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The U.S. Government's Global Hunger & Food Security Initiative

CEREAL VALUE CHAIN (CVC) PROJECT

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ANNEX 4: ENVIRONMENTAL MITIGATION & MONITORING PLAN

January 24, 2014

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MALI CEREAL VALUE CHAIN PROJECT

ENVIRONMENTAL MITIGATION & MONITORING PLAN

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

LIST OF ACRONYMS

| | |
|---------|--|
| CEDAR | Communities Empowered for Disaster & Adaptive Resilience |
| COP | Chief of Party |
| CVC | Cereal Value Chain |
| EA | Environmental Assessment |
| EIA | Environmental Impact Assessment |
| EMMP | Environmental Mitigation & Monitoring Plan |
| EMMR | Environmental Mitigation & Monitoring Report |
| ERF | Environmental Review Form (USAID/Africa Bureau) |
| FTF | Feed the Future |
| GBC | Grain Bulking Centre |
| GMO | Genetically Modified Organism |
| GoM | Government of Mali |
| IEE | Initial Environmental Examination |
| IICEM | Integrated Initiative for Economic Growth in Mali |
| IPM | Integrated Pest Management |
| MEO | Mission Environmental Officer |
| MIS | Market Information Services |
| NRM | Natural Resources Management |
| PERSUAP | Pesticide Evaluation Report-Safe Use Action Plan |
| PH | Post-harvest |
| PO | Producer Organization |
| PPE | Personal Protective Equipment |
| SMFM | Sell More For More |
| T & L | Transport and Logistics |
| USAID | United States Agency for International Development |
| VAC | Village Aggregation Center |
| WH | Warehouse |
| WP | Workplan |

ENVIRONMENTAL MITIGATION AND MONITORING PLAN FOR CVC PROJECT

A. ACTIVITY TITLE: CEREAL VALUE CHAIN PROJECT

B. IMPLEMENTING PARTNER: ACDI/VOCA

BACKGROUND

The information in this Environmental Mitigation and Monitoring Plan (EMMP) is based on the Cereal Value Chain (CVC) Project Draft Year One Workplan (December 2013). To develop the EMMP, the activities in the Year One Draft Workplan (WP) were screened against the governing Initial Environmental Examination (IEE)¹ to: determine whether all planned Year One activities are included in the IEE (see Annex A for results of this process); identify the planned activities that are categorically excluded in the IEE; and, identify planned activities that are considered Negative Determinations. Only activities from the Year One Draft WP that qualify for a **Negative Determination with conditions** are included in the EMMP (The governing IEE recommended only Negative Determinations with conditions and Categorical Exclusions; no Positive Determinations were recommended; a Positive Determination requires preparation of an Environmental Assessment.

The governing IEE states,

“Development of EMMP. Each IP whose activities are subject to one or more conditions set out in Section 3 of this IEE shall develop and provide for C/AOR review and approval an Environmental Mitigation and Monitoring Plan (EMMP) documenting how their project will implement and verify all IEE conditions that apply to their activities.”

This EMMP is prepared in accordance with the above IEE requirement. The IEE also requires,

“Integration and implementation of EMMP. Each IP shall integrate their EMMP into their project work plan and budgets, implement the EMMP, and report on its implementation as an element of regular project performance reporting.”

This EMMP will be integrated into the CVC project WP, and it includes a budget for implementation, and a requirement for reporting on results of EMMP implementation.

In subsequent years, CVC Project Annual WP activities will be screened against the IEE and EMMP during development of the WP to ensure that all planned activities were already evaluated in the IEE. As required in the IEE:

¹ IEE for USAID/Mali, Accelerated Economic Growth (AEG) Portfolio, Functional Objective: Economic Growth, Program Areas: 4.5 Agriculture, 4.6 Private Sector Competitiveness, and 4.8 Environment. Program Elements: 4.5.1 Agriculture Enabling Environment, 4.5.2 Agriculture Sector Capacity, 4.6.1 Business Enabling Environment, 4.8.1 Natural Resources and Biodiversity, 4.8.2 Clean Productive Environment. IEE Date: 6 August 2012; IEE Expiration Date: 2017.

“New or modified activities. As part of its initial Work Plan, and all Annual Work Plans thereafter, IPs, in collaboration with their C/AOR, shall review all planned and on-going activities to determine if they are within the scope of this IEE. If any IP activities are planned that would be outside the scope of this IEE, an amendment to this IEE addressing these activities shall be prepared for USAID review and approval. No such new activities shall be undertaken prior to formal approval of this amendment. Any ongoing activities found to be outside the scope of the approved Regulation 216 environmental documentation shall be halted until an amendment to the documentation is submitted and written approval is received from USAID. This includes activities that were previously within the scope of the IEE, but were substantively modified in such a way that they move outside the scope.”

BRIEF DESCRIPTION OF THE CEREAL VALUE CHAIN PROJECT

The CVC award is USAID/Mali’s central mechanism for achieving the goals and objectives of its Feed the Future (FtF) strategy for the sorghum/millet and rice value chains.

The goal of the CVC award is: *inclusive agricultural sector growth through increased cereal value chain competitiveness.*

The purpose of the project is: *to increase agriculture production, productivity and incomes, by both increasing direct income to men and women farmers, as well as through various value-added income generating activities carried out by value chain actors (including: input suppliers, farmers, traders, processors, wholesalers, buyers and exporters), as well as support services that strengthen the value chain including agricultural technology providers and financial service providers.*

To allow systematic and long-term transformation of the agricultural sector, led by the cereals value chain, the CVC award will also identify and contribute to resolving key constraints with local and international enabling policy environments.

The CVC award will work within FtF intervention zones in Mali. The FtF intervention zone as currently defined includes a total of 117 communes within Sikasso, Mopti, and Koulikoro, and two communes in Segou that encompass the Millennium Challenge Corporation Alatona Irrigation Project sites.

SUMMARY OF SCREENING CVC PROJECT ACTIVITIES AGAINST THE IEE (SEE ANNEX A FOR FULL SCREENING)

The CVC Project Year 1 Draft Work Plan has the following intermediate results (IR) and sub-tasks:

IR 1: AGRICULTURAL PRODUCTIVITY INCREASED

Sub-task 1.1: Technology development, dissemination, management and innovation enhanced

Sub-task 1.2: Access to quality inputs increased

Sub-task 1.3: Economically viable irrigation systems established

Sub-task 1.4: Soil and water management techniques improved

Sub-task 1.5: Seed and fertilizer policies and procedures improved

Sub-task 1.6: Property rights strengthened

IR 2: MARKETS AND TRADE EXPANDED

Sub-task 2.1: Market-driven, value-added products introduced

Sub-task 2.2: Sustainable farm to market linkages, access strengthened

Sub-task 2.3: Post-harvest handling and processing improved

Sub-task 2.4: Effective aggregation of production established

Sub-task 2.5: Access to demand-driven support services strengthened

Sub-task 2.6: Access to Market information expanded

Sub-task 2.7: Regional trade constraints removed

IR 3: INCREASED RESILIENCY OF VULNERABLE COMMUNITIES AND HOUSEHOLDS

Sub-task 3.1: Income streams diversified and asset building strategies employed

Sub-task 3.2: Drought resilient cropping systems adopted at scale

Sub-task 3.3: Appropriate food storage facilities available

Sub-task 3.4: Community literacy, numeracy, and nutritional practices improved

CROSS-CUTTING:

IR 4: LOCAL CAPACITIES AND SYSTEMS STRENGTHENED

Sub-task 4.1: Local organizations' capacity to receive USAID funding developed

Sub-task 4.2: Capacity of producer groups and water-user associations improved

Sub-task 4.3: Capacity of financial service providers strengthened

Sub-task 4.4: Capacity of extension and advisor service providers strengthened

Sub-task 4.5: Local capacity to support continued learning enhanced

The governing IEE states that for the purposes of environmental review and compliance, the intervention approaches and indicative activities are consolidated into intervention categories. The governing IEE, Section 1.4 lists AEG Intervention Categories for Environmental Review as:

1. Construction, Rehabilitation, and/or Operation of Infrastructure
2. Government Capacity Support and Development in the Areas of Agriculture, and Agribusiness
3. Agricultural Productivity and Agribusiness Sector Competitiveness and Financing
4. Productivity and Competitiveness of Vegetable Production
5. Productivity and Competitiveness of Cereals Value Chain (Millet/Sorghum and Rice)
6. Productivity and Competitiveness of Livestock Value Chain (Cattle, Small Ruminates, and Fisheries)
7. Public-Private Partnership Activities in Feed the Future Targeted Provinces
8. Small Grants activities

CVC activities fall under Intervention Categories #1, 2, 5, and 7 (i.e., Sections 3.2, 3.3, 3.6, and 3.8 in the IEE). The CVC Project includes activities that could be considered to fall under Intervention Category 3; however, Intervention Category 5 (IEE Section 3.6) also covers CVC's competitiveness and financing activities. The mitigation measures required under IEE Section 3.6 are more appropriate to CVC and are applied in the EMMP.

As shown in the screening in Annex A, the following Threshold Determinations from the governing IEE apply to the CVC Project:

Categorical Exclusions per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment; and 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops.

Besides these categorical exclusions, the IEE recommends **Negative Determinations** (no conditions—these are not included in the EMMP) and **Negative Determinations with conditions** for activities similar to those being implemented by the CVC Project (the IEE analyzes very specific sets of activities, some of which correspond very closely to CVC Project activities, others which are similar to CVC Project activities, especially in regard to their environmental impacts). The conditions and mitigation measures that apply to the CVC Project are listed in the screening in Annex A. The EMMP adapts those conditions and mitigation

measures to the specific CVC Project activities. Briefly, the main conditions/mitigation measures from the IEE that apply to the CVC Project are:

- For technical assistance and training in agricultural production and in processing: (1) incorporate and promote sound environmental management practices; (2) convey Malian environmental requirements pertaining to these operations; and (3) conform to relevant aspects and provisions of the 2009 FTF Pesticide Evaluation Report-Safe Use Action Plan (PERSUAP) and fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet.
- For construction of irrigation infrastructure, the formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form must be completed and approved prior to construction or rehabilitation of each site/system.

The IEE also notes that compliance with Mali’s requirements is mandatory, and states that: “Nothing in this IEE substitutes for or supersedes IP [implementing partner], sub-grantee and subcontractor responsibility for compliance with all applicable host country laws and regulations. The IP, sub-grantees and subcontractor must comply with host country environmental regulations unless otherwise directed in writing by USAID. However, in case of conflict between host country and USAID regulations, the latter shall govern.”

DISCUSSION OF POTENTIAL ENVIRONMENTAL IMPACTS OF THE CVC PROJECT

The discussion below is based on the impact evaluations in the governing IEE and information from the CVC RFP and Workplan. The following is a brief description of the potential environmental impacts that could result from implementation of CVC Project activities (the full set of activities are listed in Annex A, the activity screening). The IEE provides the full discussion of potential impacts. Based on the Annex A screening, only those activities where a **Negative Determination with conditions** applies are discussed below.

IR 1: AGRICULTURAL PRODUCTIVITY IN IRRIGATED AND DRYLAND SYSTEMS INCREASED

SUB-TASK 1.2: ACCESS TO QUALITY INPUTS INCREASED ACTIVITIES:

- Facilitate multi-stakeholder dialogue on foundation seed & certification strategy
- Design and carryout agro-dealer trainings
- Facilitate private sector-funded demonstration plots in target areas

Facilitating multi-stakeholder dialogue on foundation seed and certification strategy could involve promotion of the use of GMO seed. Support for multi-stakeholder dialog must be in compliance with Malian environmental requirements.

Agro-dealer trainings in use of pesticides, fertilizers, and other inputs can have indirect environmental effects. For example, the IEE states that incorrectly applied agrochemicals, fertilizers, or manures can migrate from a farmer’s field to local water sources, causing environmental harm and adversely affecting human health and activities [sic]. Wildlife and fish are also at risk from incorrectly used chemical inputs.

Demonstration plots may use agro-chemicals, and therefore, CVC’s facilitation of demo plots may have direct environmental impacts to water, soil, fish, wildlife, and human health. Depending on the location of the demo plot, it could result in conversion of natural ecosystems to agriculture.

These concerns can be mitigated by integrating safeguards into trainings and by implementation of environmental best practices.

SUB-TASK 1.3: ECONOMICALLY VIABLE IRRIGATION SYSTEM ESTABLISHED

ACTIVITIES:

- Socio-economic and environmental review to determine micro-barrage location
- RFQ released for irrigation construction
- Irrigation construction commences
- Trainings to WUAs

Support for construction of irrigation may have adverse impacts; those cited in the IEE are:

- “Stagnant water behind dams can create breeding habit for disease vectors”;
- “excess withdrawals to serve the irrigation schemes can result in insufficient water for downstream ecosystems and users”;
- “poorly managed irrigation schemes that can result in permanent adverse effects to soil quality (e.g., salinization); they also pose a high risk of contaminating shallow groundwater and downstream surface waters with agricultural chemicals.”

The IEE states that, “Experience shows that these impacts can be controlled with a combination of siting, design and operating practices.”

The CVC project will provide water control through the implementation of more efficient irrigation infrastructure in targeted areas. However, given the costs of building new systems and renovation of old irrigation systems, CVC will work closely with other partners, such as GIZ/KfW, who are already active in the field. The level of environmental review and mitigation measures needed will depend on the role the CVC project will play in the overall water control activity. For example, mitigation measures for training water user associations will be different from mitigation measures required for the rehabilitation of irrigation systems. As project implementation moves forward, CVC will know more about the specific role the project will play. Once CVC’s role in each irrigation system is better known, an environmental review will be needed to identify potential impacts and mitigation measures.

Trainings to WUAs could have negative impacts if water conservation aspects are not included in the training.

SUB-TASK 1.4: SOIL AND WATER MANAGEMENT TECHNIQUES INCREASED

ACTIVITIES:

- Farm and community level climate change and environmental resiliency plans developed
- Trainings on conservation farming & NRM designed and carried out

Development of environmental resiliency plans could inadvertently have negative indirect effects (the plans are expected to be implemented and if environmental issues are not considered and environmental safeguards are not integrated, adverse effects could result when implemented). As the IEE states, training can have indirect environmental impacts if sound environmental management practices are not incorporated; this is the case even when training is meant to improve the environmental situation.

IR 2: MARKETS AND TRADE EXPANDED

SUB-TASK 2.1: MARKET-DRIVEN, VALUE-ADDED PRODUCTS INTRODUCED

ACTIVITIES:

- Initial group of domestic agro-processors identified, firm level assistance packages developed

Agro-processing can have adverse impacts. The IEE states, “agricultural processing activities frequently produce large quantities of wastewater, typically high in biological and chemical oxygen demand, and sometimes contaminated with agricultural chemicals, disinfectants and detergents. Discharge of this wastewater to local surface waters can decrease the dissolved oxygen content, increase the amount of limiting nutrients in the water resulting in adverse impacts on aquatic life (e.g. fish kills and algal blooms) and generally degrade aquatic habitat and water quality. As noted above, reductions in water quality can impact other uses.” “Clean production” measures can address concerns of the type and level of CVC project agro-processing.

SUB-TASK 2.2: SUSTAINABLE FARM TO MARKET LINKAGES, ACCESS STRENGTHENED ACTIVITIES:

- Commercially oriented partnerships between CVC and select intermediaries formalized
- SMFM [Sell More For More] curriculum adapted to local context, and target Producer Organizations (PO) identified
- SMFM marketed to end market buyers, processors and market intermediaries and adapted
- SMFM training rolled out
- Local partners for contract farming schemes identified, business plan established
- Basic purchase agreements b/w PO and intermediaries, intermediaries and end markets, or PO and end markets structured

Partnerships are intended to increase agricultural productivity, to expand markets and trade, and to increase the scale and number of agribusiness enterprises. Therefore, at this early stage of formalizing partnerships between CVC and select intermediaries, it is important to incorporate and promote sound environmental management practices and ensure compliance with Malian environmental requirements.

SMFM improves the ability of producer organizations (POs) to meet the quality and quantity specifications of the most stringent buyers. SMFM consists of seven components. Post-harvest handling and storage sessions demonstrate proper cleaning, sorting, and storage techniques to ensure high quality and minimize loss. Membership, marketing, money and management trainings are delivered as a series of participatory workshops for current and emerging cooperative leaders. These workshops culminate in a business and marketing plan. The seventh and final session, credit, is a one-on-one consultation to provide an in-depth review of the PO’s financial needs.

SMFM training could include pest management strategies, which may involve information on use of chemicals against pests of stored products. “Assistance for the procurement or use” of pesticides must be in accordance with USAID’s Pesticide Procedures; the governing PERSUAP must be complied with for this training.

Support for local partners for contract farming schemes identified and business plans established falls under IEE Section 3.6, Activities 1e and 1f (formalize market linkages to increase the profitability of cereals production). The IEE states that these activities, “will have no foreseeable direct impacts; however, they present foreseeable indirect impacts associated with potential land use changes. For example, land marginally suitable for agriculture may be planted with the profitable crops, thereby resulting in further degradation of the unsuitable land (e.g., erosion) and displacement of existing land use (e.g., medicinal plant harvesting).”

Support for basic purchase agreements between POs and intermediaries, intermediaries and end markets, or POs and end markets falls under the IEE Section 3.6, Activity 2a, which states that, “though these tasks are technical assistance and capacity development, they may present indirect foreseeable impacts related to waste management (e.g., degradation of surface waters may result from improper discharge of wastewater from

processing operations). The incorporation of training on environmentally sound management such as Cleaner Production into the capacity development will be used to control such indirect impacts.”

SUB-TASK 2.3: POST-HARVEST HANDLING AND PROCESSING IMPROVED

ACTIVITIES:

- Partnerships developed for training in warehouse (WH) and post-harvest (PH) management, and leasing of space
- WH management practices of IICEM VACs accessed, remedial trainings designed and rolled out (IICEM, Integrated Initiative for Economic Growth in Mali, is the predecessor project to CVC).
- Mechanisms to finance & promote grading tools and equipment established

As above, support for post-harvest management may involve providing information on stored pest management options, which may include pesticides. This must be undertaken in accordance with the governing PERSUAP.

Mechanisms to finance and promote grading tools and equipment established falls under IEE Section 3.6, Activities 3a, develop tailored financial products for the CVC. Financial support to purchase grading tools and equipment could result in land degradation and land use changes. The CVC Project does not have direct control of the financial institution, and therefore, to the greatest degree practicable, CVC will promote and advance an environmental due diligence process to ensure adverse environmental impacts do not result.

SUB-TASK 2.4: EFFECTIVE AGGREGATION OF PRODUCTION ESTABLISHED

ACTIVITIES:

- GBC investors identified, appropriate finance tool identified, and business planning commences
- Partnerships with POs, finance institutions, and CVC established for construction of VAC

Support to GBCs—to link them to financing and to support business planning—could have a range of impacts related to construction, renovation, and disposal of waste.

Partnerships are intended to increase agricultural productivity, to expand markets and trade, and to increase the scale and number of agribusiness enterprises. Therefore, at this early stage of formalizing partnerships between CVC and select intermediaries, it is important to incorporate and promote sound environmental management practices and ensure compliance with Malian environmental requirements. The assessment of VACs to be rehabilitated requires an environmental review as stated in Sub-Task 3.3.

SUB-TASK 2.5: ACCESS TO DEMAND-DRIVEN SUPPORT SERVICES STRENGTHENED

ACTIVITIES:

- Training curriculum designed (for business development services, BDS)
- Initial cohort of BDS providers selected for training, training commences

Depending on the type of BDS, adverse impacts may result unless sound environmental management practices are integrated into training.

BDS providers need to have knowledge and skills in environmental best practices to ensure that provision of their services has no adverse environmental impacts.

IR 3: INCREASED RESILIENCY OF VULNERABLE COMMUNITIES AND HOUSEHOLDS

SUB-TASK: 3.1: INCOME STREAMS DIVERSIFIED AND ASSET BUILDING STRATEGIES EMPLOYED

ACTIVITIES:

- CVC and POs develop production plans
- Trainings designed and rolled out based on production plans and vulnerability assessment

Production plans and trainings based on the plans may include information on agro-chemicals, including pesticides and fertilizers, which, if not properly applied, could affect water, soil, fish, wildlife, and human health. Plans must be developed and training provided in accordance with the governing PERSUAP. In addition, the IEE notes several potential environmental impacts that could result from increased agricultural production. The IEE states:

“The following are general adverse environmental impacts that may result from agricultural development programs. The list of potential impacts is indicative rather than exhaustive; these potential impacts are referenced at several points in the analyses of the various AEG activity categories.

- Introduction of exotic species
- Soil erosion
- Reduction in soil fertility
- Reduction in water quality
- Reduction in surface and groundwater quantity

Production plans and training will need to incorporate best environmental management practices to minimize the chance of these impacts occurring.”

SUB-TASK 3.2: DROUGHT RESILIENT CROPPING SYSTEMS ADOPTED AT SCALE

ACTIVITIES:

- Communities Empowered for Disaster & Adaptive Resilience (CEDAR) technique
- Climate smart farming techniques accessed and adapted to conditions (socio-economic/climatic/geographic) of communities
- Trainings under IR 1.3, related to conservation farming, adapted to priority communities

CEDAR, a five-phase community participatory process, is an ACIDI/VOCA-developed technique that assesses the risks and impacts of climate change on communities; identifies risk mitigation and adaptation strategies; develops and implements action plans; and builds resilient communities by leveraging existing resources to ensure continued and improved resilience to shocks and stresses caused by hazards such as drought, floods and pest infestations.

Trainings can have indirect adverse impacts unless environmentally sound practices are integrated, such as proper fertilizer use and water and soil conservation.

SUB-TASK 3.3: APPROPRIATE FOOD STORAGE FACILITIES AVAILABLE

ACTIVITIES:

- VAC and Grain Bulking Center (GBC) mapping assessment identifies infrastructure need in vulnerable areas
- Training on improved post-harvest techniques, or business planning for infrastructure construction starts

The Mapping Assessment of infrastructure needs could have indirect effects since the assessment’s recommendations are expected to be implemented. The IEE states that:

- “In general, construction activities present a well-understood set of potential adverse impacts, including: Disturbance to existing landscape/habitat. Construction typically necessitates clearing, grading, trenching and other activities that can result in near-complete disturbance to the pre-existing landscape/habitat within the plot. If the plot contains or is adjacent to a permanent or seasonal stream/water body, grading and leveling can disrupt local drainage”;

- “Sedimentation/fouling of surface waters. Runoff from cleared ground or materials stockpiles during construction can result in sedimentation/fouling of surface waters, particularly if the site is located in close proximity to a stream or water body”;
- “Such risks are particularly acute in the case of dam construction or rehabilitation where construction is within the stream or riverbed”;
- “Standing water. Construction may result in standing water on-site, which readily becomes breeding habitat for mosquitoes and other disease vectors; this is of particular concern as malaria is endemic in much of Mali”;
- “Adverse impacts of materials sourcing. Construction requires a set of materials often procured locally: timber, fill, sand and gravel, bricks, etc. Unmanaged extraction of these materials can have adverse effects on the environment. For example, stream bed mining of sand or gravel can increase sedimentation and disturb sensitive ecosystems; purchase of timber from unmanaged or illegal concessions helps drive deforestation.”

The assessment should incorporate environmental issues so that they are identified and can be factored in, early on, to decisions on infrastructure needs.

As above, training on improved post-harvest techniques may involve information on managing pests of stored products, and this could include use of pesticides. Training on use of pesticides must be undertaken in accordance with the governing PERSUAP.

As part of this IR, CVC will construct or repair cereal warehouses. This is similar to IEE Activity 4a and its determination, which require environmentally sound siting and construction practices in compliance with the EGSSAA. Warehouses are expected to be smaller than 1000m², and therefore, with proper siting and design, the AFR environmental review form/process is not required. However, as the IEE states, the following conditions must be implemented:

- “Siting must be at least 30m from any permanent or seasonal stream or water body”;
- “No displacement of existing inhabitants”;
- “Building site must have an average slope less than 5%”;
- “Building site must not be heavily forested and must be located in an already disturbed ecosystem.”

IR 4 LOCAL CAPACITIES AND SYSTEMS STRENGTHENED

SUB-TASK 4.2: CAPACITY OF PRODUCER GROUPS AND WATER-USER ASSOCIATIONS IMPROVED

ACTIVITIES:

-SMFM trainings designed, PO rollout plan developed, trainings conducted

-Assessment of water user group associations (WUA), training designed and rolled out (See Sub-task 1.3)

As above, this may involve providing information on stored pest management options, which may include pesticides. This must be undertaken in accordance with the governing PERSUAP.

SUB-TASK 4.3: CAPACITY OF FINANCIAL SERVICE PROVIDERS STRENGTHENED

ACTIVITIES:

-Initial cohort of BDS providers selected for training, training commences (See Sub-task 2.5)

CEREAL VALUE CHAIN PROJECT ENVIRONMENTAL MITIGATION AND MONITORING PLAN

The EMMP below adapts the governing IEE’s mitigation measures to CVC Project activities. It includes all activities in the IEE that are considered to be covered by a **Negative Determination with conditions** (see Annex A, screening process). The EMMP will be integrated into each Annual Workplan, and the project budget will include the cost of EMMP implementation.

Responsible Parties for EMMP

The CVC Chief of Party (COP) is responsible for oversight of the EMMP and ensuring it is being implemented. The Water and Natural Resources Management (NRM) Manager is responsible for collecting monitoring data from team members in the field, and for ensuring that EMMP results are included in progress reports to USAID.

The format for reporting on the EMMP is included as Annex B, the Environmental Mitigation and Monitoring Report (EMMR). This form is the Monitoring Log that can be used by those going into the field to monitor and report on implementation of mitigation measures. Quarterly Progress Reports to USAID should include a section on environmental compliance, and shall discuss progress in implementing mitigation, mitigation successes, and need for revisions, if any, to mitigation.

The cost for mitigation and monitoring is an estimate. Mitigation and monitoring will be budgeted to ensure implementation of mitigation measures is adequately covered and that appropriate staff members (in particular, the NRM Manager) can adequately conduct the monitoring role.

TABLE I: CVC EMMP WITH ESTIMATED BUDGET

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|--|--|---|---------------------------------------|
| IR 1 Agricultural Productivity Increased | | | | |
| Sub-task 1.2: Access to Quality Inputs Increased | | | | |
| Design and carryout agro-dealer trainings: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FtF PERSUAP. | -CVC trainings for agro-dealers shall include: GoM pesticide regulatory requirements and GoM guidance on fertilizer use; only those pesticides approved in the governing PERSUAP and should strongly discourage use of more highly toxic pesticides; information on pesticide safe use, including use of personal protective equipment (PPE) and integrated pest management (IPM), as required in the governing PERSUAP; information from the USAID/AFR Fertilizer Fact Sheet (Annex C). | -Review course curricula -Attend select courses | -Monitor when course curricula are developed -Report in that quarter’s Progress Report -Monitor when courses are being given -Report in that quarter’s Progress Report | Attend courses= \$100 ² |
| Facilitate multi-stakeholder dialogue on foundation seed & certification strategy; TA/training will (1) incorporate and promote sound environmental management practices (see | CVC’s facilitation of dialogue on seed and certification strategy shall incorporate sound environmental practices regarding GMOs and shall be in compliance with GoM legislation on GMOs. | -Review TA provided | -Monitor when facilitation meetings occur -Report annually | Cost=0 |

² The costs included in this budget are all estimates of anticipated expenditures.

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|---|--|--|--|
| guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations | | | | |
| Facilitate private sector funded demonstration plots in target areas: Training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III; (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. And Agricultural practices training will conform to the relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet (available at www.encapafrika.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) | -CVC shall select demo plot locations where destruction of natural vegetation and ecosystems, and where degradation of waterways, wetlands, and forests will not occur (demo plot location should be on a plot where production is already in place). -CVC trainings for demo plot site managers shall include: information on minimizing erosion; on-farm water management and water conservation measures; best practices in fertilizer application (using information from the Fertilizer Fact Sheet, Annex C); only those pesticides approved in the governing PERSUAP, strongly discouraging use of the more highly toxic pesticides; and IPM and safe use of pesticides, including use of PPE. | -Inspect location of demo plots and confirm no impacts on natural environment; describe current land use -Review training course material -Attend select trainings | -Monitor when demo plot locations are selected -Report in that quarter's Progress Report -Monitor when training courses are developed -Report in that quarter's Progress Report -Monitor when courses are being given -Report in that quarter's Progress Report | Site inspections = \$100 Attend courses = \$100 |
| Sub-task 1.3: Economically Viable Irrigation System Established | | | | |
| Socio-economic and environmental review to determine micro-barrage location: The formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form (available at www.encapafrika.org/compliance.htm) must be completed and approved prior to construction or rehabilitation of each site/system. | -CVC shall use the USAID/AFR Environmental Review Form (ERF) to evaluate site-specific environmental impacts at proposed micro-barrage locations and to develop mitigation measures to minimize impacts. | -ERFs are prepared and approved by USAID prior to finalizing locations and project plans | -Monitor as micro-barrage projects are identified -Report in that quarter's Progress Report | Use of ERF (includes a site visit)=\$200 |
| RFQ released for irrigation construction: The formal AFR subproject/sub-grant review process, as set out by the AFR | -CVC shall incorporate mitigation measures from the USAID/AFR ERF and a budget to implement them into the RFQ. | -Review RFQ to ensure measures from | -Monitor as RFQs are released | Cost=0 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
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| Environmental Review Form must be completed and approved prior to construction or rehabilitation of each site/system. | | ERF are included | -Report in that quarter's Progress Report | |
| Irrigation construction commences: The formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form must be completed and approved prior to construction or rehabilitation of each site/system. | -CVC shall incorporate mitigation measures from the USAID/AFR ERF and a budget to implement them into the construction sub-contract. | -Review sub-contract to ensure measures from RFQ and ERF are included -Site visits to check on implementation of mitigation measures | -Monitor as sub-contracts are prepared -Report in that quarter's Progress Report -Monitor at least 2x during construction of irrigation barrage -Report annually | Cost=0 Site inspections = \$400 |
| Training to WUAs: Consistency with EGSSA. The content of the training and capacity building must be consistent with the good-practice guidance of USAID's Environmental Guidelines for Small-Scale Activities in Africa (agriculture and irrigation chapters, construction chapters; www.encapafira.org/egsaa.htm). | CVC shall incorporate water conservation topics into training to WUAs. | -Review curriculum -Attend select training courses | -Monitor when curriculum is developed and when courses are given -Report in that quarter's Progress Report | Cost=0 |
| Sub-task 1.4: Soil and Water Management Techniques Increased | | | | |
| Farm and community level climate change and environmental resiliency plans developed: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. | -CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into resiliency plans, and shall ensure plans will not result in harm to the environment. -CVC shall ensure that resiliency plans are in compliance with Malian environmental requirements. | -Review resiliency plans to ensure aspects are covered -Review resiliency plans to ensure this is addressed. | -Monitor as plans are developed -Report annually -Monitor as plans are developed -Report annually | Cost=0 Cost=0 |
| Trainings on conservation farming & NRM designed and carried out: (1) incorporate and promote sound environmental | -CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into training on conservation farming and NRM. | -Review course curricula -Attend select courses | -Monitor when course curricula are developed | Attend courses= \$100 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|---|--|--|-----------------------------|
| <p>management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP; and conform to fertilizer best practices as set out in USAID/AFR Fertilizer Factsheet..</p> | <p>-CVC shall include GoM regulatory requirements and guidance on conservation farming and NRM in these trainings.</p> <p>-CVC shall only provide advice and recommendations on pesticides approved in the governing PERSUAP, and any pesticide training shall include safe use, PPE, and IPM.</p> <p>-CVC shall only provide advice and recommendations on fertilizers per the fertilizer best practices as set out in USAID/AFR Fertilizer Factsheet.</p> | | <p>-Report in that quarter's Progress Report</p> <p>-Monitor when courses are being given</p> <p>-Report in that quarter's Progress Report</p> | |
| IR 2 Markets and Trade Expanded | | | | |
| Sub-task 2.1: Market-driven, Value-added Products Introduced | | | | |
| <p>Initial group of domestic agro-processors identified, firm level assistance packages developed: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III,); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP.</p> | <p>-CVC shall incorporate “cleaner production” measures into firm level assistance packages, including training in CP.</p> <p>-CVC shall incorporate compliance with GoM environmental requirements in firm level assistance packages.</p> | <p>-Identify the # and type of CP measures incorporated into assistance packages</p> <p>-Identify the # and type of compliance activities that are incorporated in the assistance packages</p> | <p>-Monitor as assistance packages are developed</p> <p>-Report in that quarter's Progress Report</p> <p>--Monitor as assistance packages are developed</p> <p>-Report in that quarter's Progress Report</p> | <p>Cost=0</p> <p>Cost=0</p> |
| Sub-task 2.2: Sustainable Farm to Market Linkages, Access Strengthened | | | | |
| <p>Commercially oriented partnerships between CVC and select intermediaries formalized: TA will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations.</p> | <p>In forming partnerships between CVC and select intermediaries, CVC shall ensure that intermediaries incorporate sound environmental practices and are in compliance with GoM environmental requirements.</p> | <p>-Identify the types of intermediaries, and note their environmentally sound practices</p> | <p>-Monitor prior to finalizing partnerships</p> <p>-Report in that quarter's Progress Report</p> | <p>Cost=0</p> |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|--|--|---|-----------------------------|
| <p>SMFM curriculum adapted to local context, and target POs identified: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III,); and (2) convey Malian environmental requirements pertaining to these operations. (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP.</p> | <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated in to SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including use of PPE, and IPM shall be included in SFMF trainings.</p> | <p>-Review course curricula</p> | <p>-Monitor when course curricula are developed -Report in that quarter's Progress Report</p> | <p>Cost=0</p> |
| <p>SMFM marketed to end market buyers, processors and market intermediaries & adapted: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III,); and (2) convey Malian environmental requirements pertaining to these operations. (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP.</p> | <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated in to SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including use of PPE, and IPM shall be included in SFMF trainings.</p> | <p>-Review course curricula</p> | <p>-Monitor when course curricula are developed -Report in that quarter's Progress Report</p> | <p>Cost=0</p> |
| <p>SMFM training rolled out: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP.</p> | <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated in to SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including use of PPE, and IPM shall be included in SFMF trainings.</p> | <p>-Attend select courses</p> | <p>-Monitor when courses are being given -Report in that quarter's Progress Report</p> | <p>Attend courses=\$200</p> |
| <p>Local partners for contract farming schemes identified, business plan established: TA will (1) incorporate and promote sound environmental management practices (see</p> | <p>CVC shall incorporate sound environmental management practices into business plans, and shall ensure that compliance with GoM requirements is considered in the business plan.</p> | <p>-Review business plans to ensure these aspects are included</p> | <p>-Monitor as each business plan is developed -Report in that quarter's Progress Report</p> | |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|---|--|--|----------------------|
| guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. | | | | |
| Basic purchase agreements b/w PO and intermediaries, intermediaries and end markets, or PO and end markets structured: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. | CVC shall ensure that agreements between POs and intermediaries and end markets or POs and end markets incorporate environmental management practices and are in compliance with GoM environmental requirements. | -Review agreements to determine if these aspects are included | -Monitor as agreements are being developed -Report in that quarter's Progress Report | Cost=0 |
| Sub-task 2.3: Post-Harvest Handling and Processing Improved | | | | |
| Partnerships developed for training in WH and PH management, and leasing of space: These partnerships incorporate as a core value the fostering of an environmentally sound/sustainable agribusiness and agricultural sector, and that this value be fully mainstreamed and integrated in programming and activities. | -CVC shall encourage best practices in post-harvest management (in pesticide use and other non-chemical control). This must be implemented in compliance with the governing PERSUAP. | -Identify activities implemented to encourage these best practices | -Monitor when partnerships are developed -Report annually | Cost=0 |
| WH management practices of IICEM VACs accessed, remedial trainings designed and rolled out: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. | -CVC shall encourage best practices in post-harvest management (in pesticide use and other non-chemical control). This must be implemented in compliance with the governing PERSUAP. -CVC training shall be in compliance with the governing PERSUAP, including advising only on pesticides approved in the PERSUAP, training on safe use, PPE, and IPM. | -Identify activities implemented to encourage best practices -Review training course material to ensure these are included. | -Monitor when partnerships are developed -Report annually -Monitor when training course is developed -Report annually | Cost=0 Cost=0 |
| Mechanisms to finance & promote grading tools and equipment established: Where | CVC shall promote the use by FIs of environmental due diligence procedures in financing grading tools | -Identify TA provided to promote | -Monitor TA provided to FIs on | Cost=0 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|---|---|---|---|----------------|
| <p>appropriate, environmental due diligence procedures (as defined below) are either (1) implemented (where USAID has direct control over provision of credit and financial services); or (2) promoted and advanced to the greatest degree practicable (where USAID does not have direct control). 1. The supported on-lending financial institutions (FIs) will have the capacity to and fully implement an environmental due diligence process which:</p> <ul style="list-style-type: none"> • identifies loan applications for environmentally sensitive activities, as defined below; • bars funding to activities for which funding prohibited under Sections 118 & 119 of the Foreign Assistance Act; • bars funding for “classes of action normally having a significant effect on the environment (per 22 CFR 216.2.d) pending an Environmental Assessment acceptable to USAID and USAID’s approval of that assessment, and • ascertains compliance with Malian environmental statutes/regulations as a condition for loan-making. <p>2. If one or more of the participating FIs have robust environmental due diligence procedures that nonetheless do not meet these requirements in full, the mission may consult with the REA to determine if the existing procedures substantially satisfy the intent of this condition and are acceptable. Environmentally Sensitive Activities are</p> | <p>and equipment; and shall ensure that the FI procedures include compliance with GoM requirements.</p> | <p>environmental due diligence procedures (including GoM compliance) of FIs in relation to financing of grading tools and equipment</p> | <p>environmental due diligence -Report annually</p> | |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|---|---|--|--|----------------|
| <p>defined as: 1. Activities listed in 22 CFR 216.2.d “Classes of actions normally having a significant effect on the environment.” 2. Activities prohibited or limited by Sections 118 and 119 of the Foreign Assistance Act: 3. Activities identified by host country environmental regulations as requiring environmental review, licensing or permits.</p> | | | | |
| Sub-task 2.4: Effective Aggregation of Production Established | | | | |
| <p>GBC investors identified, appropriate finance tool identified, and business planning commences: For financial tools, environmental due diligence procedures (as defined below) are either (1) implemented (where USAID has direct control over provision of credit and financial services); or (2) promoted and advanced to the greatest degree practicable (where USAID does not have direct control).</p> <p>1. The supported on-lending financial institutions (FIs) will have the capacity to and fully implement an environmental due diligence process which:</p> <ul style="list-style-type: none"> • identifies loan applications for environmentally sensitive activities, as defined below; • bars funding to activities for which funding is prohibited under the Sections 118 & 119 of the Foreign Assistance Act; • bars funding for “classes of action normally having a significant effect on the environment (per 22 CFR 216.2.d) pending an Environmental Assessment acceptable to USAID and | <p>CVC shall promote the use by FIs of environmental due diligence procedures by FIs with which they work; the due diligence will include FI procedures to ensure compliance with GoM requirements.</p> | <p>-Identify TA provided to promote environmental due diligence procedures (including GoM compliance) of FIs in relation to identifying finance tools for GBCs</p> | <p>-Monitor TA provided to FIs on environmental due diligence -Report annually</p> | <p>Cost=0</p> |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|--|---|---|----------------|
| <p>USAID’s approval of that assessment, and</p> <ul style="list-style-type: none"> ascertains compliance with Malian environmental statutes/regulations as a condition for loan-making. <p>2. If one or more of the participating FIs have robust environmental due diligence procedures that nonetheless do not meet these requirements in full, the mission may consult with the REA to determine if the existing procedures substantially satisfy the intent of this condition and are acceptable.</p> <p><i>Environmentally Sensitive Activities are defined as:</i> <i>Activities listed in 22 CFR 216.2.d “Classes of actions normally having a significant effect on the environment.”</i> <i>Activities prohibited or limited by Sections 118 and 119 of the Foreign Assistance Act;</i> <i>Activities identified by host country environmental regulations as requiring environmental review, licensing or permits.</i></p> | | | | |
| <p>Partnerships with POs, finance institutions, and CVC established for construction of VAC: These partnerships will incorporate as a core value the fostering of an environmentally sound/sustainable agribusiness and agricultural sector, and that this value be fully mainstreamed and integrated in programming and activities</p> | <p>CVC shall promote sound environmental management (VAC construction shall not degrade the environment) and shall ensure compliance with GoM environmental regulations is considered when forming partnerships.</p> | <p>-Monitor TA provided during partnership formation</p> | <p>-Monitor prior to partnership formation -Report annually</p> | <p>Cost=0</p> |
| <p>Sub-task 2.5: Access to Demand-driven Support Services Strengthened</p> | | | | |
| <p>Training curriculum designed (BDS): 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in</p> | <p>-CVC shall incorporate environmental management practices, such as conservation farming, water and soil conservation, soil fertility management, IPM, and other environmental protection measures in</p> | <p>-Review training course material to ensure these are included.</p> | <p>-Monitor when course curricula are developed -Report in that quarter’s Progress Report</p> | <p>Cost=0</p> |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|--|--|--|--------------------------|
| EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. | training for BDS providers (as applicable to the BDSs). | -Attend select courses | -Monitor when courses are given -Report in that quarter's Progress Report | Attend courses= \$100 |
| Initial cohort of BDS providers selected for training, training commences: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III, available here); and (2) convey Malian environmental requirements pertaining to these operations. (3) In addition to the elements above, training for business development services providers will, where appropriate, incorporate Cleaner Production (CP) approaches, and staff providing such training will have a working knowledge of CP concepts and basic CP skills at least equivalent to the content of the USAID/AFR ENCAP training course "Improving Success Rates of MSMEs through Cleaner Production" (www.encapfrica.org/sme.htm). | -CVC training shall incorporate sound environmental management practices, including appropriate CP practices and compliance with GoM environmental legislation. | -Review training course material to ensure these are included. | -Monitor when training course is developed -Report annually | Cost=0 |
| IR 3 Increased Resiliency of Vulnerable Communities and Households | | | | |
| Sub-task: 3.1: Income Streams Diversified and Asset Building Strategies Employed | | | | |
| CVC and POs develop production plans: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform | -CVC shall incorporate conservation farming, soil and water conservation measures, soil fertility management, and other environmental conservation measures into production plans. -CVC shall ensure that GoM requirements are addressed in production plans. | -Review production plans to ensure these topics are addressed. | -Monitor when production plans are developed -Report annually | Cost=0 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|---|--|---|---|--|
| to relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet. | <p>-CVC shall ensure that in production plans, recommendations and guidance on pesticides complies with the governing PERSUAP.</p> <p>-CVC shall incorporate aspects of the USAID/AFR Fertilizer Fact Sheet (Annex C) into production plans.</p> | | | |
| Trainings designed and rolled out based on production plans and vulnerability assessment: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet. | -CVC shall incorporate the above topics into trainings on production plans. | <p>-Review training course material to ensure these are included.</p> <p>-Attend select courses</p> | <p>-Monitor when courses are developed</p> <p>-Report in that quarter's Progress Report</p> <p>-Monitor when courses are given</p> <p>-Report in that quarter's Progress Report</p> | <p>Cost=0</p> <p>Attend courses= \$200</p> |
| Sub-task 3.2: Drought Resilient Cropping Systems Adopted at Scale | | | | |
| CEDAR technique: incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III (Good-practice design and operation standards must be implemented, generally consistent with USAID's Environmental Guidelines for Small- Scale Activities in Africa EGSSAA (agriculture and irrigation chapters)); convey Malian environmental requirements pertaining to these operations; and conform to relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet. | <p>-CVC shall incorporate protection of the natural environment (waters, wetlands, and forests), soil and water conservation, and good practices in fertilizer application (see Annex C) into the CEDAR process.</p> <p>-CVC shall ensure that training complies with the governing PERSUAP (only approved pesticides, safe use and IPM incorporated).</p> | -Review CEDAR process to ensure this is addressed and in compliance | <p>-Monitor when process is developed</p> <p>-Report one time</p> | Cost=0 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|--|---|--|---|--------------------------|
| Climate smart farming techniques accessed and adapted to conditions (socio-economic/climatic/geographic) of communities: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet. | <p>-CVC shall incorporate protection of the natural environment (waters, wetlands, and forests), soil and water conservation, and good practices in fertilizer application (see Annex C) into climate smart farming technical assistance and training.</p> <p>-CVC shall ensure that climate smart farming techniques comply with the governing PERSUAP (only approved pesticides, safe use and IPM incorporated).</p> | -Review climate smart guidance to ensure these aspects are included and that TA and training are in compliance. | -Monitor when guidance is developed -Report one time | Cost=0 |
| Trainings under IR 1.3, related to conservation farming, adapted to priority communities: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP | <p>-CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into training on conservation farming and NRM.</p> <p>-CVC shall include GoM regulatory requirements and guidance on conservation farming and NRM in these trainings.</p> <p>-CVC shall only provide advice and recommendations on pesticides approved in the governing PERSUAP, and any pesticide training shall include safe use, PPE, and IPM.</p> | -Review course curricula -Attend select courses | -Monitor when course curricula are developed -Report in that quarter's Progress Report -Monitor when courses are being given -Report in that quarter's Progress Report | Attend courses= \$100 |
| Sub-task 3.3: Appropriate Food Storage Facilities Available | | | | |
| VAC and GBC mapping assessment identifies infrastructure need in vulnerable areas: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and | <p>-CVC shall conduct an environmental review (ER) of the Mapping Assessment of Infrastructure Needs, to ensure that environmental impacts are being considered early on and are factored into the decision making process.</p> <p>-CVC shall include GoM environmental requirements for infrastructure rehabilitation and construction in the Mapping Assessment.</p> | <p>-Check if Mapping Assessment includes an ER.</p> <p>-Check if Mapping Assessment includes the GoM requirements.</p> | Review Mapping Assessment -Report on one time after Mapping Assessment is complete | Cost=\$200 |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|---|--|--|---|--|
| provisions of the 2009 FTF PERSUAP. | | | | |
| Training on improved post-harvest techniques, or business planning for infrastructure construction starts: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. | -CVC training shall be in compliance with the governing PERSUAP, including advising only on pesticides approved in the PERSUAP, training on safe use, including use of PPE, and IPM. | -Review training course material to ensure these are included. -Attend select courses | -Monitor when training course is developed -Report in that quarter's Progress Report -Monitor when training takes place -Report annually | Cost=0 Cost=\$100 |
| Garden Infrastructure - Footprint of storage facility must be under 1000m2 · Siting must be at least 30m from any permanent or seasonal stream or water body · No displacement of existing inhabitants · Building site must have an average slope less than 5% · Building site must not be heavily forested and must be located in an already disturbed ecosystem. | Construction or repair of cereal warehouses shall ensure that: - Footprint of storage facility must be under 1000m2 · Siting must be at least 30m from any permanent or seasonal stream or water body · No displacement of existing inhabitants · Building site must have an average slope less than 5% · Building site must not be heavily forested and must be located in an already disturbed ecosystem. | Review engineering plans; conduct site visit | Monitor during planning/design phase; and site visit prior to construction. Report in that quarter's Progress Report. | Cost=\$200 |
| IR 4 Local Capacities and Systems Strengthened | | | | |
| Sub-task 4.2: Capacity of Producer Groups and Water-user Associations Improved | | | | |
| SMFM trainings designed, PO rollout plan developed, trainings conducted: (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. | Same as Sub-task 2.2 | Same as Sub-task 2.2 | Same as Sub-task 2.2 | Same as Sub-task 2.2 (0 additional cost) |

| Activity & IEE Condition (from Work Plan screening against the IEE, Annex A) | Mitigation Measure (adapted from the IEE Condition) | How Monitored | Timing for Monitoring & Reporting | Est. Cost US\$ |
|---|--|---|---|-------------------|
| <p>Assessment of water user group associations (WUA), training designed and rolled out: The content of the training and capacity building must be consistent with the good-practice guidance of USAID’s Environmental Guidelines for Small-Scale Activities in Africa (agriculture and irrigation chapters; www.encapafrica.org/egssaa.htm).</p> | <p>CVC shall incorporate water conservation topics into training to WUAs.</p> | <p>-Review curriculum -Attend select training courses</p> | <p>-Monitor when curriculum is developed and when courses are given -Report in that quarter’s Progress Report</p> | <p>Cost=0</p> |
| <p>Sub-task 4.3: Capacity of Financial Service Providers Strengthened</p> | | | | |
| <p>Initial cohort of BDS providers selected for training, training commences: TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III, available here); and (2) convey Malian environmental requirements pertaining to these operations. (3) In addition to the elements above, training for business development services providers will, where appropriate, incorporate Cleaner Production (CP) approaches, and staff providing such training will have a working knowledge of CP concepts and basic CP skills at least equivalent to the content of the USAID/AFR ENCAP training course “Improving Success Rates of MSMEs through Cleaner Production” (www.encapafrica.org/sme.htm).</p> | <p>-CVC training shall incorporate sound environmental management practices, including appropriate CP practices and compliance with GoM environmental legislation.</p> | <p>-Review training course material to ensure these are included.</p> | <p>-Monitor when training course is developed -Report annually</p> | <p>Cost=0</p> |
| <p>TOTAL COST for EMMP, Year 1</p> | | | | <p>US \$2100</p> |

ANNEX A. SCREENING OF WORK PLAN ACTIVITIES AGAINST THE IEE

IEE for USAID/Mali, Accelerated Economic Growth (AEG) Portfolio, Functional Objective: Economic Growth, Program Areas: 4.5 Agriculture, 4.6 Private Sector Competitiveness, and 4.8 Environment. Program Elements: 4.5.1 Agriculture Enabling Environment, 4.5.2 Agriculture Sector Capacity, 4.6.1 Business Enabling Environment, 4.8.1 Natural Resources and Biodiversity, 4.8.2 Clean Productive Environment. IEE Date: 6 August 2012; IEE Expiration Date: 2017.

Step 1 of EMMP Development: Work Plan Activities Screened against the IEE

TABLE 2: STEP I OF EMMP WORK PLAN ACTIVITIES

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
|--|--------------------------|--|
| Rapid Start-up and Mobilization Plan | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-recipients | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Personnel | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Value Chain and other Analyses | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Required Reports | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| IR 1 Agricultural Productivity Increased | | |
| Sub-task 1.1: Technology Development, Dissemination, Management & Innovation Enhanced | | |
| Survey and assess state-of-the-art agricultural research in Mali | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops |
| Co-host multi-stakeholder research & innovation workshop with research institutions | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops |
| Launch technology design and R&D competition, co-funded through CVC Investment Fund | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| Partnership and establish private sector R&D working groups w/research institutions | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops; and, 22CFR 216.2(c)(i) Education, technical assistance, or training |
| Establish timing of key agricultural fairs, identify one for "business planning" assistance | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops |
| Sub-task 1.2: Access to Quality Inputs Increased | | |
| Evaluate formal & informal input supply and distribution networks in CVC target areas | Y | IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Design and carryout agro-dealer trainings | Y | IEE Section 3.6, 4g. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Facilitate multi-stakeholder dialogue on foundation seed & certification strategy | Y | IEE Section 3.6, 1g. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations |
| Identify anchor seed producers & processors, develop company growth & investment plans | Y | IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Facilitate private sector funded demonstration plots in target areas | Y | IEE Section 3.6, 4g. Training for enterprises will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. And 3. Agricultural practices training will conform to the relevant aspects and provisions of the 2009 FTF PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) |
| Organize buyer visits to target areas to access sites & FBOs for seed out grower schemes | Y | IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Seed quality and standards forum/discussion facilitated | Y | IEE Section 3.6, 4a. Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 1.3: Economically Viable Irrigation System Established | | |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| Identification of donor working group to coordinate irrigation activities | Y | IEE Section 3.2, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Socio-demographic and environmental review to determine micro-barrage location | Y | IEE Section 3.2, 1a. Negative Determination subject to the condition that: The formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form (available at www.encapafrica.org/compliance.htm) must be completed and approved prior to construction or rehabilitation of each site/system. |
| Assessment of water user group associations (WUA) and training designed | Y | IEE Section 3.2, 1d. Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training |
| RFQ released for irrigation construction | Y | IEE Section 3.2, 1a. Negative Determination subject to the condition that: The formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form (available at www.encapafrica.org/compliance.htm) must be completed and approved prior to construction or rehabilitation of each site/system. |
| Irrigation construction commences | Y | IEE Section 3.2, Negative Determination subject to the condition that: The formal AFR subproject/sub-grant review process, as set out by the AFR Environmental Review Form (available at www.encapafrica.org/compliance.htm) must be completed and approved prior to construction or rehabilitation of each site/system. |
| Trainings to WUAs | Y | IEE Section 3.2, 2b Negative Determination subject to the condition that: Consistency with EGSSA. The content of the training and capacity building must be consistent with the good-practice guidance of USAID's Environmental Guidelines for Small-Scale Activities in Africa (agriculture and irrigation chapters, construction chapters; www.encapafrica.org/egssaa.htm). |
| Community-driven vulnerability reduction strategies developed around irrigation sites | Y | IEE Section 3.6.5, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training |
| Sub-task 1.4: Soil and Water Management Techniques Increased | | |
| Assess range of soil and water management techniques | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| Farm and community level climate change and environmental resiliency plans developed | Y | IEE Section 3.6, Negative Determination, subject to the conditions that 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |
| Trainings on conservation farming & NRM designed and carried out | Y | IEE Section 3.6, 5. Section 3.4, 3b., TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP; and conform to fertilizer best practices as set out in USAID/AFR Fertilizer Factsheet. |
| Sub-task 1.5: Seed and Fertilizer Policies and Procedures Improved | | |
| Coordinate with USAID policy activity (pending award) on seed and fertilizer policy | Y | IEE Section 3.3, Categorical exclusion per 22CFR 216.2(c)(iii) Analyses, studies and academic workshops; and, 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 1.6: Property Rights Strengthened | | |
| Coordinate with USAID policy activity (pending award) on property rights issues | Y | IEE Section 3.3, Categorical exclusion per 22CFR 216.2(c)(iii) Analyses, studies and academic workshops; and, 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| IR 2 Markets and Trade Expanded | | |
| Sub-task 2.1: Market-driven, Value-added Products Introduced | | |
| End-market, investment potential analysis conducted | Y | IEE Section 3.6, 2b. Negative Determination (no conditions) |
| Finance sector assessment and marketing of CVC services to finance sector | Y | IEE Section 3.6, 2b. Negative Determination (no conditions) |
| Investor validation workshop (including financial sector, SMEs, etc.) | | IEE Section 3.6, 3d. Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Initial group of domestic agro-processors identified, firm level assistance packages developed | Y | Section 3.6, 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. In addition to the elements above, TA/training for agro-processing will, where appropriate, incorporate |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | Cleaner Production (CP) approaches, and staff providing such training will have a working knowledge of CP concepts and basic CP skills at least equivalent to the content of the USAID/AFR ENCAP training course “Improving Success Rates of MSMEs through Cleaner Production” (www.encapafrika.org/sme.htm). |
| Initial partner banks identified, and project partnership formalized | | IEE Section 3.6, 3b. Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Sub-task 2.2: Sustainable Farm to Market Linkages, Access Strengthened | | |
| Value chain network mapping exercise validated w/market intermediaries | Y | IEE Section 3.6, Negative Determination (no conditions) |
| Commercially oriented partnerships between CVC and select intermediaries formalized | Y | IEE Section 3.8.1. Negative Determination, subject to the condition that these partnerships incorporate as a core value the fostering of an environmentally sound/sustainable agribusiness and agricultural sector, and that this value be fully mainstreamed and integrated in programming and activities. |
| SMFM curriculum adapted to local context, and target POs identified | Y | IEE Section 3.6, Negative Determination, subject to the conditions that 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |
| SMFM marketed to end market buyers, processors and market intermediaries & adapted | Y | IEE Section 3.6, 2a., and Section 3.4, 3 Negative Determination, subject to the conditions that 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations; and,(3) Agricultural practices training will conform to the relevant aspects and provisions of the 2009 FtF PERSUAP. |
| SMFM training rolled out | Y | IEE Section 3,6, 2a, and Section 3.4, 3. Negative Determination, subject to the conditions that 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |
| Local partners for contract farming schemes identified, business plan established | Y | IEE Section 3.6, 1e and 1f, Negative Determination, subject to the condition that TA will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | environmental requirements pertaining to these operations. |
| Basic purchase agreements b/w PO and intermediaries, intermediaries and end markets, or PO and end markets structured | Y | IEE Section 3.6, 2a, Negative Determination, subject to the conditions that 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |
| Sub-task 2.3: Post-Harvest Handling and Processing Improved | | |
| USAID T&L Cost Study updated/re-validated, to reflect current post harvest losses | Y | IEE Section 3.3, Categorical Exclusion per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops |
| Existing aggregation infrastructure mapped, quality assessed | Y | IEE Section 3.6, Negative Determination (no conditions) |
| Location of potential GBC investments identified, based on demand/supply/transport analysis | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Location and need assessment of additional VAC infrastructure conducted | Y | IEE Section 3.3, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Partnerships developed for training in WH and PH management, and leasing of space | | IEE Section 3.8, Negative Determination, subject to the condition that these partnerships incorporate as a core value the fostering of an environmentally sound/sustainable agribusiness and agricultural sector, and that this value be fully mainstreamed and integrated in programming and activities. |
| WH management practices of IICEM VACs accessed, remedial trainings designed and rolled out | Y | IEE Section 3.6, 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Mechanisms to finance & promote grading tools and equipment established | Y | IEE Section 3.6, 3a. Negative Determination subject to the condition that, where appropriate, environmental due diligence procedures (as defined below) are either (1) implemented (where USAID has direct control over provision of credit and financial services); or (2) promoted and advanced to the greatest degree practicable (where USAID does not have direct control). 1. The supported on-lending financial institutions (FIs) will have the capacity to and fully implement an environmental due diligence process which: • identifies loan applications for environmentally sensitive activities, as defined below; • bars funding to activities for which funding prohibited under |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | <p>Sections 118 & 119 of the Foreign Assistance Act; • bars funding for “classes of action normally having a significant effect on the environment (per 22 CFR 216.2.d) pending an Environmental Assessment acceptable to USAID and USAID’s approval of that assessment, and • ascertains compliance with Malian environmental statutes/regulations as a condition for loan-making.</p> <p>2. If one or more of the participating FIs have robust environmental due diligence procedures that nonetheless do not meet these requirements in full, the mission may consult with the REA to determine if the existing procedures substantially satisfy the intent of this condition and are acceptable. Environmentally Sensitive Activities are defined as: 1. Activities listed in 22 CFR 216.2.d “Classes of actions normally having a significant effect on the environment.” 2. Activities prohibited or limited by Sections 118 and 119 of the Foreign Assistance Act: 3. Activities identified by host country environmental regulations as requiring environmental review, licensing or permits.</p> |
| Sub-task 2.4: Effective Aggregation of Production Established | | |
| Business case made to potential GBC investors | Y | IEE Section 3.6, Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs |
| GBC investors identified, appropriate finance tool identified, and business planning commences | Y | <p>IEE Section 3.6, 3a. Negative Determination subject to the condition that, where appropriate, environmental due diligence procedures (as defined below) are either (1) implemented (where USAID has direct control over provision of credit and financial services); or (2) promoted and advanced to the greatest degree practicable (where USAID does not have direct control).</p> <p>1. The supported on-lending financial institutions (FIs) will have the capacity to and fully implement an environmental due diligence process which:</p> <ul style="list-style-type: none"> • identifies loan applications for environmentally sensitive activities, as defined below; • bars funding to activities for which funding is prohibited under the Sections 118 & 119 of the Foreign Assistance Act; • bars funding for “classes of action normally having a significant effect on the environment (per 22 CFR 216.2.d) pending an Environmental Assessment acceptable to USAID and USAID’s approval of that assessment, and |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | <ul style="list-style-type: none"> ascertains compliance with Malian environmental statutes/regulations as a condition for loan-making. If one or more of the participating FIs have robust environmental due diligence procedures that nonetheless do not meet these requirements in full, the mission may consult with the REA to determine if the existing procedures substantially satisfy the intent of this condition and are acceptable. <p><i>Environmentally Sensitive Activities are defined as:</i></p> <ol style="list-style-type: none"> Activities listed in 22 CFR 216.2.d “Classes of actions normally having a significant effect on the environment.” Activities prohibited or limited by Sections 118 and 119 of the Foreign Assistance Act; Activities identified by host country environmental regulations as requiring environmental review, licensing or permits. |
| Partnerships with POs, finance institutions, and CVC established for construction of VAC | Y | IEE Section 3.8 Negative Determination, subject to the condition that TA will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |
| Initial contacts with transport organizations for linking existing VAC/GBC infrastructure to markets | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Initial contacts with Market Information Services (MIS) providers for linking existing VAC/GBC infrastructure to MIS networks | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Sub-task 2.5: Access to Demand-driven Support Services Strengthened | | |
| CVC financial intermediation model marketed to BDS providers | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs |
| CVC financial intermediation model marketed to finance institutions | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs |
| Training curriculum designed | Y | IEE Section 3.6, Negative Determination, subject to the conditions that <ol style="list-style-type: none"> TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); and (2) convey Malian environmental requirements pertaining to these operations. |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| Initial cohort of BDS providers selected for training, training commences | Y | IEE Section 3.6, 2a. Negative Determination, subject to the conditions that: 1. TA/Training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III, available here); (2) convey Malian environmental requirements pertaining to these operations. In addition to the elements above, training for business development services providers will, where appropriate, incorporate Cleaner Production (CP) approaches, and staff providing such training will have a working knowledge of CP concepts and basic CP skills at least equivalent to the content of the USAID/AFR ENCAP training course “Improving Success Rates of MSMEs through Cleaner Production” (www.encapafrica.org/sme.htm). |
| Sub-task 2.6: Access to Market Information Expanded | | |
| Initial assessment of MIS services and their relevancy (integrated into VCA and VC networking) | Y | Section 3.3, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| MIS upgrading strategy developed | | Section 3.3, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| MIS partners identified, partnerships formalized | | Section 3.3, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 2.7: Regional Trade Constraints Removed | | |
| Meet with WATH to establish roadmap for USAID regional vs. bilateral project coordination | Y | IEE Section 3.3, Categorical exclusion per 22CFR 216.2(c)(iii) Analyses, studies and academic workshops; and, 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| IR 3 Increased Resiliency of Vulnerable Communities and Households | | |
| Sub-task: 3.1: Income Streams Diversified and Asset Building Strategies Employed | | |
| Identification and prioritization of vulnerable communities within CVC intervention zones | Y | IEE Section 3.3, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Evaluation of financing requirements and profitability of farm and household production systems | Y | IEE Section 3.6, Negative Determination (no conditions) |
| CVC and POs develop production plans | Y | IEE Section 3.6 Negative Determination subject to the conditions that: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Trainings designed and rolled out based on production plans and vulnerability assessment | Y | IEE Section 3.6, 5. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Sub-task 3.2: Drought Resilient Cropping Systems Adopted at Scale | | |
| CEDAR technique (see page 17 of TECH) is rolled out to target communities | Y | IEE Section 3.6, 5 Negative Determination, subject to the conditions that: Agricultural practices training will conform to the relevant aspects and provisions of the 2009 AEG PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) Good-practice design and operation standards must be implemented, generally consistent with USAID's Environmental Guidelines for Small- Scale Activities in Africa EGSSAA (agriculture and irrigation chapters). |
| Climate smart farming techniques accessed and adapted to conditions (socio-economic/climatic/geographic) of communities | Y | IEE Section 3.6, 5. Negative Determination, subject to the conditions that: Agricultural practices training will conform to the relevant aspects and provisions of the 2009 AEG PERSUAP, and to fertilizer best practices as set out in the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) Good-practice design and operation standards must be implemented, generally consistent with USAID's Environmental Guidelines for Small- Scale Activities in Africa EGSSAA (agriculture and irrigation chapters) |
| Trainings under IR 1.3, related to conservation farming, adapted to priority communities | Y | IEE Section 3.6, 1. Section 3.4, 3b. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Resources (community, donor, municipal level) identified to build community resilience | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Public and private sector extension services trained to address climate change risk | Y | IEE Section 3.6, 4h. Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 3.3: Appropriate Food Storage Facilities Available | | |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| VAC and GBC mapping assessment identifies existing infrastructure in vulnerable areas | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| VAC and GBC mapping assessment identifies infrastructure need in vulnerable areas | Y | IEE Section 3.6 Negative Determination subject to the conditions that: 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Training on improved post-harvest techniques, or business planning for infrastructure construction starts | Y | IEE Section 3.6, 1. TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Construct/Repair cereal warehouses | Y | IEE Section 3.2, 4a Negative Determination subject to conditions for Garden Infrastructure - Footprint of storage facility must be under 1000m2 · Siting must be at least 30m from any permanent or seasonal stream or water body · No displacement of existing inhabitants · Building site must have an average slope less than 5% · Building site must not be heavily forested and must be located in an already disturbed ecosystem. |
| Sub-task 3.4: Community Literacy, Numeracy, and Nutritional Practices Improved | | |
| SMFM approach adapted to respond to community nutritional and literacy needs | Y | IEE Section 3.6, 5 Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Collaboration plan with on-going literacy/numeracy/nutrition projects developed | Y | IEE Section 3.6, 5 Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Partnerships with resilience/vulnerability focused projects formalized | Y | IEE Section 3.6, Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| IR 4 Local Capacities and Systems Strengthened | | |
| Sub-task 4.1: Local Organizations' Capacity to Receive USAID Funding Developed | | |
| Initial capacity assessment of primary local implementation partners (LIPs) | Y | IEE Section 3.3, Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Capacity building plan developed, and trainings/assistance prioritized | Y | IEE Section 3.3, Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| Institutional/organizational trainings rolled out to LIPs | Y | IEE Section 3.3, Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 4.2: Capacity of Producer Groups and Water-user Associations Improved | | |
| Producer Organization assessment | Y | IEE Section 3.6, Negative Determination (no conditions) |
| SMFM trainings designed, PO rollout plan developed, trainings conducted | Y | IEE Section 3.6, 2a, . Negative Determination, subject to the conditions that TA/training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III); (2) convey Malian environmental requirements pertaining to these operations; (3) conform to relevant aspects and provisions of the 2009 FTF PERSUAP. |
| Assessment of water user group associations (WUA), training designed and rolled out | Y | IEE Section 3.2, 1b. Negative Determination subject to the condition that the content of the training and capacity building must be consistent with the good-practice guidance of USAID's Environmental Guidelines for Small-Scale Activities in Africa (agriculture and irrigation chapters, construction chapters; www.encapafrika.org/egssaa.htm). |
| Sub-task 4.3: Capacity of Financial Service Providers Strengthened | | |
| Finance sector assessment and marketing of CVC services to finance sector | Y | IEE Section 3.6, 2a. Negative Determination (no conditions) |
| Assessment of finance BDS capacity underway and drafted | Y | IEE Section 3.6, 2a. Negative Determination (no conditions) |
| CVC financial intermediation model marketed to BDS providers | Y | IEE Section 3.6, 2a. Negative Determination (no conditions) |
| CVC financial intermediation model marketed to finance institutions | Y | IEE Section 3.6, 2a. Negative Determination (no conditions) |
| Training curriculum designed | Y | IEE Section 3.6, Categorical Exclusion per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Initial cohort of BDS providers selected for training, training commences | | IEE Section 3.6, 2a, Negative Determination, subject to the conditions that: 1. TA/Training will (1) incorporate and promote sound environmental management practices (see guidance on such practices in EGSSAA Part III, available here); (2) convey Malian environmental requirements pertaining to these operations 2. In addition to the elements above, training for business development services providers will, where appropriate, incorporate Cleaner Production (CP) approaches, and staff providing such training will have a working knowledge of CP concepts and basic CP skills at least equivalent to the content of |

| Task/Activity | Evaluated in IEE? Y/N | Map to the Recommended Threshold Decision in the IEE |
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| | | the USAID/AFR ENCAP training course “Improving Success Rates of MSMEs through Cleaner Production” (www.encapafrika.org/sme.htm). |
| Sub-task 4.4: Capacity of Extension and Advisor Service Providers Strengthened | | |
| Enter collaboration agreements with MALIMARK (Mali Agricultural Marketing Trust) and ASPM (Agrodealer Strengthening Program). | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, 4g., Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Develop collaboration plans with DRA | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, 4h. Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Establish partnerships with Institut d’Economie Rurale (IER), Institut Polytechnique Rural de Formation et de recherche Appliquée (IPR/IFRA) to build their capacity to deliver extension services | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, 4h. Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |
| Sub-task 4.5: Local Capacity to Support Continued Learning Enhanced | | |
| Semi-annual stakeholder workshops | Y | IEE Section 3.3, Cat Ex per 22 CFR 216.2(c)(iii) Analyses, studies and academic workshops IEE Section 3.6, Cat Ex per 22 CFR 216.2(c)(i) Education, technical assistance, or training programs. |

ANNEX B: ENVIRONMENTAL MITIGATION & MONITORING REPORT

EMMP MONITORING LOG

The CVC Chief of Party is responsible for oversight of the EMMP. The Water and NRM Manager is responsible for ensuring it is being implemented, for collecting monitoring data from team members in the field, and for ensuring that EMMP results are included in progress reports to USAID.

TABLE 3: EMMP MONITORING LOG

| Mitigation Measure from EMMP | Frequency of Monitoring & Reporting | Person Responsible for Implementing Mitigation | Status of Mitigation Measure | Outstanding Issues related to Mitigation Measures | Remarks |
|--|---|--|------------------------------|---|---------|
| IR 1 Agricultural Productivity Increased | | | | | |
| Sub-task 1.2: Access to Quality Inputs Increased | | | | | |
| -CVC trainings for agro-dealers shall include: GoM pesticide regulatory requirements and GoM guidance on fertilizer use; only those pesticides approved in the governing PERSUAP and should strongly discourage use of more highly toxic pesticides; information on pesticide safe use, including use of personal protective equipment (PPE) and integrated pest management (IPM), as required in the governing PERSUAP; information from the USAID/AFR Fertilizer Fact Sheet (Annex C). | -Monitor when course curricula are developed -Report in that quarter's Progress Report -Monitor when courses are being given -Report in that quarter's Progress Report | Training and Capacity Building Director | | | |

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|--|---|---|--|--|--|
| <p>CVC's facilitation of dialogue on seed and certification strategy shall incorporate sound environmental practices regarding GMOs and shall be in compliance with GoM legislation on GMOs.</p> | <p>-Monitor when facilitation meetings occur -Report annually</p> | <p>VC Competitiveness Director</p> | | | |
| <p>-CVC shall select demo plot locations where destruction of natural vegetation and ecosystems, and where degradation of waterways, wetlands, and forests will not occur (demo plot location should be on a plot where production is already in place).</p> <p>-CVC trainings for demo plot site managers shall include: information on minimizing erosion; on-farm water management and water conservation measures; best practices in fertilizer application (using information from the Fertilizer Fact Sheet, Annex C); only those pesticides approved in the governing PERSUAP, strongly discouraging use of the more highly toxic pesticides; and IPM and safe use of pesticides, including use of PPE.</p> | <p>-Monitor when demo plot locations are selected -Report in that quarter's Progress Report</p> <p>-Monitor when training courses are developed -Report in that quarter's Progress Report -Monitor when courses are being given -Report in that quarter's Progress Report</p> | <p>-VC Competitiveness Director</p> <p>-Training and Capacity Building Director</p> | | | |

| Sub-task 1.3: Economically Viable Irrigation System Established | | | | | |
|---|---|--|--|--|--|
| -CVC shall use the USAID/AFR Environmental Review Form (ERF) to evaluate site-specific environmental impacts at proposed micro-barrage locations and to develop mitigation measures to minimize impacts. | -Monitor as micro-barrage projects are identified -Report in that quarter's Progress Report | VC Competitiveness Director | | | |
| -CVC shall incorporate mitigation measures from the USAID/AFR ERF and a budget to implement them into the RFQ. | -Monitor as RFQs are released -Report in that quarter's Progress Report | VC Competitiveness Director | | | |
| -CVC shall incorporate mitigation measures from the USAID/AFR ERF and a budget to implement them into the construction sub-contract. | -Monitor as sub-contracts are prepared -Report in that quarter's Progress Report -Monitor at least 2x during construction of irrigation barrage -Report annually | VC Competitiveness Director | | | |
| Sub-task 1.4: Soil and Water Management Techniques Increased | | | | | |
| -CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into resiliency plans, and shall ensure plans will not result in harm to the environment. -CVC shall ensure that resiliency plans are in compliance with Malian environmental requirements. | -Monitor as plans are developed -Report annually -Monitor as plans are developed -Report annually | Gender and Vulnerable Groups Director | | | |
| -CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into training on conservation farming and NRM. -CVC shall include GoM regulatory requirements and guidance on conservation farming and NRM in these trainings. | -Monitor when course curricula are developed -Report in that quarter's Progress Report -Monitor when courses are being given -Report in that quarter's Progress Report | Training and Capacity Building Director | | | |

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| <p>-CVC shall only provide advice and recommendations on pesticides approved in the governing PERSUAP, and any pesticide training shall include safe use, PPE, and IPM.</p> | | | | | |
| <p>IR 2 Markets and Trade Expanded</p> | | | | | |
| <p>Sub-task 2.1: Market-driven, Value-added Products Introduced</p> | | | | | |
| <p>-CVC shall incorporate “cleaner production” measures into firm-level assistance packages, including training in CP.</p> <p>-CVC shall incorporate compliance with GoM environmental requirements in firm-level assistance packages.</p> | <p>-Monitor as assistance packages are developed -Report in that quarter’s Progress Report</p> <p>--Monitor as assistance packages are developed -Report in that quarter’s Progress Report</p> | <p>Financial Services and BDS Director</p> | | | |
| <p>Sub-task 2.2: Sustainable Farm to Market Linkages, Access Strengthened</p> | | | | | |
| <p>In forming partnerships between CVC and select intermediaries, CVC shall ensure that intermediaries incorporate sound environmental practices and are in compliance with GoM environmental requirements.</p> | <p>Monitor prior to finalizing partnerships - Report in that quarter’s Progress Report</p> | <p>Financial Services and BDS Director</p> | | | |
| <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated into SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including</p> | <p>-Monitor when course curricula are developed -Report in that quarter’s Progress Report</p> | <p>VC Competitiveness Director</p> | | | |

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| use of PPE, and IPM shall be included in SFMF trainings. | | | | | |
| <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated in to SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including use of PPE, and IPM shall be included in SFMF trainings.</p> | <p>-Monitor when course curricula are developed</p> <p>-Report in that quarter's Progress Report</p> | | | | |
| <p>-CVC shall incorporate soil and water conservation and protection of natural resources into SMFM trainings.</p> <p>-CVC shall ensure that GoM guidance and requirements are incorporated in to SMFM trainings.</p> <p>-CVC shall only train and provide advice on pesticides that are approved in the governing PERSUAP. Safe use, including use of PPE, and IPM shall be included in SFMF trainings.</p> | <p>-Monitor when courses are being given</p> <p>-Report in that quarter's Progress Report</p> | VC Competitiveness Director | | | |
| <p>CVC shall incorporate sound environmental management practices into business plans, and shall ensure that compliance with GoM requirements is considered in the business plan.</p> <p>-</p> | <p>-Monitor as each business plan is developed</p> <p>-Report in that quarter's Progress Report</p> | Financial Services and BDS Director | | | |

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| <p>CVC shall ensure that agreements between POs and intermediaries and end markets or POs and end markets incorporate environmental management practices and are in compliance with GoM environmental requirements.</p> | <p>-Monitor as agreements are being developed -Report in that quarter's Progress Report</p> | <p>Financial Services and BDS Director</p> | | | |
| Sub-task 2.3: Post-Harvest Handling and Processing Improved | | | | | |
| <p>-CVC shall encourage best practices in post-harvest management (in pesticide use and other non-chemical control). This must be implemented in compliance with the governing PERSUAP.</p> | <p>-Monitor when partnerships are developed -Report annually</p> | <p>VC Competitiveness Director</p> | | | |
| <p>-CVC shall encourage best practices in post-harvest management (in pesticide use and other non-chemical control). This must be implemented in compliance with the governing PERSUAP.</p> <p>-CVC training shall be in compliance with the governing PERSUAP, including advising only on pesticides approved in the PERSUAP, training on safe use, PPE, and IPM.</p> | <p>-Monitor when partnerships are developed -Report annually</p> <p>-Monitor when training course is developed -Report annually</p> | <p>-VC Competitiveness Director</p> <p>-Training and Capacity Building Director</p> | | | |
| <p>CVC shall promote the use by FIs of environmental due diligence procedures in financing grading tools and equipment; and shall ensure that the FI procedures include compliance with GoM requirements.</p> | <p>-Monitor TA provided and use by FIs of environmental due diligence -Report annually</p> | <p>Financial Services and BDS Director</p> | | | |
| Sub-task 2.4: Effective Aggregation of Production Established | | | | | |

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| <p>CVC shall promote the use by FIs of environmental due diligence procedures by FIs with which they work; the due diligence will include FI procedures to ensure compliance with GoM requirements.</p> | | <p>-VC Competitiveness Director</p> | <p>CVC shall promote sound environmental management (VAC construction shall not degrade the environment) and shall ensure compliance with GoM environmental regulations is considered when forming partnerships.</p> | <p>-Monitor prior to partnership formation</p> | <p>VC Competitiveness Director</p> |
| <p>Sub-task 2.5: Access to Demand-driven Support Services Strengthened</p> | | | | | |
| <p>-CVC shall incorporate environmental management practices, such as conservation farming, water and soil conservation, soil fertility management, IPM, and other environmental protection measures in training for BDS providers (as applicable to the BDSs).</p> | <p>-Review training course material to ensure these are included. -Attend select courses</p> | <p>Training and Capacity Building Director</p> | | | |
| <p>-CVC training shall incorporate sound environmental management practices, including appropriate CP practices and compliance with GoM environmental legislation.</p> | <p>-Monitor when training course is developed -Report annually</p> | | | | |
| <p>IR 3 Increased Resiliency of Vulnerable Communities and Households</p> | | | | | |
| <p>Sub-task: 3.1: Income Streams Diversified and Asset Building Strategies Employed</p> | | | | | |
| <p>-CVC shall incorporate conservation farming, soil and water conservation measures, soil fertility management, and</p> | <p>-Review production plans to ensure these topics are addressed.</p> | <p>VC Competitiveness Director</p> | | | |

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| <p>other environmental conservation measures into production plans.</p> <p>-CVC shall ensure that GoM requirements are addressed in production plans.</p> <p>-CVC shall ensure that in production plans, recommendations and guidance on pesticides complies with the governing PERSUAP.</p> <p>-CVC shall incorporate aspects of the USAID/AFR Fertilizer Fact Sheet (Annex C) into production plans.</p> | | | | | |
| <p>-CVC shall incorporate the above topics into trainings on production plans.</p> | <p>-Review training course material to ensure these are included.</p> <p>-Attend select courses</p> | <p>Training and Capacity Building Director</p> | | | |
| Sub-task 3.2: Drought Resilient Cropping Systems Adopted at Scale | | | | | |
| <p>-CVC shall incorporate protection of the natural environment (waters, wetlands, and forests), soil and water conservation, and good practices in fertilizer application (see Annex C) into the CEDAR process.</p> <p>-CVC shall ensure that training complies with the governing PERSUAP (only approved pesticides, safe use and IPM incorporated).</p> | <p>-Review CEDAR process to ensure this is addressed and in compliance</p> | <p>Training and Capacity Building Director</p> | | | |
| <p>-CVC shall incorporate protection of the natural environment (waters, wetlands, and forests), soil and water conservation, and good practices in fertilizer application (see Annex C) into climate smart farming technical assistance and training.</p> | <p>-Review climate smart guidance to ensure these aspects are included and that TA and training are in compliance.</p> | <p>Training and Capacity Building Director</p> | | | |

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| -CVC shall ensure that climate smart farming techniques comply with the governing PERSUAP (only approved pesticides, safe use and IPM incorporated). | | | | | |
| -CVC shall incorporate protection of the natural environment (waters, wetlands, and forests) into training on conservation farming and NRM. -CVC shall include GoM regulatory requirements and guidance on conservation farming and NRM in these trainings. -CVC shall only provide advice and recommendations on pesticides approved in the governing PERSUAP, and any pesticide training shall include safe use, PPE, and IPM. | -Review course curricula -Attend select courses | Training and Capacity Building Director | | | |
| Sub-task 3.3: Appropriate Food Storage Facilities Available | | | | | |
| -CVC shall conduct an environmental review (ER) of the Mapping Assessment of Infrastructure Needs, to ensure that environmental impacts are being considered early on and are factored into the decision making process. -CVC shall include GoM environmental requirements for infrastructure rehabilitation and construction in the Mapping Assessment. | -Check if Mapping Assessment includes an ER. -Check if Mapping Assessment includes the GoM requirements. | VC Competitiveness Director | | | |
| -CVC training shall be in compliance with the governing PERSUAP, including advising only on pesticides approved in the PERSUAP, training on safe use, including use of PPE, and IPM. | -Review training course material to ensure these are included. -Attend select courses | Training and Capacity Building Director | | | |

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|---|---|--|--|--|--|
| <p>Construction or repair of cereal warehouses shall ensure that:</p> <ul style="list-style-type: none"> - Footprint of storage facility must be under 1000m² · Siting must be at least 30m from any permanent or seasonal stream or water body · No displacement of existing inhabitants · Building site must have an average slope less than 5% · Building site must not be heavily forested and must be located in an already disturbed ecosystem. | <p>Monitor during planning/design phase; and site visit prior to construction.</p> <p>Report in that quarter's Progress Report.</p> | <p>VC Competitiveness Director</p> | | | |
| IR 4 Local Capacities and Systems Strengthened | | | | | |
| Sub-task 4.2: Capacity of Producer Groups and Water-user Associations Improved | | | | | |
| Same as Sub-task 2.2 | Same as Sub-task 2.2 | | | | |
| Same as Sub-task 1.3 | Same as Sub-task 1.3 | | | | |
| Sub-task 4.3: Capacity of Financial Service Providers Strengthened | | | | | |
| Same as Sub-task 2.5 | Same as Sub-task 2.5 | | | | |

CERTIFICATION

I certify the completeness and the accuracy of the mitigation and monitoring plan described above for which I am responsible and its compliance with the governing IEE:

Signature

Date

Print Name

Organization

BELOW THIS LINE FOR USAID USE ONLY

USAID/Mali Clearance of EMMR:

Agreement Officer Representative (AOR): _____ Date: _____

Mission Environmental Officer: _____ Date: _____

As appropriate: REA, BEO [depending on nature of activity, which potentially may require an EA]

Note: if clearance is denied, comments must be provided to applicant

ANNEX C: USAID/AFR FERTILIZER FACT SHEET



Version: June 2004

Download this factsheet at:
www.encafrica.org/docs/html/afefertilizerculture

AFRICA BUREAU FERTILIZER FACTSHEET

Prepared by: Rob Clausen, Regional Environmental Advisor (REA), USAID West Africa Regional Program (WARP), Accra, Ghana & Walter Knausenberger, REA, USAID Regional Economic Development Services Office (REDSO), Nairobi, Kenya.

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are fundamental for sustainable agricultural and economic development.

2. FERTILIZERS AND USAID ENVIRONMENTAL PROCEDURES

Fertilizers are frequently lumped together with pesticides under the generic heading of “agro- or agrichemicals.” From an environmental compliance perspective (22 CFR 216), as well as from a field-level implementation point of view, this is inappropriate, because it implies that fertilizers require the same level of scrutiny reserved for pesticides. Whereas pesticides are subject to clearly defined environmental review procedures [22 CFR 216.3(b)(1)], and an approval process to promote safer use and integrated pest management, such procedures do not apply to fertilizers (procurement procedures do apply to quantity bulk purchase).

As with any technology, however, it is recommended that fertilizers be thoughtfully employed according to best practice, promoting integrated soil fertility management, within the context of the prevailing biophysical and socio-economic conditions, as well as the desired outcomes. This fact sheet was developed to assist in that regard.

1. BACKGROUND

Low soil fertility is a problem throughout most of Sub-Saharan Africa (SSA). Moreover, the drastic reduction in fallow periods and the almost continuous cropping without soil fertility restoration has depleted the nutrient base of most soils. By the mid-late 1990s, all SSA countries were demonstrating a negative annual nutrient balance¹. Countries that have the highest nutrient loss rates are the ones where fertilizer use is low and soil erosion is high. These areas include the East African highlands and a number of countries in West Africa.

Low soil fertility is also a driving force behind the conversion of natural areas for agricultural extension. It is generally accepted that agricultural intensification is the only viable means to conserve key natural areas while increasing food security for the continents growing population and generating economic growth through improved agricultural productivity. Land degradation undermines the ability of countries to move in this direction, and the loss of soil nutrients is the most important contributing factor to the land degradation process. The use of inorganic fertilizers is a critical part of the strategy to stop land degradation, restore soil fertility and better manage the soil resources that

3. IMPORTANCE OF WATER MANAGEMENT TO NUTRIENT UPTAKE

Proper water management is important for maximizing crop use of nutrients. About 97% of crop nutrient uptake is from soil solution (water-soluble nutrients), which makes water by far the most important nutrient or fertilizer delivery medium. This also means that, for the most part, nutrient mobility is directly linked to water movement. In sandy soils, nutrients move more quickly through the root zone and soil profile than in other soil types, and excessive water application (or heavy rainfall) can lead to nutrient loss through leaching. Run-off is most serious on loamy-sands or sandy loams that often have a strong surface crust formation. In heavier soils (clays), if nutrients are not adequately incorporated into the soil, the chances for surface runoff in the event of heavy rains or over-irrigation are increased. Sound water management is especially important in rainfed conditions (common throughout SSA). Overall, good water management leads to a more efficient

use of fertilizers and increased nutrient uptake and vice versa.

4. GENERAL SOIL FERTILITY TRENDS IN AFRICA

- Farmers who have taken measures to conserve moisture or increase soil organic matter are more likely to use inorganic fertilizer. When farmers in some areas have capital, they often invest first in increasing moisture retention and/or increasing soil organic matter and secondly in inorganic fertilizer.
- Farmers increase their use of fertilizer when investing more money in fertilizer is seen to be the best available option.

This increase may result from changes in any of the following: fertilizer price, crop price, fertilizer availability, water availability, seed availability, knowledge about fertilizer use, or cropping pattern.

- In West Africa, integrated soil fertility management is progressively adopted. It concerns the combined use of soil amendments and inorganic fertilizer, leading in time to improved soil fertility and increased fertilizer use efficiency and profitability. The nutrient losses to the environment are decreasing.
- Given past and current use rates, USAID's fertilizer-related activities in Africa are unlikely to cause environmental problems.

5. FERTILIZER APPLICATION GUIDELINES

- Before applying fertilizers, obtain an assessment of soil conditions (fertility).
- Indiscriminate use of chemical fertilizers should be avoided.
- Different kinds of fertilizers are required in order to maintain a given level of soil fertility. This depends on site-specific factors, including the soil type, the nutrient requirement of the crop and the various sources of available nutrients. Nitrogen and Phosphorous are the most important nutrients lacking in SSA soils.
- Fertilizer application has to be considered in the context of the overall farming system. This includes the use of organic manure and residues, soil cultivation and crop rotation and water harvesting. Collectively, these factors influence the efficiency of nutrient use.
- When fertilizers are used, it is very important to apply the correct amount for the given situation. The challenge to the farmer is to match as closely as possible the input of nutrients to the nutrient uptake of the crop, thereby minimizing losses. Over fertilization is both costly (wasteful) and potentially harmful to the

environment. To apply the correct amount, the farmer has to define his production goal.

6. POTENTIAL NEGATIVE ENVIRONMENTAL EFFECTS OF FERTILIZERS

Excessive application of nutrients over time can cause pollution. Such losses may occur when nutrients run off the land caused by heavy rainfall, are leached through the soil, beyond the root zone, eventually reaching the groundwater, or escape into the atmosphere as volatile gases.

Aspects of environmental impact can be illustrated as follows:



(Taken from Inctac Fertilizers)

NITROGEN FERTILIZERS

Inorganic nitrogen fertilizers are readily converted by soil organisms to nitrate in the soil. The nitrogen in soil organic matter and organic fertilizers becomes available more slowly. Nitrates may be readily leached if not used by crops or other vegetation. Leaching is particularly likely in sandy soils following heavy rainfall. Leached nitrates may contaminate underground water. This is of concern if the water is to be used for human or livestock consumption, as high concentrations of nitrate may affect health.

Nitrogen fertilizers can also accelerate the natural process of soil acidification. Some fertilizers (e.g. anhydrous ammonia and urea) may initially raise the soil pH at the site of application but in the long term acidify the soils. This occurs when ammonium is converted to nitrate. Acid produced in the nitrification process is used if the nitrate is taken up by plants or soil organisms, but if the nitrate is leached beyond the root zone, acidification occurs. Soil acidification reduces the availability of the trace element molybdenum, fosters the development of aluminum, iron and manganese toxicity and increases nodulation failure in legumes. Lime may be required where acidity is a problem (obtained from naturally occurring calcium carbonate) or the use of acid tolerant plant species can be considered. An illustrative list of crops with acid tolerant varieties include: rice, cassava, mango, cashew, citrus, pineapple and cowpeas.

PHOSPHORUS FERTILIZERS

Excess amounts of phosphorus have been associated with algal blooms and the eutrophication of lakes and waterways. In most waters, phosphorous functions as a growth-limiting factor because it is usually present in very low concentrations. Algae only require small amounts of phosphorous to live. Excessive phosphorous over-stimulates the growth of algae, which could deplete the water of the

dissolved oxygen that is vital to other aquatic life. Phosphorus is relatively immobile in the soil, so conservation and cultural practices which reduce soil erosion can significantly reduce phosphorus inputs into water bodies and the water table.

Phosphorus fertilizers contain various impurities from the phosphate rock and acid used in manufacturing the fertilizer. Cadmium increases is the greatest concern as its compounds are toxic to human beings. Cadmium increases are most noticeable in certain crops e.g. potatoes and leafy vegetables (lettuce and spinach) and in the organs (kidneys and liver) of animals. Almost all phosphate fertilizers contain traces of cadmium, and the concentration of cadmium varies considerably from source to source. At this time, there are efforts underway in West Africa to develop viable processes to remove cadmium from phosphate rock. Exports of rock phosphate represent a vital source of revenue for a number of developing countries in Africa.

FERTILIZER EFFECTS ON SOIL BIOLOGY

Good soil consists of 93% mineral and 7% bio-organic substances. The bio-organic parts are humus (85%), roots (10%) and soil organisms (5%). Most of the soil organisms are decomposers (bacteria and fungi), which are responsible for nutrient retention in soil. In order for nutrients to become available they must be mineralized by the interaction of decomposers and organisms that feed on the decomposers (protozoa, nematodes, microrthropods and earthworms). Plant growth is dependent on microbial nutrient immobilization. When the number of decomposers declines in soils, more nutrients are lost into the ground and surface water. Heavy treatments of chemical fertilizers can kill decomposers and other soil organisms, which will lead to a reduction in nutrient retention and possible surface and ground water contamination.

7. A SUMMARY OF BEST MANAGEMENT PRACTICES FOR SOIL FERTILITY AND HEALTH

- Practice Integrated Soil Fertility Management (ISFM) – the use of both organic and inorganic sources of nutrients rather than either alone;
- Use of legume cover crops (plus phosphorous) and green manures by fallow rotation or intercropping;
- Promote agroforestry practices – in addition to soil conservation and production benefits, agroforestry transfers/cycles nutrients from within the soil profile (deeper levels to surface);
- Use conservation tillage rather than deep plowing (although conservation tillage can be harmful for production systems in certain regions³);
- Use farm site manures and household wastes, with or without composting;

- Choose crops and associated plants that have high nutrient use efficiency.

6. ADDITIONAL READING

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U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov