other pesticides and non-chemical controls;
- Host country's ability to regulate or control the distribution, storage, use, and disposal of the requested pesticides;
- Provisions for training in safer use of pesticides and IPM; and,
- Provisions for monitoring effectiveness and safe use of the pesticides.

Finally, the PER section presents the list of pesticides proposed for use or procurement under FPPM.

3) The third section of the report is the Safer Use Action Plan that includes explanations of how FPPM will provide appropriate technical assistance, training and monitoring for pesticide use or procurement. FPPM will support producers in the targeted value chains with information about proper pesticide use, transport, storage and disposal and about ways to minimize possible hazardous exposure of humans to harmful chemicals or environmental damage, emphasizing the use of minimally toxic chemicals as part of comprehensive crop-specific IPM systems. The SUAP specifies FPPM outputs that can be monitored including publications, trainings, and methods to monitor issues.

The project works on improving the production, storage and processing of maize, rice, cassava, legumes and trees. Pests and diseases of these crops are identified in this PERSUAP, as are preventive and curative IPM measures.

Attachments to the text amplify proposed methods to achieve safer use of necessary pesticides. One attachment is the complete list of approved chemicals with characteristics. Attachment 1, is a list of useful

websites and other information sources that were consulted in the preparation of this PERSUAP and will be useful in its implementation and the drafting of any future amendments.

The limits or parameters of the PERSUAP specified in Section 1.3 concern a) the kind of “use and procurement” planned for the project, b) the project activities that provide the context for pesticide use and procurement, and c) the project target crops and value chains:

- “Use or procurement” of pesticides includes direct or actual use or acquisition of pesticides, including handling, transporting, storing, mixing, loading, applying and disposing of them, as well as cleaning up spray equipment and disposal of pesticides, which is taken to include disposal of pesticide containers. It also includes any indirect support for pesticide use, such as providing fuel for transporting pesticides. Following COR guidance, it covers advice, technical assistance or training when project staff recommend or demonstrate specific pesticides on small plots (less than 4 ha). It covers work with value chain actors that may concern specific pesticides, including lenders. Research activities are permitted.
- Project activities covered by the IEE and this PERSUAP include agricultural extension and advisory services, production planning, community organization and mobilization, training and capacity building at all levels of the agricultural and aquaculture production chain, support to research and information for the development of the market supply chain, improved production technology through improved seeds and planting stock and practices, supply of planting tools, setting up micro-credit schemes for micro- and small enterprise development and facilitating access to credit, improving the local processing of agricultural products (cassava, maize, and rice, others as proposed and agreed to in a separate EMMP), biophysical aspects of improved animal husbandry, aquaculture and forestry production, management and processing, integrating agriculture adjacent to areas of important biodiversity and forested areas, reforestation and afforestation including integrated agro-forestry and agro-ecological systems management.
- Crops covered are maize, legumes (of various varieties including beans and soya), cassava, rice and reforestation trees.
- The PERSUAP lists pesticides proposed by FPPM as well as those both accepted and rejected by this PERSUAP analysis (see below).

Since technologies, projects and strategies evolve, FPPM is likely to undertake new activities and work with new value chains. New IPM tools/tactics and pesticides, as well as pesticide registration decisions are produced continuously. This PERSUAP proposes steps for amending the PERSUAP.

The project gathered information on pesticides available in western DRC and applied the following criteria to screen them for use or procurement by FPPM (note that DRC does not have a current—2011 or 2012—list of registered pesticide products) :

- Available in western DRC,
- Registered by US EPA.
- Not banned by DRC (which does not maintain a registry)
- Not EPA restricted use pesticides (RUPs); **product not classified as EPA Toxicity Class I,**
- Not classified as POP or PIC chemicals,

- Not classified by WHO as being highly toxic (class 1a and 1b),
- Judged useful by project technical staff,
- Not extremely toxic to relevant species (see data set).
- Not prohibited by DRC Ministere De L'agriculture, Peche Et Elevage/ Cellule De Reforme Senafic (latest available list).

Most of the criteria used by DRC are covered by this list; an additional requirement is that the active ingredient is registered in the EU.

One of the key outputs of the PERSUAP is the list of rejected and accepted pesticides.

TABLE 12B: ACCEPTED AND REJECTED PESTICIDES FOR FPPM

Rejected Pesticides: The PERSUAP analysis **rejects for promotion during training, purchase/finance or use on demonstration farms by FPPM staff and farmers** the following chemicals, with reasons for rejection in parentheses and with caveats:

Insecticides/Fumigants Rejected

- aluminum phosphide (Fumigant, RUP for all uses, Class I); Too toxic for the untrained and unprotected. For use in association with FPPM activities and resources only by certified (from a developed country) trained and protected application services teams.
- pirimiphos-methyl (not to be used for field spraying). Actellic as a liquid is approved for use for spraying stored grain bins and as a powder adtreatment to stored grains.
- methyl iodide (Fumigant, RUP for all uses, Class I). Too toxic for the untrained and unprotected. Do not use.
- lambda-cyhalothrin/Karate (RUP for all Karrate products).
- cypermethrin (RUP for all agricultural uses). Registered in USA only for residential and commercial uses.
- dichlorvos/DDVP (Class I). Too toxic.

Herbicides Rejected

- atrazine (RUP).
 - alachlore (RUP).
 - Rodenticide Rejected
 - coumarin (not EPA registered).
-

Approved Pesticides: This PERSUAP approves the following pesticides

Seed Treatments Approved

- Bordeaux mix

Stored Grain Pesticide Treatments Approved

- pirimiphos-methyl

Field Insecticides Approved

- deltamethrin
- dimethoate
- insecticidal soap

Herbicides Approved

- glyphosate
- bentazone
- simazine

Fungicides Approved

- sulfur
- mancozeb
- maneb
- thiram
- metalaxyl
- copper sulfate
- Bordeaux mix

Rodenticide Approved

- Warfarin
-

Note that farmers, with their own resources, may purchase and use whatever chemical they wish. The intent of this PERSUAP is to adhere to the intent of Regulation 216 and highlight pesticides that should not be promoted during training, purchased or otherwise financed for farmers, or used on demonstration farms. The intent is not necessarily to disapprove or discourage, during training or otherwise, use of pesticides that were rejected by this Regulation 216-specific analysis.

The Safer Use Action Plan (SUAP) provided in the PERSUAP commits FPPM to produce educational and technical publications about pesticides, train producers and value chain actors, monitor implementation of this PERSUAP and take additional actions. Specific requirements are listed in the following table.

TABLE 12C: PROJECT PUBLICATIONS ON PESTICIDES

1. IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for seed production, production, pest control and post-harvest.
2. FPPM Technical Bulletins on Pesticide Resources: 2a. List of Active Ingredients (and Product Names) Permitted for Use with FPPM resources 2b. List of Key Websites for Pesticide and IPM Research
3. FPPM Technical Bulletin on Safe Handling of Pesticides: 3a. A Technical Guide to Use of Pesticides 3b. Guide to Pesticides of Concern (what vendors and users should avoid)
4. Project Agricultural Guides. 4a. to 4f, by crop. Good Agricultural Practices for Cassava, Maize, Legumes, Rice. Trees and Reforestation for Seed Production, Production with Pest Control and Post-harvest.
5. FPPM Producer Guide to support Farmer Field School to IPM Practices (general principles)
6. FPPM Producer Guide to support Farmer Field School to Safer Pesticide Use, Risks, and How to Minimize the Impacts of Pesticides on Human Health and the Environment: General Principles (2 versions: 6a in French, 6b in local languages)
7. Pesticide Monitoring Guide: How to Monitor Pests, Pesticide Effectiveness, Issues of Pesticide Use in Project Area
8. Pesticides and Private Institutions

TABLE 12D: PROJECT TRAINING AND EXTENSION ON PESTICIDES

1. Workshops on IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for seed production, production, pest control and post-harvest.
2. Web posting of technical bulletins (see list above)
3. Workshop on Good Agricultural Practices for Cassava, Maize, Legumes, Rice. Trees and Reforestation for Seed Production, Production with Pest Control and Post-harvest
4. Producer training for Good Agricultural Practices, IPM, Safer Pesticide Use, Risks: How to Minimize the Impacts of Pesticides on Human Health and the Environment IPM
5. Pesticide Training for Private Institutions
6. Environmental Due Diligence for MFIs and Project Partners
7. Environmental Due Diligence and CP/P2 for SMEs

TABLE 12E: SUPPORTING ACTIVITIES

Topic
1. Multiply and distribute planting materials for resistant varieties of Cassava, Maize, Legumes, Rice and Trees (Reforestation)

TABLE 12F: MONITORING IMPLEMENTATION OF THE PERSUAP

1. Monitor and report compliance with this PERSUAP as part of general environmental monitoring (per the EMMP) and the project PMS.
2. Monitor Pests, Pesticide Effectiveness, Issues of Pesticide Use in Project Area
3. Apply procedures for modifying the PERSUAP if required
4. Conduct evaluation of quality of pesticides
5. Support GDRC pesticide regulatory authorities to achieve better regulation of pesticides in DRC
6. Log implementation of research, multiplication and demonstration plots including safety procedures.

The PERSUAP includes a clearance form that must be completed and kept with procurement documents prior to procurement of a pesticide.

The general conclusion of the PER and this PERSUAP is that following its recommendations, FPPM assistance for the use of approved pesticides is not expected to have adverse impacts on human health. If mitigation measures are build into the Safer Use Action Plan the activities planned for FPPM do not pose a significant risk to the environment.

The PERSUAP is only intended to authorize use or procurement of the selected chemical pesticides on the named crops within the framework of an IPM system that makes maximum use of non-chemical pest control methods. Any change to the list of approved pesticides, the crops on which their use is authorized or the IPM systems that govern their use will require an amendment to this PERSUAP along with any other reviews (e.g. Environmental Assessment) that may be required in specific cases.

EMS9. ENVIRONMENTAL TRAINING

This EMMP requires staff capacity, training for Implementing Partners and value chain actors, and training in environmental issues for project participants.

TRAINING MATERIALS

Most of the training materials recommended by this EMMP concern a) building capacity to implement environmental compliance and b) IPM, pesticide use or good agricultural practices for both technical workers and farmers. Additional discussion of pesticide issues will be found in the attached PERSUAP.

TABLE 13: PROJECT TRAINING MATERIALS AND TECHNICAL PUBLICATIONS

Topic	Audience	Note	Date	Estimated Cost
1. Powerpoint and technical bulletin: USAID environmental regulations and best practices for FPPM	Project technical staff, Partners, Grantees, Other IP trainers, GDRC, with participation of USAID	Powerpoint in French; covers regulations and this EMMP S. Romanoff	2011 2012	
2. Powerpoint and technical bulletin: Environmental practices for Implementing Partners	Partners, Grantees, supporting staff, Other IP trainers	Powerpoint in French; a presentation on responsibilities of IPs under FPPM		
3. FPPM technical bulletins on Good Agricultural Practices (GAP) for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for Seed Production, Production with Pest Control and Post-harvest Practices.	USAID, Project technical staff, Partners, Grantees, Other IP trainers, GDRC.	May be merged with technical bulletin on IPM. In French and English. IPM plans will cover each crop/value chain separately. May take form of looseleaf binder incorporating available bulletins from institutions. 150 copies, hard copy and electronic formats		
4. FPPM Technical Bulletins on Pesticides Resources 4a. List of Active Ingredients (and Product Names) Permitted for Use by FPPM. 4b. List of Key Websites for Pesticide and IPM Research 4c. Pesticide practices for enterprises 4d. Pesticide practices for institutions (including partners) 4e. FPPM technical bulletins on IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) covering seed production, production, pest control and post-harvest, including non-pesticide and pesticide technologies identified in PERSUAP.	Project technical staff, Partners, Vendors, Other IP trainers, Grantees	2 formats: Bound photocopy format Electronic format Key websites include review the www.epa.gov website for recent actions taken by US EPA relevant to products Monitoring guide describes 1) main pests affecting food crops, 2) monitoring at farm and village level, 3) project monitoring of use, effectiveness Include 1) labels of all approved pesticides, 2) restrictions on use and handling, 3) preparation instructions, 4) safety precautions for use, 5) measures to reduce need for pesticides and 6) IPM	July 30, 2012	

Topic	Audience	Note	Date	Estimated Cost
4f. Pesticide Monitoring Guide: How to Monitor Pests, Pesticide Effectiveness, Issues of Pesticide Use in Project Area				
5.FPPM Folders and/or Posters on Safe Handling of Pesticides for Producers, the Public, Processors 5a. Guide to Pesticides and Practices of Concern 5b. Producer Guide to support Farmer Field School to Pest Control and IPM Practices (general principles) 5c. Producer Guide to support Farmer Field School to Safer Pesticide Use, Risks, and How to Minimize the Impacts of Pesticides on Human Health and the Environment	Project technical staff, Partners, Grantees Vendors and value chain actors Farmers and families	in French and Lingala or local languages May be poster, folder, booklet, etc. Includes: 1) hazards of pesticides, 2) selection of least hazardous pesticide, 3) measures to reduce need for pesticides, 4) safe preparation and use of pesticides		
6.Pesticide practices for companies and institutions • For institutions • For customers	Best practices for: Vendors Micro-finance institutions Enterprises	Format: loose leaf binder Good practices for purchasers (in French and Lingala)		
7.Additional training material as required by issues	Training is one way to mitigate environmental risk.	TBD		

TRAINING EVENTS AND TECHNICAL ASSISTANCE

FPPM will include environmental aspects of technologies in all of its training and technical assistance. Some events will focus on environmental issues.

TABLE 14: PRINCIPAL TRAINING ACTIVITIES

Event(s)	Participants	Objectives	Outputs	Staffing, facilitator, trainer
1. Environmental Compliance Workshop 2012 (3 days, 10 days apart)	<ul style="list-style-type: none"> • 2 days: Project staff • Partners • GDRC • USAID • Other stakeholders • 1 day: IPs and staff only • 	<ul style="list-style-type: none"> • Understand USAID environmental regulations and requirements set for FPPM • Understand and have capacity to meet environmental monitoring and reporting requirements • Review current work plan for coverage under the USAID IEE. • Be up to date with requirements for screening and environmental review. • EDD for IPs and plans to strengthen IPs 	<ul style="list-style-type: none"> • Environment screening and (if required) Environmental Review Reports (ERRs) for all pending activities • Environmental review of current work plan. • Presentation of EMMP and PERSUAP • IP agreement for environmental compliance and plans to strengthen capacity 	S. Romanoff FPPM ECA (USAID MEO if convenient)
2. STTA on-site in project offices (estimated 2 – 4 days per year for each IP)	<ul style="list-style-type: none"> • Implementing Partners (IP) 	<ul style="list-style-type: none"> • Conduct environmental due diligence. • Identify capacity to meet environmental requirements. • Strengthen IP capacity to meet requirements. 	<ul style="list-style-type: none"> • As needed to strengthen IP capacity to meet environmental requirements. • IP mitigation and monitoring plans. 	Project Environmental Codpliance Advisor (PEO)
3. Environmental Compliance Workshop 2013 (2 days, 1 week apart)	<ul style="list-style-type: none"> • Project staff • Partners • GDRC • USAID • Other stakeholders • 	<ul style="list-style-type: none"> • Review environmental monitoring and reporting requirements and achievements. • Identify issues for USAID-FPPM consultation and adaptive management. • Review new work plan for coverage under the USAID IEE. • Be up to date with requirements for screening and environmental review. 	<ul style="list-style-type: none"> • Environmental mitigation and monitoring reports (EMMRs) for activities as required by their EMMPs. • Environment screening and Environmental Review Reports (ERRs) for all pending activities • Environmental review of new work plan. • Report of environmental issues for USAID-FPPM consideration. 	S. Romanoff Project Environmental Codpliance Advisor (PEO)
4. Environmental Roundtable Discussion Trial of 6 luncheon presentations	<ul style="list-style-type: none"> • Project staff • GDRC • USAID • other USAID 	<ul style="list-style-type: none"> • Share experience of environmental compliance and mitigation measures with other stakeholders to identify best practices and strengthen FPPM 	<ul style="list-style-type: none"> • Shared documents • Event report • Action plans 	TBD

Event(s)	Participants	Objectives	Outputs	Staffing, facilitator, trainer
	<ul style="list-style-type: none"> projects • Donors 	practices.		
5.Workshops on IPM Plans for Cassava, Maize, Legumes, Rice and Trees (Reforestation) for seed production, production, pest control and post-harvest.	<ul style="list-style-type: none"> • Project staff • IPs • Value Chain Actors 	<ul style="list-style-type: none"> • Review IPM plans for content, audiences and phrasing 	<ul style="list-style-type: none"> • Adapted IPM plans appropriate to DRC and USAID projects 	
6.Web posting of technical bulletins (see list above)	<ul style="list-style-type: none"> • Project staff • IPs • Value Chain Actors 			
7.Workshop on Good Agricultural Practices for Cassava, Maize, Legumes, Rice. Trees and Reforestation for Seed Production, Production with Pest Control and Post-harvest	<ul style="list-style-type: none"> • Producers • Value chain actors 	<ul style="list-style-type: none"> • Dissemination of technical information 	<ul style="list-style-type: none"> • Distributed documents • Change of knowledge, attitudes and practice 	
8.Producer training for Good Agricultural Practices, IPM, Safer Pesticide Use, Risks: How to Minimize the Impacts of Pesticides on Human Health and the Environment, IPM	<ul style="list-style-type: none"> • Producers • Value chain actors 	<ul style="list-style-type: none"> • Dissemination of technical information 	<ul style="list-style-type: none"> • Distributed documents • Change of knowledge, attitudes and practice 	
Pesticide Training and Technical Assistance for Private Institutions and Value Chain actors	<ul style="list-style-type: none"> • Producers • Value chain actors 	<ul style="list-style-type: none"> • Dissemination of technical information 	<ul style="list-style-type: none"> • Distributed documents • Change of knowledge, attitudes and practice 	
Additional training as required by an A-EMMP	<ul style="list-style-type: none"> • Value chain actors • Producers 	<ul style="list-style-type: none"> • Achieve FPPM goals 	<ul style="list-style-type: none"> • According to content and objective 	

The methodologies for these four principal training events is as follows:

TABLE 15: TRAINING METHODS

Activity	Description Of Mitigation Measures
<p>1. Environmental Compliance Workshop 2012</p>	<p>Day 1: Presentation to staff, IPs, USAID (optional), GDRC (optional), other stakeholders</p> <ul style="list-style-type: none"> • USAID Policies and Procedures (quick summary) • GUZ Environmental Priorities • The FPPM Environmental Management System • Issues, best practices, resources and experiences • Responsibilities of implementing partners • Environmental Due Diligence • Practicum: Environmental screening and review for FPPM activities • Special issues for Implementing Partners and Localities; Prepare for Field Work <p>Days 2-6: Technical staff, IPs and ECA complete and process environmental screening and review forms</p> <ul style="list-style-type: none"> • In office, review procurement documents for environmental inclusions • Set up tracker • Visit field sites and IP offices <p>Day 10: Presentation of Environmental screening and review documents; indicate areas to complete</p> <ul style="list-style-type: none"> • Follow up ECA report • Consultant report • Edit and review screening and review documents for use by project, reporting to project and USAID
<p>2. STTA on-site in project offices</p>	<p>Steps:</p> <ul style="list-style-type: none"> • Assessment: Adapt the EDD format provided with this EMMP to the needs of the Implementing Partner (IP). Use the modified EDD format and open ended interviews to assess the capacity of Implementing Partners (IPs) to plan, implement and report environmental actions that meet USAID requirements (screening, review, mitigation, reporting) or that meet their own environmental aspirations. • Analysis: Review results of the assessment with FPPM and IP management. • Plan: Develop a plan to meet environmental requirements and aspirations, including budgeting and sources of funds. • Implement: Provide STTA as needed. Adapt methods as needed. • Report: document results of work with the IP and report to USAID.
<p>3. Environmental Compliance Workshop 2013</p>	<p>Preparation: FPPM assists implementing partners to monitor and report mitigation measures and issues</p> <p>Day 1:</p> <ul style="list-style-type: none"> • Presentation of USAID, GDRC, other stakeholders • Requirements for environmental reporting on implementation of mitigation measures • Methods for participatory review of measures and issues in field, best practices, resources and experiences; responsibilities of implementing partners • Practicum: presentation of EMMRs <p>Day 2-6:</p> <ul style="list-style-type: none"> • Edit, complete and process EMMR forms • Review monitoring results for FPPM

Activity	Description Of Mitigation Measures
	<ul style="list-style-type: none"> • Visit field sites and IP offices <p>Day 7:</p> <ul style="list-style-type: none"> • Presentations: environmental mitigation, issues and reports • Follow up Report • Edit and review screening and review documents
4. Environmental Roundtable Discussion (2012)	<p>Following USAID direction to include other USAID projects and other donors, DAI will invite non-project participants to the 2012 and 2013 environmental workshops. Apart from formal events, DAI has found that the best way to achieve policy coordination and improvement is to meet regularly with stakeholders, rather than to implement one large event. In addition, therefore, other projects and donors will be invited to meet periodically to share materials, present activities, discuss issues and develop action plans. The format will be to convene bi-monthly luncheon discussions among technical-level staff, with presentations at each session. This will strengthen FPPM by giving access to materials and proven models. If USAID determines that environmental policy matters should be considered, the project would convene separate meetings for policy-makers.</p>

EMS10. TRAINING

T1. TRAINING FOR PRODUCERS AND VALUE CHAIN ENTERPRISES

This EMMP proposes that FPPM produce training and training materials in the following:

- IPM and safe use of agrochemicals for producers using agrochemicals.
- CP/ P2 for processors, including waste management and worker safety.

During ER, project environmental staff will work with technical staff to develop training materials for sustainable production practices and review the need for training in the activities under environmental screening and review (Table 13):

TABLE 16: POTENTIAL ENVIRONMENTAL TRAINING TOPICS

Farm Production, Practices and Post-harvest

Mitigation measures as required in A-EMMP

Soils and water conservation practices; non-chemical soils enhancement; use of chemicals as last resort when required; integrated fertility management.

IPM: non-chemical protection; use of chemicals as last resort when required; plant disease identification and proper selection of necessary chemicals in IPM context.

SUAP: correct use of spraying equipment and farm chemicals, protective gear; on-farm work safety; food safety and contamination (pesticide, disease organism).

On-farm equipment practice and equipment operation: proper dismantling of equipment; proper disposal of waste products such as oils, old filters, old batteries and accumulators, etc.; emission control; safe disposal of serviceable parts and major components.

Safe post-harvest practices.

Storage of agrochemicals; disposal of empty containers.

Safe practices for seeds selection and pre-treatment.

On-farm food safety for subsistence or sale; on-farm safe food processing for subsistence or sale.

On-farm biodiversity and ecological best practices; management of animal life; and

Compliance with local law.

Food Processing Enterprises

Mitigation measures as required in A-EMMP

-
- CP/P2.
 - EDD (for larger enterprises).
 - Good management practices for environmental and social results.
 - Worker safety issues.
 - Maintenance, cleaning and safe use of equipment, protective gear; maintenance and safe use of cooling equipment; disposal of inoperative equipment.
 - Raw materials management per CP/P2.
 - Record keeping to achieve CP/P2.
 - Water management and conservation.
 - Food safety and food quality.
 - Compliance with local law.
 - Pesticides, biocides and IPM.

Farm Service Centers: Fertilizers, Pesticides, Machinery

- Mitigation measures as required in A-EMMP
- Banned ingredients.
- Analysis of active ingredients.
- IPM and how to recommend IPM to farmers.
- Correct calculation of dosage.
- Correct use of spraying equipment.
- Safe handling and storage of pesticides.
- Internet information on pesticides and risks.
- Proper use of repackaging.
- How to identify major plant diseases specific for DRC.
- Proper selection of chemicals and preparation of chemical solutions using IPM principals.
- Proper handling of fuel and lubricants.
- Proper disposal of waste products such as cleaning water, oils, old filters, etc.
- Exhaust emission control; safe disposal of serviceable parts and major components.
- Storage of agrochemicals.
- Warehouse personnel clean up of spills and proper disposal method of spillage.
- Requirements of DRC environmental laws and compliance with local law.
- Soil lab staff: sample collection and in proper use of new testing equipment.
- Proper use of equipment.
- Disposal of waste products such as oils, old filters, etc.
- Exhaust emission control.
- Soil protection and plant protection methods.
- Compliance with local law.

Environmental Procedures for Partners and Financial Institutions

- Mitigation measures as required in A-EMMP
 - USAID requirements for environmental review.
 - Manual of environmental procedures.
 - Staffing for environmental review.
 - Sources of technical information for sustainable production and sustainable SMEs.
 - Training program for staff.
-

Training requirements or positive training opportunities (not required by USAID regulations but consistent with FPPM goals) are to be identified by project staff and as part of the Environmental Review procedure (Annex 2).

T2. PROJECT STAFF ENVIRONMENTAL RESPONSIBILITIES, CAPACITIES AND TRAINING

Implementation of the EMMP requires participation of the entire FPPM team. USAID has recommended that there be a description of WHO each staff is, by their position in field offices or the project office and what capacity those positions require for environmental compliance. Whoever holds a relevant position as part of the Team must be able to demonstrate capacity. So a capacity management plan for FPPM is the context for environmental trainings that support that capacity. Capacity is what has to be demonstrated, not trainings.

TABLE 17: ENVIRONMENTAL STAFFING, RESPONSIBILITIES, TRAINING

Position	Person	Environmental Responsibility	Training	Training by
Chief of Party	Paul DeLucco	<ul style="list-style-type: none"> Understand FPPM environmental responsibilities Oversee design, management and implementation of the Environmental Management System and the EMMP and environmental clauses of USAID policy documents. Plan and procure environmental services and training Oversee all other project staff work on environment Include environmental report in Quarterly and Annual Reports; review environmental issues with USAID yearly; decide need to revise EMMP Oversee preparation of project Agricultural Manual, Herding Manual and Outreach Manual, including best practices and mitigation measures Resolve outstanding issues that other staff do not so that, for example, all A-EMMPs include specific, verifiable mitigation measures. Outreach to GDRC, NGOs and other institutions to cooperate on environmental mitigation and training 	Environmental Compliance Workshop 2012 and 2013 STTA by HO ECA as needed	
Project Environmental Officer (PEO)	Justin Luamba (approval pending)	<ul style="list-style-type: none"> Oversee technical aspects of regional environmental staff. Working with technical staff and regional environmental staff, prepare Screening Form (Annex 1), ERR (Annex 2), Clearance form (Annex 3) Working with technical staff and regional environmental staff, monitor implementation of EMMP, report EMMRs Summarize implementation and issues for quarterly and annual reports Working with technical staff and regional environmental staff, support or apply EDD and CP/P2; support EA if needed, Track screening, ER, A-EMMPs, EMMRs and other products of the environmental management system, working with information specialists Organize and participate in training, review compliance with project staff Compile plan and list of all environmental training materials for staff, IPs and beneficiaries; with M&E specialist, track implementation of training. Working with technical staff and regional environmental staff, train implementing partners; help 	Environmental Compliance Workshop 2012 and 2013 STTA by HO ECA as needed If possible, participate in USAID/AFR compliance workshop	

Position	Person	Environmental Responsibility	Training	Training by
		<p>prepare training materials for beneficiaries; oversee inclusion of environmental issues in Agricultural Manual</p> <ul style="list-style-type: none"> • With M&E specialist, draft quarterly and annual reports of environmental actions. • Understand and report environmental issues for each stage of project value chains. 		
Component 1, Production, Director (Agriculture Production Specialist)	Bernard Musangu	<ul style="list-style-type: none"> • Understand the EMMP and participate in trainings to implement the EMMP • Oversee technical preparation of Screening Forms (Annex 1) and ERR (Annex 2), with Activity EMMP, EMMRs and other environmental documentation planned in the EMMP • Oversee preparation of EDD and CP/P2 for subprojects; support EA if needed, • Organize technical participation in environmental trainings • With project support, train implementing partners; prepare training materials for beneficiaries; participate in preparatin of Agricultural Manual, Herding Manual, Outreach Manuel 	Environmental Compliance Workshop 2012 and 2013 STTA HO ECA	
Agriculture Marketing Specialist and Component 2 Director	Charles Stathacos	<ul style="list-style-type: none"> • Assess environmental risks, best practices, mitigation measures in his area of expertise • Gather or oversee staff to gather site information about environmental risks and baseline of particular activities • Develop mitigation measures for activities for project review and approval • Gather or oversee staff to gather local and supplementary information (CP/P2, locality information, reviews) • Gather or oversee staff to gather mitigation monitoring from subs/grantees; fill out monitoring forms; work with ECA to interpret monitoring results • Understand environmental requirements of FPPM. Participate in trainings and help train implementing partners. 	Environmental Compliance Workshop 2012 and 2013 STTA HO ECA	
Finance Manager and Director and Deputy Chief of Party	Theresa Miles	<ul style="list-style-type: none"> • Assure environmental language in all procurement documents • • Sign environmental clearance form • • Ensure that environmental review is done prior to obligating funds • • Review environmental compliance in developing and tracking grants 	Environmental Compliance Workshop 2012 and 2013 STTA HO ECA	
TIP Fund Manager (Grants and Subcontracts Manager)	Godefroid Meskina	<ul style="list-style-type: none"> • Assure environmental language in all procurement documents • • Ensure that environmental review is done prior to obligating funds • • Consult with PEO on environmental clearance form • • Track and report environmental compliance as parts of 	Environmental Compliance Workshop 2012 and 2013	

Position	Person	Environmental Responsibility	Training	Training by
		grants management		
Agriculture Production Specialist in Regional Offices	TBD	<ul style="list-style-type: none"> With PEO and regional environmental staff, assess environmental risks, best practices, mitigation measures in his area of expertise Gather or oversee staff to gather site information about environmental risks and baseline of particular activities Develop mitigation measures for activities for project review and approval Gather or oversee staff to gather local and supplementary information (CP/P2, locality information, reviews) Gather or oversee staff to gather mitigation monitoring from subs/grantees; fill out monitoring forms; work with ECA to interpret monitoring results Understand environmental requirements of FPPM. Participate in trainings and help train implementing partners. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Director M&E	John Ntalmwa	<ul style="list-style-type: none"> Review mitigation monitoring reports from subs/grantees Train and assist subs/ grantees to provide monitoring information Summarize EMMR information for quarterly and annual reports Conduct open-ended monitoring visits on environmental compliance and issues 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
M&E Expert	Tim Schwartz	<ul style="list-style-type: none"> Support Director M&E in all environmental responsibilities 		
Village Savings and Loan Expert	Paul Rippey or TBD	<ul style="list-style-type: none"> Conduct Environmental Due Diligence of environmental capacity of FIs. Ensure environmental screening by FIs and strengthen FI capacity to implement environmental requirements of USAID and FPPM 	STTA PEO	
Agricultural Production and Food Security Expert	Eric Tollens	<ul style="list-style-type: none"> Understand environmental requirements of FPPM. Support identification of environmental issues and mitigation measures required in all reports. Supply environmental publications or documents to support FPPM. As needed, support project staff to implement environmental system. 		
Subcontractor Making Cents International	Andrew Ponks	<ul style="list-style-type: none"> Receive environmental training Review and agree on environmental clauses in procurement document With the Partnership, develop mitigation plan (A-EMMP) for each subproject; provide local and supplementary information (CP/P2, locality information, reviews) Agree on mitigation measures, understand A-EMMP, implement mitigation measures, monitor implementation, report implementation Implement and monitor mitigation measures Facilitate other monitoring activities 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Subcontractor International Fertilizer Development	TBD	<ul style="list-style-type: none"> Receive environmental training Review and agree on environmental clauses in procurement document 	Environmental Compliance Workshop 2012 and 2013	

Position	Person	Environmental Responsibility	Training	Training by
Center		<ul style="list-style-type: none"> • With the Partnership, develop mitigation plan (A-EMMP) for each subproject; provide local and supplementary information (CP/P2, locality information, reviews) • Agree on mitigation measures, understand A-EMMP, implement mitigation measures, monitor implementation, report implementation • Implement and monitor mitigation measures • Facilitate other monitoring activities 	STTA PEO	
Agricultural Expert	Don Humpal	<ul style="list-style-type: none"> • Understand environmental requirements of FPPM. • Support identification of environmental issues and mitigation measures required in all reports. • Supply environmental publications or documents to support FPPM. • As needed, support project staff to implement environmental system. 		
Agricultural Marketing Expert	Tom Lenaghan	<ul style="list-style-type: none"> • Understand environmental requirements of FPPM. • Support identification of environmental issues and mitigation measures required in all reports. • Supply environmental publications or documents to support FPPM. • As needed, support project staff to implement environmental system. 		
GIS Specialist	Brody Dittmore	<ul style="list-style-type: none"> • Map geographic factors related to environmental risk, mitigation and monitoring. • Map (or use maps of) forest cover to estimate potential impact of agricultural expansion on forest cover, including gallery forest. • Estimate need for compensatory reforestation to balance loss of forest due to agricultural expansion related to FPPM. 		
Technical Home Office Manager (and Project Team Leader)	Katie Taratus	<ul style="list-style-type: none"> • Ensure environmental compliance generally, working with COP and reviewing in regular meetings. • Review environmental reports in quarterly and annual reports 		
Management Information System Specialist	Oana Tudor or other	<ul style="list-style-type: none"> • Develop TAMIS environmental procedures • In TAMIS or otherwise, maintain files of Screening Forms (Annex 1), ERR (Annex 2), Clearance forms (Annex 3), EDD, CP/P2, photos of project localities, • Maintain files or monitoring information (EMMRs) and other documentation • Maintain library of best practice documents 		
Independent consultants		<ul style="list-style-type: none"> • Support identification of environmental issues and mitigation measures required in all reports. 		
Deputy Agriculture Production Specialist	Oscar Kimpioka	<ul style="list-style-type: none"> • Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Deputy Agriculture Marketing Specialist	Albert Dimandja	<ul style="list-style-type: none"> • Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	

Position	Person	Environmental Responsibility	Training	Training by
Marketing & MIS Specialist	Isabelle Bimpe	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Processing Specialist	Valentin Sefu	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
GIS Officer	TBD	<ul style="list-style-type: none"> 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
IT Manager	Jacques	<ul style="list-style-type: none"> Manage systems for environmental information 	STTA PEO	
Accounting Manager		<ul style="list-style-type: none"> 		
HR/Office Manager	Judith Mwangad	<ul style="list-style-type: none"> 		
Farmer Field School Director	TBD	<ul style="list-style-type: none"> Develop training materials for subs and grantees Develop training materials for beneficiaries Develop Project Outreach manuel 		
Provincial Coordinator Bandundu	Mark Tanieku	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. Oversee compliance and training by project staff and Ips. Participate in yearly review of environmental compliance and issues. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Production Specialist	TBD	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Marketing Specialist	Blandine	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial GIS/M+E Specialist	TBD	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Environmental Officer	TBD	<ul style="list-style-type: none"> Receive training and understand EMMP. Provide locality information for each subproject A-EMMP. Assist local NGOs or Ips to develop mitigation measures. Monitor implementation of mitigation measures. Provide technical assistance to local Ips. Provide EMMRs to PEO. Facilitate yearly meetings with beneficiaries and prepare reports. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	

Position	Person	Environmental Responsibility	Training	Training by
Provincial Coordinator Bas Congo	Damase Kava	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. Oversee compliance and training by project staff and lps. Participate in yearly review of environmental compliance and issues. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Production Specialist	Athos		Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Marketing Specialist	Max		Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial GIS/M+E Specialist	TBD		Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Environmental Officer	TBD	<ul style="list-style-type: none"> Receive training and understand EMMP. Provide locality information for each subproject A-EMMP. Assist local NGOs or lps to develop mitigation measures. Monitor implementation of mitigation measures. Provide technical assistance to local lps. Provide EMMRs to PEO. Facilitate yearly meetings with beneficiaries and prepare reports. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Provincial Liason Officer Plateau de Bateke	Rene Kalunga	<ul style="list-style-type: none"> Understand environmental compliance requirements and assist implementation, monitoring and evaluation. Oversee compliance and training by project staff and lps. Participate in yearly review of environmental compliance and issues. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Rapid Assessment Team	TBD	<ul style="list-style-type: none"> Include environmental conditions, resource management strategies, risks, and potential mitigation measures in baseline survey. Yearly meetings with beneficiaries to assess environmental issues and response. 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Village Savings and Loan Association Program	TBD	<ul style="list-style-type: none"> Learn environmental procedures for micro finance. Include in training methods for farmer field school. 		
Baseline Survey	Tim Schwartz	<ul style="list-style-type: none"> Include environmental conditions, resource management strategies, risks, and potential mitigation measures in baseline survey. 		
Primary Seed Multiplication	Bernard Musangu	<ul style="list-style-type: none"> Implement and report mitigation measures. 		
Local Subcontractors, Implementing	Justin Luamba and Godefroid	<ul style="list-style-type: none"> Receive environmental training Review and agree on environmental clauses in procurement document 	Environmental Compliance Workshop 2012	

Position	Person	Environmental Responsibility	Training	Training by
Partners	Meskina	<ul style="list-style-type: none"> • With the Partnership, develop mitigation plan (A-EMMP) for each subproject; provide local and supplementary information (CP/P2, locality information, reviews) • Agree on mitigation measures, understand A-EMMP, implement mitigation measures, monitor implementation, report implementation • Implement and monitor mitigation measures • Facilitate other monitoring activities 	and 2013 STTA PEO	
Project coordinator	Jessica Arnett	<ul style="list-style-type: none"> • Review environmental compliance generally in team meetings • Facilitate environmental STTA 		
Contracts	Radu Ciobanu	<ul style="list-style-type: none"> • Review that all contractual requirements are addressed • Review environmental language in subcontracts or grants 	Environmental Compliance Workshop 2012 and 2013 STTA PEO	
Independent consultants		<ul style="list-style-type: none"> • Develop mitigation measures as required, assist monitoring and writing EMMRs, participate in EAs if required 		
Home office Environmental Compliance Adviser	Steven Romanoff	<ul style="list-style-type: none"> • Lead Year 1 Environmental Compliance Training Workshop • Respond to requests for technical assistance • Assist as requested in development of mitigation measures, best practice reviews, project manuals or other documents. • Assist as project requests to develop quarterly and annual EMMRs • Lead Year 2 Environmental Compliance Training Workshop 		

T3. TRAINING TO STRENGTHEN PARTNER ENVIRONMENTAL CAPACITIES

Institutions, including NGOs, Finance Institutions and business service providers, are value chain actors. As part of FPPM’s technical assistance, the project will assist implementing organizations by providing training to increase their capacity for environmental screening, monitoring and mitigation. Where project funding flows to an institution (via subcontract, for example), the capacity to comply with USAID regulations is required. Even when training in environmental review and mitigation is not required under USAID regulations, it is consistent with FPPM objectives.

T4. WORKSHOPS TO HARMONIZE ENVIRONMENTAL IMPLEMENTATION WITH OTHER PROJECTS, INSTITUTIONS AND DONORS

USAID has directed that FPPM environmental training be done in a way that is inclusive enough so that the Mission can invite its other partners, GDRC and other donors. Participation of other actors is a normal part of project implementation using the value chain methodology. The costs of their participation are minor and inclusion of other actors will enrich the training. Participation of actors from outside the project area will be reviewed with USAID.

T5. SHORT TERM TECHNICAL ASSISTANCE

Activities to implement this EMMP require technical assistance familiar with USAID regulations, programmers familiar with the DAI TAMIS system, skilled developers of training materials and engineers for detailed CP/P2 recommendations.

EMS 11. IMPLEMENTATION WORK PLAN

The activities proposed in this EMMP are scheduled on the following table.

TABLE 18: ENVIRONMENTAL WORK PLAN

Activity	Comment and Product	2011		2012				2013			
		Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
FPPM Compliance Documents											
Draft EMMP	Current draft EMMP		■	■							
Submit EMMP to USAID including illustrative CP/P2, Environmental Due Diligence (EDD), Environmental Review (ERR) and SOW for PERSUAP.	COP provides EMMP to USAID										
Revise and approve EMMP	USAID approved EMMP				■	■					
Provide PERSUAP or IPM SUAP	PERSUAP or IPM SUAP			■	■	■					
Prepare annual environmental report (Yearly EMMR)	Prepare report for submitting to USAID					■				■	
Annual report to USAID on environmental compliance with environmental trainings, success stories and issues.	Report as annex to annual project report; USAID review			■				■			
Discuss FPPM environmental compliance with USAID and DoDRC.	Included with annual report feedback.				■				■		
FPPM Capacity for Environmental Compliance											
Create information system for screening, ER, EDD, Action EMMPs and monitoring report.	Operational system designed (paper, electronic or TAMIS)				■	■					
Designate staff and responsibilities for environmental review and environmental trainings	Internal, reported in Quarterly Report				■	■					
Designate administrative responsibility for including environmental terms in all project subcontracts and agreements	Internal, reported in Quarterly Report				■						
Name staff to review	Internal, reported in				■						

Activity	Comment and Product	2011		2012				2013			
		Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
subprojects, train partners.	Quarterly Report										
Set up electronic or paper system to track reviews and mitigation measures.	Operational system functional (paper, electronic or TAMIS)				■	■					
Train staff on screening, ERR, EDD, Action EMMPs and monitoring report.	Event; staff trained					■				■	
Gender Analysis carried out and submitted STTA	Include environmental issues in gender analysis (are men, women, children affected by environmental risks in different ways)	**									
DAI QA/QC Review of environmental compliance	Activity report					■				■	
Characterization Studies											
Revise subsector analyses to include environmental issues	Value chain characterizations include environmental issues; environmental summary; value-chain characterization includes environmental issues of SMEs.				■	■					
Village Characterization and Agricultural Production Characterization.	Village level survey [includes agriculture KAP, production technology, animal/ agriculture issues, post-harvest KAP, conditions, gender, forestry use (including charcoal), landscape level environmental issues], use of the forest for livelihoods. Repeat with project monitoring visits.					■	■				
Forest cover monitoring using remote sensing data sets.	With village characterization, understand the forces and incentives for forest use, deforestation, and agricultural development; Identify villages in proximity to forests or biodiversity resources Set baseline and monitor forest cover in areas affected by the project.					■	■		■		
Water quality assessment in field	Assess quality of water as affected by actual cassava processing in Bas Congo.										

Activity	Comment and Product	2011		2012				2013			
		Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Environmental Elements Of Project Plans											
Project Agricultural Production Manual with conservation and sustainable practices.	Agricultural manual includes a technology packet with sustainable agriculture and production methods, conservation measures, integrated soil management, IPM, no-burn land preparation methods adapted to agro-ecological zones, forest protection, and the elements of an EMP using Chapter 1 of the EGSSAA to address the environmental impacts If the project works with animal husbandry, Project Animal Husbandry Manual with sustainable practices.					■	■				
Project Post-harvest and Processing Manual with conservation and sustainable practices.	Manual addresses SME and value-chain environmental issues					■	■				
Forest Offset and Conservation Plan	Plan with quantitative targets to offset potential forest loss						■				
Gender strategy includes environmental aspects	Gender strategy includes review of environmental and social context of gender roles and participation					■	■				
Operate Project Environmental System											
Screen all new field activities and subprojects (ERR, EDD, Action EMMP and approval document for all subprojects).	Screening, ERR and EDD documents to keep all activities within "Negative Determination with Conditions"				■	■	■	■	■	■	■
Action EMMPs developed and implemented	Action EMMPs on file; Mitigation measures implemented				■	■	■	■	■	■	■
EDD	Environmental Due Diligence EDD implemented				■	■	■	■	■	■	■
CP/P2	CP P2 implemented				■	■	■	■	■	■	■
Forestry offset actions according to forestry offset and conservation plan	Plan; Actions implemented					■	■	■	■	■	■
Monitor environmental compliance	Mitigation measures monitored, reported.				■	■	■	■	■	■	■

Activity	Comment and Product	2011		2012				2013				
		Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	
Monitor and evaluate	Impact of agricultural technology						■					■
Recommend adaptive management	Impact of agricultural development											
	Impact of post-harvest and processing development											
	Truck traffic and related environmental issues											
	Pilot work with villages and farmer organizations											
	Yearly EMMR and review	Report										
Training						■					■	
Train staff on environmental compliance, CP/P2 and EDD	All staff trained.					■					■	
Identify local environmental experts. Train local environmental experts in USAID requirements and business services practices.	TBD					■	■					
Workshops with partners on environmental policies and procedures.	Product: training event report; partner action plans; identify strengths, weaknesses and training needs for Fis, GDRC, and partners					■					■	
Produce training materials on environmental compliance for partners.	Evolving document.					T B D						
Training materials developed on sustainable production, post-harvest practices, input use, risks.	Materials in French and Lingala or other local languages on conservation, sustainable practices, agrochemical safe use and risks					T B D						
Environmental training incorporated in project training of producers and value chain actors	Producers and value-chain actors trained					■	■	■	■	■	■	■

** Activity scheduled by project; environmental participation when the activity is implemented.

TBD = to be determined

TABLE 19: STTA

Activity	Comment and Product	2011				2012				2013	
		Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Produce training materials in pesticide use, sustainable agriculture, other topics as mitigation measures.	Local experts; training materials										
Environmental field activities: CP/P2, EDD, ERR, participate in training producers, monitoring, field visits to review impact	Local staff and consultant: Compliance documents; events reports; field impact										
TAMIS development	DAI Home office. Results: Electronic environmental management system										
Draft and edit FPPM Compliance Documents	Local consultant and DAI Home office.										
Participate in characterization studies, preparation of forest plan, other technical activities	Local consultant and DAI Home office.										
Assist prepare annual environmental report (Yearly EMMR)	Local staff and DAI Home office.										
Train staff on screening, ERR, EDD, Action EMMPs and monitoring report.	Local consultant and DAI Home office.										
DAI QA/QC Review of environmental compliance, technical assistance as required	DAI Home office.										
Assist review of environmental impact of mitigation measures	DAI Home office.										

EMS12. RESOURCES REQUIRED

Implementation of this EMMP will require project effort that incurs costs for staff and training.

TABLE 20: RESOURCES

Resource Input	Note
1 local project staff, mid-level for operation of EMS	Will conduct ERs, initial CP/P2 site visits, EDD interviews, data input for EMS in TAMIS
3 field staff for environmental compliance work	Will support field operations and gather monitoring information
1 local consultant, high-level for operation of EMS	Will conduct more technical ERs, EDD, participate in developing training materials and policy development, report preparation, oversight of project staff and contracts for preparation of training materials. .5 full time equivalent
25 detailed technical CP/P2 reports	Engineering skills required for CP/P2
Training materials -- 15 environmental training documents, in French and Lingala one or more local languages	Preparation of training materials on environmental matters by project technical staff and local contract
Forest cover monitoring	TBD; possible local contract
International STTA	Revision of EMMP TBD PERSUAP: 1.5 person month Training in EMS operations 1 PM Characterization studies 2 – 3 PM Forest offset plan .75 PM Technical oversight of EMS and reports: 8 person days per year Environmental aspects of gender assessment TBD Revise sector assessments to include environmental issues TBD Review project agriculture and post-harvest manuals TBD
Forest offset program	Cost to be determined as part of forest offset plan
Other direct costs	As needed for any mitigation measures that are responsibility of the project, field visits, technical materials, training materials, training events

Note: The following Annexes show data forms that may be used in the form presented here or may be used for the automated TAMIS management system. In TAMIS, the format will change but the same information will be available

Additional items include Local hire, Local consultants, CP/P2 reports, Training materials for farmers, Training materials for technicals Forest cover monitoring, International STTA, Forest offset program, ODCs during environmental compliance actions, and BMPs and impact assessments.

ANNEX 1: INITIAL SCREENING FOR IEE COVERAGE AND ENVIRONMENTAL RISK

The purpose of this screening is to determine if an activity requires 1) Environmental Review (ER), 2) Environmental Due Diligence (EDD) or 3) Positive environmental actions. Fill out this form for every grant, sub-contract or substantial localized activity or class of activities.

- **Category 1:** Very low risk or no risk of negative impact following USAID categories of actions or “categorical exclusion”.
- **Category 2:** Medium or insignificant risk of negative impact, but not categorical exclusion; “negative determination”.
- **Category 3:** Medium risk of impact but if best practices and mitigation measures followed, no significant negative impact; “negative determination with conditions”.
- **Category 4:** Potential risk of significant negative impact, “positive determination”.

This screening tool applies the recommended determinations of the USAID Economic Growth IEE to the activities in the FPPM project.

TABLE 21: FPPM INITIAL ENVIRONMENTAL SCREENING FORM

Use this form for every grant, subcontract or localized activity. NOTE ALL CATEGORY 1 AND 2 RISK ARE TO BE REVIEWED IN LIGHT OF LOCAL KNOWLEDGE TO TAKE INTO ACCOUNT UNFORESEEN LOCAL FACTORS AND INDIRECT RISK.

Date of Review:

Name of Subproject/Activity:

Type of Subproject /Activity:

Location: *(For Category 3 or 4 activities, attach a location map as well as locality photos in color)*

Project/Activity Description: (Provide sufficient description and details for environmental impact analysis)

Which of the following activities are included in the proposed sub-project?	Included in sub-project	Risk Category	Potential adverse effect by IEE	Observation	Opportunity for positive environmental activity?	Proceed to Environmental Review (ER)?
Agricultural education, extension, advisory services, production planning, community organization, mobilization or awareness at level of production, processing or marketing, without use or recommendation of agrochemical use, tillage, invasive species, GMOs or other impact. No impact when trainees use what they learn.	<input type="checkbox"/> Yes <input type="checkbox"/> No	1	No risk.	Categorical exclusion per IEE. But if training concerns agrochemical use, land preparation, invasive species or other risk activity, treat as category 3.		Optional If treated as Category 3, required.
Training and capacity building at all levels of the agricultural and aquaculture production chains without use or recommendation of agrochemical use, tillage or other impact.	<input type="checkbox"/> Yes <input type="checkbox"/> No	1	no risk.	Categorical exclusion per IEE. If recommendations of agrochemical use are made in training, treat as category 3.		Optional If treated as Category 3, required.
Support to research and information for the development of market supply chain without use or recommendation of agrochemical use or other impact.	<input type="checkbox"/> Yes <input type="checkbox"/> No	1	No risk.	Categorical exclusion per IEE.		Optional If treated as Category 3, required.
Positive opportunity for training in environmental improvements or mitigation not including agrochemical use or other impact.	<input type="checkbox"/> Yes <input type="checkbox"/> No	1	No risk.	Categorical exclusion.		Optional
Administrative services, studies, communications with no environmental impact.	<input type="checkbox"/> Yes <input type="checkbox"/> No	1	No risk	Categorical exclusion.		Optional
Extension, advisory, planning, organization, training, capacity building that includes	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions.		Yes

recommendation or use of agrochemicals, small-scale construction, activity in or near protected area, tillage, potential for invasive species or other activity with potential impact.						
Improved production technology through improved seeds and planting stock and practices or supply of planting tools.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Road rehabilitation or rehabilitation of market infrastructure (storage facilities, collecting centers)	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Increasing trucking and transport capacity in selected areas (providing trucks/ river transport/ other transport services)	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Micro-credit schemes for micro- and small enterprise development and facilitating access to credit.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Rehabilitate market infrastructure (storage facilities, collecting centers, development of infrastructure for local markets).	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Improving the local processing of agricultural products (cassava, maize, and rice, and others as proposed and agreed to in a separate EMMP)	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Biophysical aspects of improved animal husbandry, aquaculture and forestry production, management and processing.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Integrating agriculture adjacent to areas of important biodiversity and forested areas.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Reforestation and afforestation, including integrated agro-forestry and agro-ecological systems management.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Training, technical assistance or policy promotion in topics for which there is risk of impact when trainees use what they learn or the policy is implemented (“indirect impact”) even if given categorical exclusion by IEE.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Any activity involving use or procurement of agrochemicals (fertilizer, pesticide, biocide, other) that is NOT COVERED BY THE PROJECT PERSUAP.	<input type="checkbox"/> Yes <input type="checkbox"/> No	4	Potential significant effect	If confirmed by ER, will require environmental assessment or amended PERSUAP.		Yes

Activity involving use or procurement of agrochemicals (fertilizer, pesticide, biocide, other) that is COVERED BY THE APPROVED PROJECT PERSUAP.	<input type="checkbox"/> Yes <input type="checkbox"/> No	3	Potential effect	Negative determination with conditions per IEE.		Yes
Other activity with potential negative effect on the environment or human population not covered by IEE or PERSUAP or EA.	<input type="checkbox"/> Yes <input type="checkbox"/> No	4	Potential effect	If confirmed by ER, will require environmental assessment.		Yes
Other reason to suggest potential negative effect on the environment or human population. Specify:	<input type="checkbox"/> Yes <input type="checkbox"/> No	4	Potential effect	If confirmed by ER, will require environmental assessment.		Yes
Other activity not covered by this list.	<input type="checkbox"/> Yes <input type="checkbox"/> No	To be determined		Contact project M&E staff or project COP.		To be determined.

*NOTE: mark this form if proposed activity may negatively effect environment or human population and attach a detailed description.

RESULTS OF THE SCREENING	Yes	REGULATION 216 Compliance ACTIVITY	Comments
All activities covered by IEE and all activities category 1 (categorical exclusion, no risk) and no need to review for unforeseen effects	<input type="checkbox"/> Yes <input type="checkbox"/> No	No actions required; ER optional	
All category 1 or category 2 (no or insignificant risk) and no need to review	<input type="checkbox"/> Yes <input type="checkbox"/> No	No action required ER, EDD optional .	
Any category 3 (medium risk, mitigable)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Continue with ER; EDD may be required.	
Any category 4 (significant or unknown risk, positive determination)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Continue with ER; EDD may be required.	
Any activity not covered by the IEE	<input type="checkbox"/> Yes <input type="checkbox"/> No	Defer the activity; confer with ECA and USAID	

Note: EDD = Environmental Due Diligence ER = Environmental Review and Leopold Matrix

INITIAL ENVIRONMENTAL SCREENING APPROVAL SHEET

Initial Screening Level of Risk	
<p>3. The subproject has no potential for substantial adverse environmental effects. No further environmental review is required.</p>	<p>APPROVAL: Name and signature: Preparer _____ Date: _____ Project Environmental Officer _____ Date: _____ Implementer Project Director/COP: _____ Date: _____</p> <p>This form will be available for USAID annual review.</p>
<p>4. The subproject has little potential for substantial adverse environmental effects; however best practices will be developed and incorporated in the subproject design and/or construction, operation and maintenance phases. No further environmental review is required.</p>	<p>APPROVAL: Name and signature: Preparer _____ Date: _____ Project Environmental Officer _____ Date: _____ Implementer Project Director/COP: _____ Date: _____</p> <p>This form will be available for USAID annual review.</p> <p>Project Environmental Officer _____ Date: _____ Implementer Project Director/COP: _____ Date: _____</p>
<p>5. The subproject has substantial but mitigatable adverse environmental effects and required measures to mitigate environmental effects. Environmental Review (ER) is required. If risk is confirmed, Action or Activity Mitigation and Monitoring (A-EMMP) Plan must be developed and approved by USAID AFTER ENVIRONMENTAL REVIEW. M&M Plan is to be attached AFTER ENVIRONMENTAL REVIEW.</p>	<p>APPROVAL: Name and signature: Preparer _____ Date: _____ Project Environmental Officer _____ Date: _____ Implementer Project Director/COP: _____ Date: _____</p> <p>Concurrence: USAID/ Project COTR: _____ Date: _____ Optional Concurrence: USAID/ MEO: _____ Date: _____</p>

Initial Screening Level of Risk	
<p>4. The subproject has potentially substantial adverse environmental effects, but requires more analysis to form a conclusion. If risk is confirmed AFTER ENVIRONMENTAL REVIEW (including recommended determination), revisions to the subproject design or location may be required, redesign may be required, or an Environmental Assessment (EA) will be conducted. Subproject may not be implemented until it is redesigned or USAID approves the final EA.</p>	<p>APPROVAL: Preparer (name) _____ Date: _____ Project Environmental Officer (name) _____ Date: _____ Implementer Project Director/COP: _____ Date: _____ USAID/ Project COTR: _____ Date: _____ Concurrence: USAID/ MEO: _____ Date: _____ (name)</p>

ANNEX 2A:

ENVIRONMENTAL REVIEW REPORT (ERR)

This ER continues environmental review of FPPM actions. The Initial Screening will indicate if you need to fill out this form. This ER will confirm or modify the environmental determination and help define mitigation measures to reduce environmental risk. It will indicate if you have to do an Environmental Assessment. This ER includes the items that USAID requires in the IEE and Leopold Matrix.

TABLE 22: DO YOU HAVE TO FILL OUT THIS ENVIRONMENTAL REVIEW? WHAT ARE THE NEXT STEPS?

Classification according to the Initial Environmental Screening Form	Do you have to fill out this ER form?	Result of this Environmental Review and Recommended Determinations
Category 1: No risk of negative impact following USAID categories of actions or “categorical exclusion”.	Filling out this ER form is optional. You may use it to define positive environmental actions.	No further environmental review required. If you do define positive actions, the environmental system will track their implementation for reports.
Category 2: Insignificant risk of negative impact, but not categorical exclusion.	Filling out this ER form is optional. You may use it to define positive environmental actions. Or you may use it to check the results of the initial environmental screening.	No further environmental review required. If you do define positive actions, the environmental system will track their implementation for reports.
Category 3: If best practices and mitigation measures followed no significant negative impact.	Fill out this form.	Check that the activity was correctly classified (Recommended Determination on this ER form) List the required mitigation measures (Action-EMMP) You may need an Environmental Due Diligence (EDD) form.
Category 4: Potential risk of significant negative impact.	Fill out this form.	Check that the activity was correctly classified (Recommended Determination on this ER form). If the activity is correctly classed as Category 4 (risk of significant impact) you will need more detailed environmental review. Keep this form as part of the required environmental review.

TABLE 23: ENVIRONMENTAL REVIEW REPORT (INCLUDING LEOPOLD MATRIX ITEMS)

Date of Review:

Name of Project/Activity:

Type of Project/Activity:

Location: *(Attach a location map as well as locality photos in color)*

Project/Activity Description: *(Provide sufficient description and details for environmental impact analysis)*

Baseline Environmental Conditions: *(Provide locality specific environmental conditions due to onsite & offsite sources details for impact analysis)*

CHECKLIST FOR ENVIRONMENTAL CONSEQUENCES:

- 1) Review for project actions in the proposed Sub-project.
- 2) For each action that you find, assess the environmental risk using the categories: 1 No risk or not significant 2 Moderate risk 3 Risk 4 Not known . "Significance" is significant environmental impact, including impact on the human population.
- 3) Then for each, assess the degree to which mitigation measures will remove environmental risk using the categories 1 No measures needed 2 Mitigation known and sufficient 3 Env. Assessment of technology needed 4 Env Assessment of site, local env or social needed
- 4) Any risk may be Category 4 and require environmental assessment, but several issues have been flagged in the "Notes" column. Any risk may need site specific information prior or assessment; several that require site specific review are noted in the "Notes column."
- 5) **All significant potential impacts must be included in the Action Environmental Mitigation and Monitoring Plan (Action EMMP) so there are mitigation measures and monitoring reports matching the environmental consequences reported in this table.**
The Action EMMP may include additional risks and mitigation measures drawn from EDD or expert advice on BMPs.
The project will make a yearly report (the Environmental Mitigation and Monitoring Report or EMMR) about the subproject and the status of implemented mitigation and monitoring measures.
- 6) The action plan may also include positive actions that are not required.
- 7) Record all of the required mitigation measures in the A-EMMP.
- 8) If there are risks that are not clearly and completely addressed by the mitigation measures, these are Category 4 activities. You will need an Environmental Assessment or you will need to revise the activity to remove the risk. The activity is not allowed (no obligated funding) until the risk is addressed.

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
<u>Select only the actions proposed for this subproject.</u>	6. No risk or not significant and categorical exclusion. 7. No significant risk, not cat. exc. 8. With mitigation measures, no significant risk 9. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed	Standard Measures (Table 11)	Attach specific measures in A-EMMP including each listed.
AGRICULTURE				See also Seed Production; Planting Tools; Agrochemical use; PERSUAP; Landscape issue; Reforestation; Others
Use of inputs such as seeds and fertilizers supply planting tools. agricultural production process affecting human health and environment	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed	Standard Agriculture Mitigation Measures Refer to Table 8.	Attach specific measures in A-EMMP including: <ol style="list-style-type: none"> 1. Locality environmental and social assessment and photo attached. Review sustainable production issues methods as part of environmental screening and define special conditions, procedures and mitigation for the agroecological zone. 2. GAP recommendations for production, post-harvest, processing, input use defined in writing for the activity attached 3. Training plan attached.. 4. Train producers/ value chain actors in GAP using project manuals. 5. Attach result of consulting local leaders to determine outreach methods to adapt to social conditions in area and achieve best results. 6. Distribute GAP training materials. 7. Assess degree of loss of forest or landscape issues in the village meetings or otherwise. Include in work plan or CA. 8. Others as recommended by project technical staff, IPs, beneficiaries or experts. Include in work plan or CA.

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
<p>Issues of safe use of chemicals or pesticides, correct use of chemical equipment and farm chemicals, protective gear;</p> <p>use or procurement (including recommendations) of pesticides or material treated with pesticides or other agrochemicals.</p> <p>use of pesticides/ rodenticides, insecticides, or herbicides on _____ hectares</p>	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 	<p>Standard Agriculture Mitigation Measures</p> <p>PERSUAP</p> <p>Refer to Table 12.</p>	<p>Attach specific measures in A-EMMP including:</p> <ol style="list-style-type: none"> 1. Locality environmental and social assessment and photo attached. 2. GAP and SUAP recommendations for production, post-harvest, processing, input use defined in writing for the activity attached 3. Training plan attached.. 4. Train producers/ value chain actors in GAP using project manuals. 5. For use of pesticide, use only small (less than 4 ha) plots for permitted uses only and use procurement form. 6. For use of synthetic inputs, attach training plan for vendors and value chain actors.
<p>Demonstration or validation plots. Use of agrochemicals in technology demonstration (validation trials, demonstration plots, demonstration postharvest), for seed multiplication or for reforestation, including pesticide use or procurement as required technically as last resort in the context of IPM.</p>	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 	<p>Standard Agriculture Mitigation Measures</p> <p>PERSUAP</p> <p>Refer to Table 12.</p>	<p>Attach specific measures in A-EMMP including:</p> <ol style="list-style-type: none"> 1. Field size less than 4 ha. 2. Keep log of practices and agrochemical use. 3. Apply GAP and SUAP. Implement IPM. Implement PERSUAP. 4. Use no pesticide or biocide for production, post-harvest, processing or marketing not approved in PERSUAP. 5. Monitor biocide use via focus groups for social communications KAP review of results and messages; environmental professional reviews and evaluates. 6. Yearly report and review with COTR.
<p>Training in agrochemical use, production practices, post harvest handling, or any activity that when the trainees put into practice will incur risk.</p>	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, 	<p>Standard Agriculture Mitigation Measures</p> <p>PERSUAP</p> <p>Refer to Table 12.</p>	<p>Attach specific measures in A-EMMP including:</p> <ol style="list-style-type: none"> 1. Train to define risks and best practices for users 2. Include risks and best practices. Train in <ul style="list-style-type: none"> • IPM • How to calculate, recommend and mix dosage; • Correct use of spraying equipment; • Safe handling and storage of pesticides; • Internet information on pesticides and risks; • Proper use of repackaging;

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
		partner needed		<ul style="list-style-type: none"> How to identify major plant diseases specific for DRC, with IPM response; Proper selection of chemicals and preparation of chemical solutions using IPM principals; Proper handling of fuel, lubricants, waste products, emissions, spills, testing equipment, chemicals.
impact on agricultural land impact on soil erosion impact on slope stability	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. No significant risk, not cat. exc. With mitigation measures, no significant risk Risk 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and sufficient Stop. Additional Env. Assessment of technology needed Stop. Additional Env Assessment of site, local env, social, partner needed 	Standard Agriculture Mitigation Measures PERSUAP Refer to Table 12.	Attach specific measures in A-EMMP including: <ol style="list-style-type: none"> Locality environmental and social assessment and photo attached. GAP recommendations for production, post-harvest, processing, input use defined in writing for the activity attached Soils management recommendations and practices Training plan attached.. Train producers/ value chain actors in GAP using project manuals. Distribute GAP training materials. Apply Table 11. Standard Agricultural Mitigation Measures and others applicable.
impact on surface water, run-off and run-on water impact on ground water	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. No significant risk, not cat. exc. With mitigation measures, no significant risk Risk 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and sufficient Stop. Additional Env. Assessment of technology needed Stop. Additional Env Assessment of site, local env, social, partner needed 	Standard Agriculture Mitigation Measures PERSUAP Refer to Table 12.	Note: If activity is Category 4, stop and reformulate to reduce risk, reject activity or consult with USAID to conduct Environmental Assessment. If activity is Category 3, Attach specific measures in A-EMMP including: <ol style="list-style-type: none"> Locality environmental and social assessment and photo attached. GAP recommendations for production, post-harvest, processing, input use defined in writing for the activity attached Soils management recommendations and practices Training plan attached.. Train producers/ value chain actors in GAP using project manuals.

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
				6. Distribute GAP training materials. 7. Attach CP/P2 for enterprises to reduce effluent 8. Attach testing and mitigation plan Apply Table 11. Standard Agricultural Mitigation Measures and others applicable.
impact of farming such as intensification or extensification (increased area under cultivation)	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed	Standard Agriculture Mitigation Measures Standard Mitigation Measures for Landscape Issues Refer to Table 12.	Attach specific measures in A-EMMP including: <ol style="list-style-type: none"> 1. Locality environmental and social assessment and photo attached. 2. If forest or gallery forest affected, attach compensatory forestation plan and monitoring plan. 3. Attach measures appropriate to sustainable agricultural practice.
impact of other factors	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		Attach specific measures in A-EMMP to be determined Specify before proceeding. If known mitigation measures are sufficient. attach specific measures in A-EMMP.
Post-Harvest Training. Pesticide or agrochemical education for agro-industry and post-harvest use of biocides in enterprises receiving technical assistance (but not procured with USAID funds).	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		Address indirect risk in all training. Attach specific measures in A-EMMP to be determined <ol style="list-style-type: none"> 1. Apply postharvest best practices from project GAP Farmer Field School manual and PERSUAP. 2. Attach Environmental Due Diligence (EDD) of partner organizations including specific plan for CP/P2 for processing activities. 3. For partners, attach agreement to exclude use of banned agrochemicals, receive training to build environmental capacity and participate in monitoring.

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
Work with pesticide vendors.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>Attach specific measures in A-EMMP to be determined</p> <ol style="list-style-type: none"> 1. Assess vendors' Knowledge, Attitudes, Practices. 2. Train to make safer use recommendations. Specify the recommendations using the PERSUAP. 3. Training to label active ingredients and concentrations. 4. Train to dispose containers and to not use the containers for domestic water. Where possible, collect containers for disposal or return to seller. 5. Train risk for quality of drinking water, pesticide residue, improper use of pesticides (fish poison). 6. Train to use least necessary pesticides in context of IPM, PERSUAP/ GAP good practices. 7. Train to not harvest or consume treated seed or products that are still toxic. 8. Distribute correct labels, educational and training materials for producers and value-chain actors on pesticides, agrochemicals and safe use. 9. Review and coordinate materials with GDRC authorities (Ministries of Agriculture, Public Health and Environment). 10. Annual review and update pesticide and biocides messages and agro chemical lists based on lists of FIFRA/EPA, WHO, EC, POP and PIC. Annual review of recommended practices by agronomist and environmental professional. 11. Monitor pesticide use via focus groups for social communications, KAP review of results and messages. 12. Yearly report and review with USAID/COTR. 13. Review project compliance with PERSUAP prior to proceeding.
Issues of equipment choice, installation or disposal;	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Conduct EDD with enterprise to assess environmental, social and financial capacity. 2. Attach mitigation measures for each environmental issue related to equipment choice, installation, disposal. 3. Complete and attach ANNEX 5: CLEANER

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
		partner needed		PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL
small-scale construction or rehabilitation	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. No significant risk, not cat. exc. With mitigation measures, no significant risk Risk 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and sufficient Stop. Additional Env. Assessment of technology needed Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> Conduct EDD with enterprise to assess environmental, social and financial capacity. Attach small construction BMPs; environmental review following ENCAP guidelines. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2
issues of work safety, health and safety in workshop practice and equipment operation;	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. No significant risk, not cat. exc. With mitigation measures, no significant risk Risk 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and sufficient Stop. Additional Env. Assessment of technology needed Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> Conduct EDD with enterprise to assess environmental, social and financial capacity. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 Site visit report required.
storage of treated seeds or pesticide and fertilizer storage by partners, producers, processors	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. No significant risk, not cat. exc. With mitigation measures, no significant risk Risk 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and sufficient Stop. Additional Env. Assessment of technology needed Stop. Additional Env Assessment of site, local env, social, partner needed 	PERSUAP Processing	<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> Subproject includes measures for secure storage separate from food storage. Subproject includes measures to label chemicals and treated seeds. Train in proper storage of agrochemicals and risks of improper storage. Other measures following PERSUAP. Distribute training materials. For enterprises, site visit report required.
WASTE AND POLLUTION				
Substantial increase in odor or noise during	<ol style="list-style-type: none"> No risk or not significant and categorical exclusion. 	<ol style="list-style-type: none"> No mitigation measures needed Mitigation known and 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p>

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
operation	<ol style="list-style-type: none"> 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<ol style="list-style-type: none"> 1. Conduct EDD with enterprise to assess environmental, social and financial capacity. 2. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 3. Site visit report required. 4. Possible Category 4; explain why mitigation is sufficient
Substantial generation of waste	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Conduct EDD with enterprise to assess environmental, social and financial capacity. 2. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 3. Site visit report required. 4. Possible Category 4; explain why mitigation is sufficient
Work with enterprise that may be impacting environment.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Conduct EDD with enterprise to assess environmental, social and financial capacity. 2. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 3. Site visit report required. 4. Possible Category 4; explain why mitigation is sufficient
WATER RESOURCES AND QUALITY				
river, stream or lake onsite or within 30 meters of construction or processing operations	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Include water quality testing plan. 2. Conduct EDD with enterprise to assess environmental, social and financial capacity. 3. Complete and attach ANNEX 5: CLEANER

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
	<p>significant risk</p> <p>4. Risk</p>	<p>4. Stop. Additional Env Assessment of site, local env, social, partner needed</p>		<p>PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2</p> <p>4. Attach BMPs for any construction</p> <p>5. Site visit report required.</p>
<p>withdrawals from or discharges to surface or ground water</p>	<p>1. No risk or not significant and categorical exclusion.</p> <p>2. No significant risk, not cat. exc.</p> <p>3. With mitigation measures, no significant risk</p> <p>4. Risk</p>	<p>1. No mitigation measures needed</p> <p>2. Mitigation known and sufficient</p> <p>3. Stop. Additional Env. Assessment of technology needed</p> <p>4. Stop. Additional Env Assessment of site, local env, social, partner needed</p>		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <p>1. Include water quality testing plan.</p> <p>2. Conduct EDD with enterprise to assess environmental, social and financial capacity.</p> <p>3. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2</p> <p>4. Attach BMPs for any construction</p> <p>5. Site visit report required</p>
NEIGHBORING LAND USE				
<p>Agriculture or processing in or adjacent to a designated wildlife refuge</p> <p>Agricultural promotion or support in area of primary tropical forest or on border of national park or designated recreation area</p> <p>Development activity in national park or designated recreation area</p>	<p>1. No risk or not significant and categorical exclusion.</p> <p>2. No significant risk, not cat. exc.</p> <p>3. With mitigation measures, no significant risk</p> <p>4. Risk</p>	<p>1. No mitigation measures needed</p> <p>2. Mitigation known and sufficient</p> <p>3. Stop. Additional Env. Assessment of technology needed</p> <p>4. Stop. Additional Env Assessment of site, local env, social, partner needed</p>		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <p>1. Map activities and potential impact;</p> <p>2. Site visit report required</p> <p>3. Secure cooperation and agreement with wildlife managers.</p> <p>4. Mitigate or compensate any loss of forest.</p> <p>5. Potential Category 4. EA or extended ER depending on severity to mitigate deforestation or prohibited activities within protected areas; explain why mitigation is sufficient.</p>
<p>impact on Aquatic Ecosystems, Wetland Ecosystems, Terrestrial Ecosystems, Endangered Species, Migratory Species, Beneficial Plants, Beneficial</p>	<p>1. No risk or not significant and categorical exclusion.</p> <p>2. No significant risk, not cat. exc.</p> <p>3. With mitigation measures, no</p>	<p>1. No mitigation measures needed</p> <p>2. Mitigation known and sufficient</p> <p>3. Stop. Additional Env. Assessment of technology needed</p>		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <p>1. Map activities and potential impact;</p> <p>2. Site visit report required</p> <p>3. Secure cooperation and agreement with wildlife managers.</p>

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
Animals, Pest Plants, Pest Animals vegetation removal or construction in wetlands or riparian areas in hectares _____	4. significant risk Risk	4. Stop. Additional Env Assessment of site, local env, social, partner needed		4. Potential Category 4. EA or extended ER depending on severity to mitigate deforestation or prohibited activities within protected areas; explain why mitigation is sufficient.
impact on Land Use and Human Population: potential conflict with adjacent land uses, communities or groups within communities	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed	Landscape Issues	If known mitigation measures are sufficient. attach specific measures in A-EMMP. 1. Map activities and potential impact; assess social or human impact. 2. Site visit report required 3. Secure cooperation and agreement with village and neighbor residents. 4. Potential Category 4. EA or extended ER depending on severity to mitigate deforestation or prohibited activities within protected areas; explain why mitigation is sufficient. See Table 11.
non-compliance with existing codes, plans, permits or design factors	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		If known mitigation measures are sufficient. attach specific measures in A-EMMP. 1. Identify issues. 2. Outreach to local government. 3. Secure cooperation of local government.
HUMAN POPULATION ISSUES				
relocation of >10 individuals for +6 months	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site,		Stop. Category 4 requires EA

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
		local env, social, partner needed		
increase existing noise levels >5 decibels for +3 months excessive noise or sonic pollution	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
increase vehicle trips >20% or cause substantial congestion	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Attach measures to reduce congestion. 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
design features cause or contribute to safety hazards	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. 1 No mitigation measures needed 2. 2 Mitigation known and sufficient 3. 3 Stop. Additional Env. Assessment of technology needed 4. 4 Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
inadequate access or emergency access for anticipated volume of	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p>

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
people or traffic	<ol style="list-style-type: none"> 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<ol style="list-style-type: none"> 1. Site visit report required. 2. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
HAZARDS a.substantially increase risk of fire, explosion, or hazardous chemical release	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
bulk quantities of hazardous materials or fuels stored on locality +3 months	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
create or substantially contribute to human health hazard	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env 		<p>Stop. Category 4 requires EA</p>

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
	4. Risk	Assessment of site, local env, social, partner needed		
Impact on Disease Vectors, Public Health	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		If significant, Stop. Category 4 requires EA
SOCIAL				
Social: any activity in which women or a separate ethnic group under duress work without compensation	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		Category 4. Redesign activity.
Impact on land tenure, local village organization, resource management, access to resources, distribution systems, employment, at-risk population, migrant population, community stability, cultural or religious practices, values, nutrition, land tenure, village organization or social organization of agriculture.	1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk	1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed		If known mitigation measures are sufficient. attach specific measures in A-EMMP. 1. If impact is significant, redesign. 2. Apply and monitor community outreach BMPs 3. Monitor social impact.. Possible Category 4; explain why mitigation is sufficient

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
Impact on other livelihoods: Tourism/Recreation	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. If impact is significant, redesign. 2. Apply and monitor community outreach BMPs 3. Monitor social impact.. <p>Possible Category 4; explain why mitigation is sufficient</p>
Other negative social impact	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. If impact is significant, redesign. 2. Apply and monitor community outreach BMPs 3. Monitor social impact.. <p>Possible Category 4; explain why mitigation is sufficient</p>
PARTNERS				
financial or credit support. Support or training for financial institutions (FIs) or subcontractors (NGOs, associations, others) that lend or give assistance to value chain actors who may use agrochemicals.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. EDD required; attach form. 2. Include environmental strengthening in cooperative agreement or subcontract. 3. Attach training plan. 4. Provide training or materials on environmental review. 5. Monitor results.

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
work with IP that may involve pesticide use or procurement.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 	Standard Agriculture Mitigation Measures	<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. EDD required; attach form. 2. Include environmental strengthening in cooperative agreement or subcontract. 3. Attach training plan. Teach and demonstrate Good Agricultural Practices (GAP) integrated soil fertility management to reduce agrochemical use; use project agricultural manual with BMPs. 4. Train IP in IPM to avoid or reduce dependence on pesticides; plant disease identification and proper selection of necessary chemicals in IPM context; and project agricultural manual with BMPs. 5. Train MFI to screen activities. 6. Other measures based on PERSUASP.
Training or assistance to value chain enterprises.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>If known mitigation measures are sufficient. attach specific measures in A-EMMP.</p> <ol style="list-style-type: none"> 1. Complete and attach ANNEX 5: CLEANER PRODUCTION POLLUTION PREVENTION (CP/P2) AND AGRIBUSINESS FRAMEWORK MANUAL Perform and implement CP/P2 2. Site visit report required. 3. Cooperation of neighbors required. <p>Possible Category 4; explain why mitigation is sufficient</p>
Other issues: Specify other environmental issues found during ER	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		<p>Explain and attach description of issues.</p> <p>Do not proceed until issues are addressed and level of risk is determined.</p> <p>EA or extended ER depending on severity Attach specific measures in A-EMMP</p>

Project Actions	Environmental risk?	What is required?		A-EMMP Measures
Any activity not covered in the project EMMP or IEE.	<ol style="list-style-type: none"> 1. No risk or not significant and categorical exclusion. 2. No significant risk, not cat. exc. 3. With mitigation measures, no significant risk 4. Risk 	<ol style="list-style-type: none"> 1. No mitigation measures needed 2. Mitigation known and sufficient 3. Stop. Additional Env. Assessment of technology needed 4. Stop. Additional Env Assessment of site, local env, social, partner needed 		Stop. Need to amend IEE or reformulate the activity.

B. Summarize ENVIRONMENTAL CONSEQUENCES and IDENTIFIED SIGNIFICANT ENVIRONMENTAL IMPACTS (including physical, biological and social), if any.

C. RECOMMENDED MITIGATION MEASURES (includes Public Participation in case of all types of community and infrastructure subprojects) and **F. RECOMMENDED MONITORING MEASURES** (if any). Summarize the significant risks, opportunities and mitigation measures on this table. For each mitigation measure, show one of more indicators that the measure has been taken and risk reduced. To achieve clarity, use additional pages for longer descriptions of any action, issue, opportunity or indicator.

THIS TABLE, WITH ATTACHED EXPLANATIONS, BECOMES THE SUB-PROJECT MITIGATION AND MONITORING PLAN.

ACTION EMMP

Project Action	Potential issue	Opportunity	Mitigation Measure(s)	Monitoring indicator(s)	Monitoring and Reporting Frequency	Parties responsible

D. RECOMMENDED DETERMINATION

Recommended Determination:	List Activities
1. The subproject has no potential for substantial adverse environmental effects. No further environmental review is required.	
2. The subproject has little potential for substantial adverse environmental effects; however the recommended mitigation measures will be developed and incorporated in the subproject design and/or construction, operation and maintenance phases. No further environmental review is required.	
3. The subproject has substantial but mitigatable adverse environmental effects and required measures to mitigate environmental effects. Mitigation and Monitoring (M&M) Plan must be developed and approved by USAID. M&M Plan is to be attached.	
4. The subproject has potentially substantial adverse environmental effects, but requires more analysis to form a conclusion. A Scoping Statement must be prepared and be submitted to USAID. An Environmental Assessment (EA) will be conducted. subproject may not be implemented until USAID approves the final EA.	
5. The subproject has potentially substantial adverse environmental effects, and revisions to the subproject design or location or the development of new alternatives is required.	
6. The subproject has substantial and unmitigable adverse environmental effects. Mitigation is insufficient to eliminate these effects and alternatives are not feasible. The subproject is not recommended for funding.	

E. EXPLANATION, COMMENTS OR CLARIFICATIONS

Prepared by:
Implementer Project Environmental Officer

_____ Date:

Implementer Project Director/DCOP COP:

_____ Date:

ANNEX 2B:

UNLIKELY ENVIRONMENTAL RISKS AND MITIGATION

The following activities are taken from standard formats provided by USAID with the IEE. They are judged to be unlikely and not applicable to FPPM activities at this time. If activities planned in these areas, these review items will be used.

TABLE 24: ISSUES NOT LIKELY TO BE RELEVANT TO FPPM

1. CONSTRUCTION AND LAND ALTERNATION			
grading, trenching, or excavation. (Specify in cubic meters ____ or hectares ____)	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site assessment required
b. geologic hazards (faults, landslides, liquefaction, un-engineered fill, etc.)	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Provide and use BMPs • Site assessment required
c. contaminated soils or ground water on the locality	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site assessment required
d. offsite overburden/waste disposal or borrow pits required in cubic meters or tons	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Review setting and attach with map • Provide and use community outreach BMPs • Site assessment required
e. loss of high-quality farmlands in hectares ____	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Provide PERSUAP training, Provide GAP training • Site assessment required

3. OPERATIONS AND POLLUTION			
a. substantial increase in onsite air pollutant emissions (construction/operation)	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site specific required • Possible Category 4
b.violation of applicable air pollutant emissions or ambient concentration standards	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site specific required • Possible Category 4
c.substantial increase in vehicle traffic during construction or operation	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site specific required
d.demolition or blasting for construction	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site specific required • Possible Category 4
e.substantial increase in odor during construction or operation	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Provide and use construction BMPs • Site specific required
f.substantial alteration of microclimate	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Site specific required • Possible Category 4
5. CULTURAL RESOURCES			
a.prehistoric, historic, or paleontological resources within 30 meters of construction	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • Apply outreach BMPs; conduct cultural study; review setting; EA if significant • Site specific required
b.locality/facility with unique cultural or ethnic values	1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known	1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed	<ul style="list-style-type: none"> • EA or extended ER depending on severity • Site specific required

c1.construction in national park or designated recreational area	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Site specific required
d.create substantially annoying source of light or glare	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • EA; follow international resettlement procedures; consider reformulation of denial . Site specific if merited
f.interrupt necessary utility or municipal service > 10 individuals for +6 months	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • EA or extended ER depending on severity Site specific if merited
g.substantial loss of inefficient use of mineral or non-renewable resources	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Review plan; Provide and use construction BMPs Site specific if merited
f. impact on Energy/Mineral	<ol style="list-style-type: none"> 1. No risk or not significant 2. Moderate risk 3. Risk 4. Not known 	<ol style="list-style-type: none"> 1. No measures needed 2. Mitigation known and sufficient 3. Env. Assessment of technology needed 4. Env Assessment of site, local env or social needed 	<ul style="list-style-type: none"> • Possible CP/P2 for enterprise to reduce effluent • Site specific required

ANNEX 3A:

GRANT AND SUB-CONTRACT ENVIRONMENTAL CLEARANCE

This document summarizes the environmental and social review of activities. It uses the following categories of risk of negative impact: **Category 1:** No risk of negative impact following USAID categories of actions or “categorical exclusion”. **Category 2:** Insignificant risk of negative impact, but not categorical exclusion. **Category 3:** If best practices and mitigation measures followed, no significant negative impact. **Category 4:** Potential risk of significant negative impact.

TABLE 25: GRANT OR SUB-CONTRACT ENVIRONMENTAL CLEARANCE DOCUMENT

Name of action:	<hr/>	
Tracking number:	<hr/>	
Implementing party:	<hr/>	
The sub-project has:	YES	NO
Category 1 Actions (categorical exclusion or no environmental impact)		
Category 2, 3 Actions (insignificant, low or low-to-moderate risk of adverse effect on natural and physical environment with no significant impact if mitigation measures are taken)		
Category 4 Actions ((potential significant risk)		
Environmental clauses in sub-contract or grant.		
Name/Signatures and Date	All requirements have been met:	
For grant or subcontract, GM or delegate must sign.	Grants or subcontracts manager (GM)	
For direct implementation, technical director must sign.	Technical director	
PEO or COP must sign.	Project environmental officer (PEO)	
COP signs all Category 4 actions.	Chief of Party (COP)	

ANNEX 3B: PESTICIDE PROCUREMENT CLEARANCE

TABLE 26: PESTICIDE PROCUREMENT CLEARANCE FORM

1. What pesticide, active ingredient and concentration is proposed?	
2. For what crop and proposed use?	
3. Where and when will the pesticide be used (be specific):	
4. Is the crop, pesticide and use approved in the FPPM PERSUAP, meeting the screening criteria?	Yes No (If no, stop.)
5. Explain the Project use of the pesticide (research, demonstration, seed multiplication, other):	
6. Quantity being purchased:	
7. Area on which the quantity is to be used?	_____ hectares
8. Is the quantity being purchased appropriate for the area to be treated?	Yes for immediate use. No (If no, explain.)
9. Is there a completed IPM plan for the crop for which the pesticide is being used or procured?	Yes (If yes, attach) No (If no, stop.)
10. Will safety equipment such as personal protective equipment be on site prior to use?	Yes No (If no, stop.)
11. Will safe application training be done prior to use?	Yes (If yes, by whom?) No (If no, stop.)
12. Is there provision for an activity log covering the use of the pesticide?	Yes No (If no, stop.) Not applicable (not under control of FPPM or IPs)
13. How will training, safe use and issues be monitored?	Explain: Who will review the activity log?
Name of person filling this form and date	Sign:
Project environmental compliance advisor or COP and date	Sign:

ANNEX 4:

ENVIRONMENTAL/ SOCIAL DUE DILIGENCE (EDD) FOR IPS

This table is to assist Environmental Due Diligence when USAID resources flow through a partner organization to beneficiaries or when an institutional actor in the value chain requests training that is offered by FPPM but not required by USAID regulations. It screens their capacity to implement USAID (or other donor) environmental regulations. The “triple bottom line” for EDD is adapted from ADS 204, where it is required for EDD of GDA partners, including environmental, social and financial soundness. EDD focuses on the triple bottom line for USAID and may complement CP/P2 assessment, ISO certification or other reviews.

Where the recommended determination of the activity is no- or low-risk (Category 2 or 3), the ERR will include determination of mitigation measures.

TABLE 27: PARTNER ENVIRONMENTAL/SOCIAL SCREENING (EDD)

Use this form to review the adequacy of the environmental and social capabilities of the partnering institutions. Do this form for every institution that will grant or lend funds from the project, implement project activities or is otherwise determined to be subject to project review.

Partner Environmental/Social Screening (EDD) Including Financial Intermediaries under the “Triple Bottom Line”		
Criterion/ item	Describe the current situation and the willingness of the IP to make improvements	Is capacity-building by FPPM relevant and required?
Environmental Soundness		
Has a written environmental policy to avoid environmental damage and comply with applicable laws?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has an exclusion list of materials or activities that may not be funded, such as banned pesticides?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has named staff and written procedures to screen for environmental and social soundness and mitigate negative impacts?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Requires compliance with environmental standards (national regulations or international such as Equator Principals, ISO, GAP)?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Maintains evidence that it actually screens proposals and enforces environmental agreements?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Shows awareness of environmentally sound technologies and promotes feasible, environmentally sound technologies in preference to less environmentally sound technology.	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Trains farmers/enterprises in safer use of inputs and safety technologies?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required

Partner Environmental/Social Screening (EDD) Including Financial Intermediaries under the “Triple Bottom Line”		
		<input type="checkbox"/> not relevant to USAID FPPM
Trains farmers or enterprises in sustainable practices?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has written materials about environmentally sustainable technologies and safer use practices?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Gives beneficiaries or clients written materials (which are understandable) about safe and sustainable practices?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	
Meets government requirements for environmental compliance?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Monitors and reports environmental issues	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has institutional knowledge of clean technology and renewable energy?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has adequate technical knowledge of the activities relevant to the USAID project and capacity to respond to technical questions?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
By itself, has capacity to meet USAID Regulation 216 environmental mitigation and monitoring requirements?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	
With training and technical assistance, has capacity to actively assist meeting USAID Regulation 216 environmental mitigation and monitoring requirements?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	Set specific goals for training:
Has capacity to produce information that will assist another entity to meet USAID	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	How can they assist?

Partner Environmental/Social Screening (EDD) Including Financial Intermediaries under the “Triple Bottom Line”		
Regulation 216 environmental mitigation and monitoring requirements?		
Conclusion: Is the partner institution environmentally responsible?	<input type="checkbox"/> yes <input type="checkbox"/> no but willing to improve <input type="checkbox"/> no, and not willing to receive training for project activities	Explain:
Is the institution appropriate for participation in FPPM?	<input type="checkbox"/> yes <input type="checkbox"/> not appropriate for participation in FPPM	Explain:
Social Soundness		
Rejects or modifies proposals that negatively affect human health?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has procedures that allow small-scale farmers to obtain financing?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has procedures that allow women and youth to obtain financing?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has procedures that do not exclude ethnic, religious or social groups.	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Does the institution have a positive reputation for social issues?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has sufficient knowledge of social and cultural context in affected localities to avoid issues?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Has capacity to assist studies and strategies of social issues and use results?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	

Partner Environmental/Social Screening (EDD) Including Financial Intermediaries under the “Triple Bottom Line”		
Does the organization participate in any activities that would make public recognition of USAID or GDRC participation problematic (examples: violence, trafficking in endangered wildlife)	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	
Conclusion: Is the partner institution socially sound?	<input type="checkbox"/> yes <input type="checkbox"/> no but willing to improve <input type="checkbox"/> no, and not willing to receive training for project activities	Explain:
Is the institution appropriate for participation in FPPM?	<input type="checkbox"/> yes <input type="checkbox"/> not appropriate for participation in FPPM	Explain:
Financial Soundness		
Does the institution have sufficient funds to meet obligations to support proposed USAID activities?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Does the institution have sufficient staff, facilities, transport and other resources to meet obligations to support proposed USAID activities?	<input type="checkbox"/> yes <input type="checkbox"/> partial <input type="checkbox"/> no <input type="checkbox"/> Not applicable Describe:	<input type="checkbox"/> improvement required to proceed with USAID-assisted activity <input type="checkbox"/> improvement not required, but a positive option <input type="checkbox"/> situation good, no improvement required <input type="checkbox"/> not relevant to USAID FPPM
Conclusion: Is the partner institution economically sound?	<input type="checkbox"/> yes <input type="checkbox"/> no but willing to improve <input type="checkbox"/> no, and not willing to receive training for project activities	Explain:
Is the institution appropriate for participation in FPPM?	<input type="checkbox"/> yes <input type="checkbox"/> not appropriate for participation in FPPM	Explain:

Specify further review required: ER CP/P2 Detailed social assessment Detailed financial review Other (specify):

Specify training or improvements necessary to participate in FPPM:

Date:

Person filling this form:

Source of information:

Supervisor:

ANNEX 5:

CLEANER PRODUCTION POLLUTION PREVENTION (CP/ P2) AND AGRIBUSINESS FRAMEWORK MANUAL

PURPOSE

The purpose of this Environmental Manual and Framework Mitigation and Monitoring Plan (EM/FMMP) is to list the environmental risks that correspond to AgLinks Plus-supported actions and define mitigation measures. It has two parts: a) Table of actions/mitigation that must be reviewed for each action and b) sources for additional risks/mitigation measures that should be reviewed, but are not obligatory.

The following table screens against environmental risk. Each applicable line (action) will be incorporated in the Action EMMP (A-EMMP). The table is based on best practices and experts from Uzbekistan or who have worked in Uzbekistan. The sources for further review were developed by Mercy Corps based on standard sources and sources in the USAID/ENCAP web site.

This EM covers all agribusiness actions, including post-harvest processing (from preparation of raw material through transformation and packaging), storage and related commercial actions. On-farm actions that approach commercial scale should be reviewed with this EM.

The USAID pesticide EA or PERSUAP will be reviewed and applied for actions involving pesticide use.

The Project Environmental Officer and the Technical Staff will review the following framework table and select all risks pertinent to a defined specific action. Those line items become the Action EMMP.

IMPLEMENTING PARTNER: AGRIBUSINESS FRAMEWORK MANUAL (EM/FMMP)	
Agro-processing (commercial)	
Potential Issue:	Facility will generate organic or inorganic waste, to include unsafe or environmentally damaging gas emissions (e.g. from refrigerants, etc.)
Opportunity	Promote clean production technologies and treatment of effluent.
Mitigation Measures	On-site treatment; clean production technologies; monitor waste generation; reduce use of toxic inputs; EA in most severe cases.
Monitoring Indicators	
Monitoring and Reporting Frequency	Compliance checklist index: technical manual for production, processing, storage, approved by MEO
Parties Responsible	

Potential Issue: Facility may increase water demand in semi-arid environments.

Opportunity	
Mitigation Measures	Apply ENCAP guidance for water usage; conserve and recycle water where feasible; adopt dry technologies where feasible; include water treatment on site.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Potential Issue: Facility produces unsafe products (organic or inorganic contaminants).

Opportunity	Educate consumers to perceive, prefer and pay for quality.
Mitigation Measures	Apply ENCAP pollution targets; apply ENCAP emissions guidelines; improve water sources; on-site water treatment; improve processing technologies; reduce use of toxic inputs; product-specific plan.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Potential Issue: Improper storage leads to contamination, waste, financial loss.

Opportunity	
Mitigation Measures	Include storage and product management in training.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Agro-processing (commercial)

Potential Issue: Improper management of food processing facilities can cause several types of environmental damage. In small-scale agriculture and food processing, disposal of industrial waste, additives, and water without proper drainage and handling will result in water logs and odors. Poor hygiene and sanitation requirements during processing may pose a great risk to human health. Broken jars unless disposed in special containers may present health and safety risks and pollutes the soil; Water pollution: Harmful wastes disposed of in pits or waterways can leach into groundwater and affect water quality for workers and the community. Contamination of water sources may not occur immediately, but can increase or accumulate over time, eventually damaging to product quality and affecting workers' health. Working conditions: Certain working conditions excessive heat caused by operating machinery, lack of ventilation, skin irritating acids from fruits can damage workers' health. An unhealthy workforce may be unproductive, miss work too often and make costly mistakes. Spoilage: Certain structural features of the food-processing site may lead to spoilage or contamination of the products. Such site or building features include inadequate drainage or a lack of screens to keep out insects/rodents. Increased spoilage causes more waste and less profitability, while contamination may result in health problems for consumers. Solid waste: Food processing creates substantial amounts of organic and inorganic wastes. This can lead to increased costs for supplies, labor and sometimes fees for waste disposal. In addition, high volumes of burdensome waste, whether placed in a landfill or treated and disposed of, may place a serious strain on limited land resources. Poorly maintained machinery: Machinery that leaks chemicals or fuel is wasting energy, can contaminate water supplies and may threaten workers' health.

Opportunity	
Mitigation Measures	<p>-Ensure that water source for small processing facility is reliable and meets national water quality requirements - Site small dumps or waste treatment sites far away from surface or groundwater water sources. - Separate harmful chemical waste from organic waste, and use more care in handling chemical waste. Dispose of chemical waste in a way that prevents chemicals from leaching into ground or surface waters (such as clay- or concrete-lined pits). Check with an environmental expert to confirm the chosen disposal method is safe for the chemicals being disposed of. - If the enterprise stores waste temporarily before transporting it to a treatment facility or landfill, make sure it is not leaking into the ground. - Maintain safety equipment and reinforce safety training. Safety measures may already be in place, but workers should be reminded often; designate one person as the safety trainer and have that person train others. Check existing safety equipment regularly, and replace elements like dust filters frequently. - Create a prevention strategy. Sometimes small changes such as buying a face mask or rubber gloves can dramatically reduce incidences of harm to workers. Find ways of preventing accidents. - Find ways of reducing harmful byproducts. For example, clean the floors in between production cycles to get rid of excess dust, or install drip trays to catch acidic fruit juice. - Ensure that the building structure is secure not only from people but also from animals. Screens should be placed over drains and windows to keep out disease-carrying rodents and flies. - Storage areas should be well-ventilated and large enough so that excessive heat and moisture do not spoil fruits and vegetables. - Re-use organic waste. Some organic waste such as vegetable peelings can be used as animal fodder; other waste, such as the fiber from palm kernel husks, can be used as fuel. - Modify waste disposal to facilitate faster decomposition/breakdown of organic material. Add layers of dirt and dry organic material to waste pits, or spread waste over large areas of land. This type of composting and "land spreading" can speed up decomposition and quickly lowers waste volume. Ensure, however, that this material does not attract disease-carrying vectors including birds, rodents and insects. - Minimize wastes by improving production processes. Identify and change elements of production that may be inefficient or produce excess waste. - Schedule regular machine maintenance checks and repairs. Ensure that workers have up-to-date training in operation and maintenance. Do not wait until machinery is broken before checking it; leaks can occur long before serious equipment breakdown and may be costing the business money. If possible and cost-effective, replace faulty machinery with more efficient machinery. - If machinery is difficult to access, then monitor wastes or emissions to detect leaks. For example, check for puddles underneath machinery or chemical/fuel smells. - Use wood shavings, drop cloths and/or oil water separators to catch spills and leaks. - If the business is disposing of organic and chemical wastes separately, ensure that chemical or fuel waste does not contaminate the organic waste. - If it is not cost-effective to replace or to repair machinery, make sure that harmful effects are minimized. Increase ventilation around any machinery that has high gas or chemical emissions. More measures are available in sources as referenced to on page 8 of this IEE and in the Annex 3</p>
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Water supply	
Potential Issue:	If not implemented properly, wells may have a variety of negative effects on health and the environment. Improperly sited, constructed, and maintained wells may: - Contaminate water with human pathogens- Contaminate water with animal manure - Create pools of stagnant water - Exhaust water supply (not applicable to improved springs or hand dug wells) - Provide water contaminated with nutrients and bacteria from animal waste - Create pools of stagnant water - Change groundwater flow - Create saltwater intrusions
Opportunity	

Mitigation Measures	- Recommendations on possible technical options should be made after water quality testing /analysis is done; and recommendations are approved by the MEO in consultation with REA - Construct spigot or similar system that prevents people from touching impounded water with their hands or mouths - Use fencing or equivalent that will keep live stock from grazing uphill or up gradient of the water supply improvement - Do not allow animals to drink directly from the water source - Monitor drains and soakways and keep them clear of debris - Monitor and repair leaks from cracked containment structures, broken pipes, faulty valves and similar structures - Put in place a system for regulating use, such as a local warden or appropriate pricing - Give the community training in operating the improvement - Monitor water levels in wells or impoundment structures to detect overdrawn - Test water prior to removal commissioning the rehabilitated well. - Ensure that the well is not located in the agricultural field. - Include a focus on proper use and maintenance of the improvement as part of the behavior change and education program
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Facility built to properly deal with rain water runoff and/or on site prone to landslide, flooding

Potential Issue:

Opportunity	
Mitigation Measures	Work with alternative enterprise; design infrastructure to minimize risk; revegetate site
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Input supply, capital investment and financing

Potential Issue: Financial risk to credit recipients.

Opportunity	
Mitigation Measures	Educate enterprise on risk; assist with business plan; design packages for risk-averse enterprises.
Monitoring Indicators	
Monitoring and Reporting Frequency	

Parties Responsible	
Potential Issue:	Risk of unsuitable investment (e.g. unfeasible processing factory)
Opportunity	
Mitigation Measures	Use value chain to review investments > \$10,000; insure that government allows crop
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Potential Issue:	Inputs, such as fuel, may be costly, unreliable.
Opportunity	
Mitigation Measures	Reduce energy usage; propose backup systems.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Improvements may create waste	
Potential Issue:	Construction/ demolition waste disposal.
Opportunity	
Mitigation Measures	Plan waste disposal with enterprise.
Monitoring Indicators	
Monitoring and Reporting Frequency	

Parties Responsible	
Potential Issue:	Potential financial loss due to production risk.
Opportunity	Educate farmers to evaluate risk and return.
Mitigation Measures	Choose appropriate technologies for post-harvest issues; locate seed multiplication in less risky areas. Use value chain methodologies to reduce risk.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Potential Issue:	Potential financial loss, especially in storage.
Opportunity	
Mitigation Measures	Include storage structures that are appropriate to enterprise and environment.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Improvements may create waste

Potential Issue:	Improper agrochemical storage and handling, e.g. storage of pest controls
Opportunity	
Mitigation Measures	Reduce or eliminate use of chemicals for prolonging storage; improved storage with safe input use. Use PERSUAP recommendations.
Monitoring Indicators	
Monitoring and Reporting Frequency	

Parties Responsible	
----------------------------	--

Review by local authorities

Potential Issue: Local authorities prevent project completion.

Opportunity	
Mitigation Measures	Review proposal with local authorities. Meet with all affected neighbors.
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

Cold storage

Potential Issue: Improperly conducted construction activities may result in a wide variety of negative environmental and cultural effects. During construction /reconstruction, noise, dust, and other disruption to normal activities are possible. Construction waste may also pollute water ways and fields or deplete local fauna. Construction materials may be hazardous or sourced through environmental destructive extraction methods.

Opportunity	
--------------------	--

Mitigation Measures	<p>- For new construction, sites that are susceptible to negative impacts should be avoided, and alternative sites should be identified. If that is not possible, there are other possibilities for mitigating the social and environmental damage from small construction activities. - Recover and replant topsoil and plants as practicable - Avoid pollution of waterways with stockpiled construction materials - Build as far as practical from neighbors - Concentrate noisiest types of work into as short a period as possible, and during least disruptive times of the day. Take measures to keep dust to a minimum - Minimize disturbance of native flora during construction</p> <p>- Remove, without destroying, large plants and ground cover where possible - Replant recovered plants and other flora from local ecosystem after construction - Design facility and apply construction practices that minimize risk, e.g., use hay bales to control erosion during construction. Pay particular attention to potential erosion and redirection of water flows during design and construction - Avoid destroying rare or unique species. Consult with local populations about current use of forest and preferences for preservation - Maintain design features such as drainage structures - Avoid constructing sanitation or other facilities that will use and store harmful materials at flood-prone sites - - Take waste materials to appropriate, designated local disposal areas - Avoid the use of cement; paper; board; sealant and glazing formulations; piping; roofing material; or other materials containing asbestos - Do not use PCBs in electric transformers - Avoid sealant and glazing formulations that use lead as a drying agent.</p> <p>- Use lead-free paint, primers, varnishes and stains - Minimize the use of solvent-based paints, or replace with water-based materials - Introduce measures to control and minimize the volume of waste on site - Minimize the disturbance of, and reduce the spread of, ground contaminants</p> <p>- Do not build structures in sensitive areas such as protected areas and wetlands Other sources may provide additional measures.</p>
Monitoring Indicators	
Monitoring and Reporting Frequency	
Parties Responsible	

	Name, date and sign:
Name of person filling this form and date	
Project Environmental Officer or COP and date	

ANNEX 6: IEE SIGNATURE PAGES

[WILL BE ADDED TO SCAN AND PASTE HERE]

ANNEX 7:

GLOBALGAP ASSESSMENT FORM

TABLE 28: GLOBALGAP ER

Company Name

ENVIRONMENTAL IMPACT ASSESSMENT, ACTION PLAN AND GUIDELINES

This is an example of Environmental Impact Assessment and Action Plan. It can be extended to individual company needs.

Impact Assessment							Action Plan			
No	Area / Zone	Activity / Operations	Environmental Impact / Risk	Impact evaluation (High, Medium, Low):				Preventive/Corrective Actions	Responsible	Deadline
				Air	Soil	Water	Other *			
A	1	2	3	4	5	6	7	8	9	10

The following records demonstrate a farmer's awareness and activities in environmental issues:

- Photographs showing farmer participation in different events and activities (e.g. tree planting, anti litter activities, water ways protection);
- Having available copies of Environmental legislation (Soil Code, Water Code, Environmental Authorizations, relevant environmental laws - available in DRC from local environmental officers);
- Diplomas, certificates, sponsorship of environmental events, etc.
- Based on the results of the Environmental risk assessment, the company should develop an environmental action plan to elaborate or reduce or keep under control high risks which impact on the environment.

ANNEX 8:

MODEL LANGUAGE FOR GRANTS AGREEMENTS

It is the responsibility of the Project and the Implementing Partner (IP -- contractor or grant recipient) to complete environmental screening and review for the agreed activities using assessment tools approved by USAID and to develop mitigation measures, as necessary, to insure that the activity has no significant environmental impacts. The Implementing Partner (contractor or grant recipient) is bound to comply with the environmental management conditions in the Project Environmental Mitigation and Management Plan (EMMP) or other environmental documentation used by the Project or the governmental authorities where the IP will be working.

1. The IP will implement the following mitigation measures as part of its “Activity Environmental Mitigation and Monitoring Plan”. It is the responsibility of the IP to provide knowledge and expertise to help adapt mitigation measures to the conditions where the activity will be implemented, to budget adequately for these mitigation measures, and to finance mitigation measures under the budget of this agreement. The IP will include training on environmental issues and mitigation measures in all training that it conducts if the participants in training risk environmental impact when they implement what they have learned in training (indirect impact).

[FILL THIS IN AS SPECIFICALLY AS POSSIBLE. IF THE ACTIVITY IS TRULY CAT EX OR NEG DET AND HAS NO POSITIVE ACTIONS, THIS MAY BE CUT.]

Table 1: Activity EMMP

Project Action	Potential issue	Opportunity	Mitigation Measure(s)	Monitoring indicator(s)	Monitoring and Reporting Frequency	Parties responsible for Mitigation and Monitoring

2. The IP and the Project jointly will be responsible for monitoring implementation of mitigation measures according to the schedule of the A-EMMP and reporting [EVERY SIX MONTHS OR YEARLY] implementation of each mitigation measure. The Project will provide support of an Environmental Officer (EO) for monitoring and the IP will provide services of technical staff to work with the EO. The IP will arrange meetings with beneficiaries to review environmental impact issues. The Project and the IP will jointly provide information using the following form:

Table 2: Environmental Mitigation and Monitoring Reports (A-EMMR)

Activities	Mitigation Measure	Who Is Responsible For Monitoring	Monitoring Indicator	Monitoring Method	Frequency Of Monitoring	Status Report 1	Status Report 2	End Of Project Status Report
Report of environmental or social issues that have been encountered:								
Proposed improvements to avoid negative environmental or human impact:provements to avoid negative environmental or								

3. The IP will name an individual to be aware of and support implementation of mitigation measures, help prepare reports and respond to questions quickly and comprehensively. That person will cooperate with the Project EO.
4. The IP will collaborate with the Project for project monitoring and field visits in office or in field.
5. The IP will review all ongoing and planned activities under this contract, grant or CA with the Project to determine if they are within the scope of the approved environmental documentation.
6. If the IP plans any new activities outside the scope of the environmental documentation, it will prepare an amendment to the environmental documentation for approval prior to undertaking the activity. Any ongoing activities found to be outside the scope of the approved environmental documentation will be halted until an amendment to the documentation is submitted and written approval is received.
7. The Project will provide environmental training and technical assistance at least once per year. The IP agrees to participate in training and to collaborate with technical assistance.
8. The IP and FPPM will meet yearly to discuss implementation of mitigation measures and any adjustments required to achieve no environmental impact or positive results.
9. It is the responsibility of the IP to know local environmental regulations and to get any required permits; it is the responsibility of the IP to know local governmental and traditional authorities and to maintain good relations with them.
10. Failure to implement environmental mitigation measures, as determined by the Project, is sufficient grounds to require corrective actions or to terminate this agreement and responsibilities of the Project.

ANNEX 9: FULL PERSUAP (AMENDMENT TO THE IEE)

Attached under separate cover.

ANNEX 10: COMPLIANCE TRACKER

Item		Sub-project 1, etc.
Activity name		
Location		
Project technical responsible party		
Project environmental responsible party		
Award Type	Grant Subcontract Localized activity	
Subproject number		
Project Component		
Implementing Partner and Contact, with Telephone and Email	if any; may be FPPM direct implementation	
Participating Enterprise or Operation and Contact, with Telephone and Email		
Start Date		
End Date		
Life of Project Funding		
On file: screening document and date?		
Environmental Determination per screening		
On file: ER and date?		
Determination per ERR		
Environmental clearance form on file?		
Environmental language in subcontract or grant agreement, procurement documents?		

Item		Sub-project 1, etc.
Other environmental documentation		
Was environmental documentation reviewed and approved by USAID?		
Has IP reported implementation of mitigation and issues?		
Monitoring status		
Mitigation measures implemented		
Mitigation measures pending		
Why pending?		
Issues to be addressed		
Positive success to report		
Partner implementation capacity, issues and needed training		
Action plan, responsible party and date required		
Other comments		