

COVER SHEET

INITIAL ENVIRONMENTAL EXAMINATION

PROGRAM/ACTIVITY DATA:

Program/Activity Number: Economic Growth Sector Portfolio
Program Activity Title: USAID/Ghana DO2 Economic Growth Sector Portfolio
Country/Region: Ghana/Africa

Categorization per USG Foreign Assistance Framework:

Functional Objective: Economic Growth

Program Area: 4.3:	Financial Sector
Program Element: 4.3.1:	Financial Sector Enabling Environment
Program Area: 4.4:	Infrastructure
Program Element: 4.4.1:	Modern Energy Services
Program Area: 4.5:	Agriculture
Program Element: 4.5.1:	Agriculture Enabling Environment
Program Element: 4.5.2:	Agriculture Sector Capacity
Program Area: 4.8:	Environment
Program Element: 4.8.1:	Natural resources and Biodiversity
Program Element: 4.8.2:	Clean Productive Environment

Period Covered: 2013-2018
LOP Estimated/Planning Amount \$260mn

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IEE Amendment (Y/N): No

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Current Date 19 September 2013

Expiration Date 30 September 2018

Other Relevant Environmental Compliance Documentation:

- USAID/Ghana Feed the Future IEE (6 Dec 2011)
http://gemini.info.usaid.gov/egat/envcomp/document.php?doc_id=38018
- USAID-USFS Interagency Agreement (PAPA) IEE, as amended (9 Feb 2011).
http://gemini.info.usaid.gov/egat/envcomp/document.php?doc_id=37376

ENVIRONMENTAL ACTION RECOMMENDED

Categorical Exclusion	X	Negative Determination	X
Positive Determination	X	Deferral	X

ADDITIONAL ELEMENTS:

EMMP: X | Conditions: X | PVO/NGO: X | Pesticides:*

*22 CFR 216.3 (b)(1) applies

SUMMARY OF FINDINGS:

Scope. This IEE addresses the entire portfolio of activities anticipated under the USAID/Ghana Economic Growth (EG) portfolio. Replacing and superseding the Mission's previous EG IEEs, It applies to all economic growth activities implemented under Ghana's 2013-2018 CDCS Development Objective 2, except that (1) ongoing activities operating an approved environmental mitigation and monitoring plan (EMMP) may continue operating under that EMMP; and (2) **aside from the planned sustainable landscape program**, activities funded via an existing buy-in mechanism will be subject to and implemented in accordance with the approved IEE covering that mechanism

Recommended Determinations. The following table summarizes the recommended determinations for the EG portfolio, per the intervention categories established by this IEE for purposes of environmental review. For each, a link is provided to the activity descriptions, analysis of potential environmental impacts, and activity-by-activity determinations and conditions within section 3 of the IEE.

Intervention Category	Categorical Exclusion(s)	Negative Determination(s)	Positive Determination(s)	Link to full analysis
Agricultural Production: Inputs, Extension, Demonstration, Market Linkage & Related Community Outreach	✓	✓ (w/ conditions)		Click here
Fisheries Extension and Coastal Forests: Agroforestry, Silviculture, and Reforestation: Inputs, Extension, Demonstration & Related Community Outreach	✓	✓ (w/ conditions)		Click here
Oil and Gas Sector Economic Integration and Linkage		✓ (w/ conditions)		Click here
Infrastructure: Roads; Irrigation, Renewable and Conventional Energy Infrastructure; General Structures; Agricultural Plots		✓ (w/ conditions)		Click here
Support to Government Policy and Capacity (Excluding Extension Services); Data and Studies	✓	✓ (w/ conditions)		Click here
Improving Access to Agricultural Credit	✓	✓ (w/ conditions)		Click here

Deferrals of a Threshold Determination apply to:

- Supporting creation of a sustainable development program governed and funded by oil and gas stakeholders (see Section 3.4)
- Multiple medium-or-larger-scale potential infrastructure activities

General Restrictions. In addition to the specific conditions enumerated in Section 3, the EG portfolio is subject to general restrictions pertaining to Genetically Modified Organisms (GMOs) or Living Modified Organisms (LMOs) and use of or support for pesticides. These restrictions are enumerated in Section 4 of the IEE.

General Implementation & Monitoring Conditions. In addition to the specific conditions enumerated in Section 3, the negative determinations recommended in this IEE are contingent on full implementation of a set of general monitoring and implementation requirements specified in Section 4 of the IEE.

These require: (1) IP Briefings on Environmental Compliance Responsibilities; (2) Development of environmental mitigation and monitoring plans (EMMPs); (3) Integration and implementation of EMMPs

in workplans and budgets; (4) Integration of compliance responsibilities in prime and sub-contracts and grant agreements; (5) Assurance of sub-grantee and sub-contractor capacity and compliance; (6) Health Team environmental compliance monitoring; (7) 22 CFR 216 documentation coverage for new or modified activities; and (8) compliance with host country requirements.

NOTE. Activities implemented as government-to-government (G2G) must comply with the conditions herein enumerated, except that, per current mission practice, GoG will utilize GoG systems/processes to implement these requirements.

APPROVAL OF ENVIRONMENTAL ACTION RECOMMENDED:

(USAID/Ghana DO2 Economic Growth Sector Portfolio IEE 2013-2018)

CLEARANCE:

Mission Director: _____ Date: _____
Andrew Karas (Acting)

CONCURRENCE:

AFR Bureau Environmental Officer: _____ Date: _____
Brian Hirsch

Approved: ☐
Disapproved ☐

FILE Nº: _____

ADDITIONAL CLEARANCES:

Mission Environmental Officer: _____ Date: _____
Justice Odoi

EG Team Leader: _____ Date: _____
Peter Trenchard

Regional Environmental Advisor: _____ Date: _____
USAID/West Africa Anne Dix

Distribution List:

USAID/Ghana DRG Team A/CORs and Activity Managers
USAID/Ghana Office of Acquisitions and Assistance
USAID/Ghana Program Office

INITIAL ENVIRONMENTAL EXAMINATION

NOTE: List of Acronyms is provided as Annex A.

PROGRAM/ACTIVITY DATA:

Program/Activity Number: XXX

Program Activity Title: USAID/Ghana Economic Growth Sector Portfolio

Country/Region: Ghana/ Africa

Categorization per USG Foreign Assistance Framework:

Functional Objective: Economic Growth

(deleted—see facehsheet)

1.0 Background and Program Description

1.1 PURPOSE AND SCOPE OF IEE

This IEE addresses the entire portfolio of activities¹ under the USAID/Ghana Sustainable and Broadly Shared Economic Growth (EG) portfolio. It applies to all EG activities implemented under Ghana's 2013-2018 Country Development and Cooperation Strategy (CDCS) except that:

1. Ongoing activities operating an approved environmental mitigation and monitoring plan (EMMP) may continue operating under that EMMP. Any new or substantially modified activities, even under continuing projects, must comply fully with this IEE.
2. Aside from the planned Sustainable Landscapes program planned for implementation under the USAID-USFS PAPA, activities funded via an existing buy-in mechanism will be subject to and implemented in accordance with the approved IEE covering that mechanism. (This IEE satisfies the project-specific IEE required by the USAID-USFS PAPA IEE.)²

For purposes of analysis, this IEE synthesizes current and anticipated EG activities into a set of five intervention categories, each of which contains a number of entailed activities. As with all IEEs, and in accordance with 22 CFR 216, it reviews the reasonably foreseeable effects of each activity on the environment. On this basis, this IEE recommends Threshold Decisions, and in some cases, conditions for these activities.

In addition, this IEE sets out activity-level implementation procedures intended to assure that conditions in this IEE are translated into project-specific mitigation measures, and to assure systematic compliance with this IEE during project and activity implementation. These procedures are themselves a general condition of approval for the IEE, and their implementation is therefore mandatory.

¹ The terms "activity" and "project" are used throughout this IEE per their standard meaning in environmental impact assessment, and NOT as per USAID's new programming framework. As such, a project is a cluster of activities executed under a single, thematically focused prime contract or award. By contrast, in USAID's new programming framework, "project" describes a sector- or sub-sector portfolio, covering multiple contracts or awards, and "activity" denotes a single such contract or award ("implementation vehicle.")

² http://gemini.info.usaid.gov/egat/envcomp/document.php?doc_id=37376

NOTE. Activities implemented as government-to-government (G2G) must comply with the conditions herein enumerated, except that, per current mission practice, GoG will utilize GoG systems/processes to implement these requirements.

This IEE is a critical element of a mandatory environmental review and compliance process meant to achieve environmentally sound activity design and implementation.

1.2 OFFICE & PROGRAM BACKGROUND

Over the past two decades Ghana has made significant gains in economic growth, averaging GDP growth of more than 6% each year. It is one of the few countries in Africa expected to meet the Millennium Development Goal (MDG) of halving the poverty rate by 2015. While this growth is enabling Ghana to achieve lower-middle income status, significant challenges to achieving sustainable and broad based economic growth persist. Barriers to economic growth include low productivity in agriculture (the largest employer in the economy), weaknesses in key agricultural value-chains that limit competitiveness, weaknesses in the business climate that undermine private sector growth and development, significant disparities in income and economic vulnerabilities along regional lines within Ghana, and constraints in regional trade within West Africa. In addition to these challenges, issues of economic governance and accountability continue to inhibit the effective provision of public services to support vulnerable populations and private sector competitiveness. Ghana also faces key constraints to growth in the supply of power, access to credit, and property rights relating to land.

The EG program, as specified in CDCS Development Objective 2, respond to these challenges directly through support to the GoG Shared Growth and Development Agenda, Growth and Poverty Reduction Strategy (GPRS), Food & Agriculture Sector Development Policy (FASDEP), Comprehensive Africa Agriculture Development Program (CAADP), METASIP, the U.S. policy toward Sub-Saharan Africa, particularly pillar two “Spur Economic Growth, Trade, and Investment,” two U.S. Presidential Initiatives (Feed the Future and Global Climate Change), and the Partnership for Growth. Planned activities align with the GoG’s plan to reduce poverty through inclusive, private-sector-led economic growth.

DO 2 will direct investments primarily toward agriculture, energy, and biodiversity and natural resources management, with explicit attention to reducing gender gaps in access to, and control over, key resources, and to improved nutritional status, especially of women and children, while also supporting Ghana’s need for improved economic governance.

1.3 INTERVENTION CATEGORIES FOR ENVIRONMENTAL REVIEW.

For purposes of environmental review and compliance, interventions in the USAID/Ghana EG portfolio are organized into the following intervention categories.

1. Agricultural Production: Inputs, Extension, Demonstration, Market Linkage & Related Community Outreach
2. Fisheries Extension and Coastal Forests: Agroforestry, Silviculture, and Reforestation: Inputs, Extension, Demonstration & Related Community Outreach
3. Oil and Gas Sector Economic Integration and Linkage
4. Infrastructure: Roads; Irrigation, Renewable and Conventional Energy Infrastructure; General Structures; Agricultural Plots
5. Support to Government Policy and Capacity (Excluding Extension Services); Data and Studies
6. Improving Access to Agricultural Credit

Each intervention category includes a number of activities; these are described in Section 3 of this IEE.

2.0 COUNTRY ENVIRONMENTAL SITUATION (BASELINE INFORMATION)

Ghana is a West African state located between Longitude 1.5° E and 3.5°W; and Latitude 4° N and 11°. It shares international borders with Burkina Faso to the north, Togo to the east, Cote d'Ivoire to the west and the Atlantic Ocean to the south. Administratively, the country is divided into 10 regions (Fig.1) and 170 districts with Accra as the capital. The country is ecologically diverse with vegetation types that range from coastal to savanna to tropical forest. A summary profile for Ghana is provided as Annex A to this IEE.

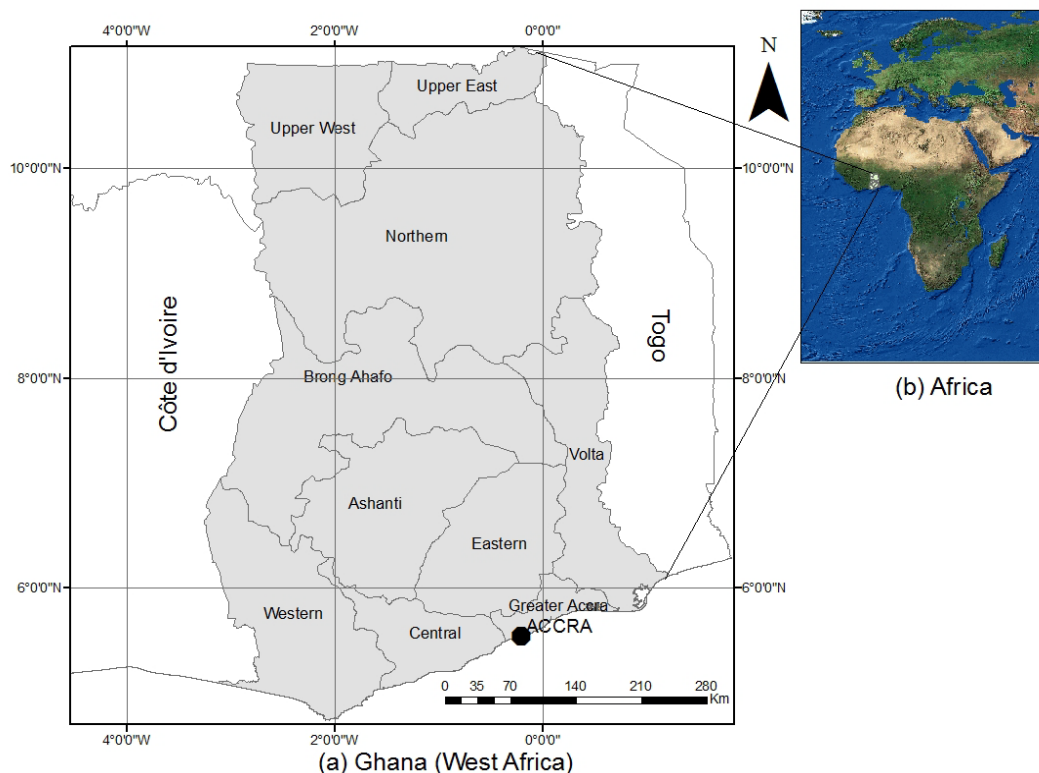


Figure 1. Map of Ghana (West Africa)

source: Justice Odoi, USAID/Ghana.

2.1. Environmental baseline

Agro-ecological zones Characteristics

text deleted)

Water resources

text deleted)

Land degradation and desertification

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Oil and Gas Resources

(deleted)

2.2. Environmental Policies and Procedures

(text deleted)

Main national policies relevant to the economic growth and FtF investments are outlined in Table 1.

Table 1. Law & Policy relevant to EG and FtF activities

Law/Policy	Summary/Relevance
Ghana Aid Policy 2011 – 2015 (2010) (PDF)	<p>The Ghana Aid Policy and Strategy highlights the importance of aid to Ghana's development efforts and outlines the policies and strategies needed to improve aid effectiveness in Ghana. It also recognizes the challenges Ghana faces to improve structures and systems for delivery of aid and work more closely with Development Partners (DPs)</p> <p>The document's main premise is that aid programs should be geared towards supporting Ghana's objective of attaining the Millennium Development Goals and middle income status by 2015 and 2020, respectively. To this end, the Ghana Aid Policy and serves as a guide to Governments, Development Partners, Civil Society Organizations and other stakeholders in the managing external aid in Ghana.³</p>
Food and Agriculture Sector Development Policy (FASDEP) 2002, 2007 (PDF)	<p>The first Food and Agriculture Sector Development Policy (FASDEP) was developed in 2002 as a framework for the implementation of strategies to modernize the agricultural sector. The strategies in that policy were based on the Accelerated Agricultural Growth and Development Strategy (prepared in 1996). FASDEP was revised in 2007 to reflect lessons learned and to respond to the changing needs of the sector. FASDEP II emphasizes the sustainable utilization of all resources and commercialization of activities in the sector with market-driven growth in mind. Enhancement of productivity of the commodity value chain, through the application of science and technology, is also emphasized. It however targets fewer commodities for food security and income diversification, especially of resource poor farmers.⁴</p>
National Environmental Policy (NEP), 1992, 2010 (PDF)	<p>The first National Environmental Policy was adopted in 1992 to provide the broad framework for the implementation of the National Environmental Action Plan. The 1992 Policy Identified a restructured lead agency (The Environmental Protection Agency, EPA) to drive the process towards sustainable development. It sought to ensure reconciliation between economic development and natural resource conservation, to make a high quality environment a key element supporting the country's economic and social development.</p> <p>In 2010, a new National Environmental Policy was developed to reflect challenges confronting environmental management as well as to effectively ensure enforcement. . The new policy attempts to restructure and redirect the implementation strategy to achieve desired results.</p>
L.I 1815 Energy Efficiency Standards and Labeling Regulations, 2005 (PDF)	<p>L.I 1815 – Energy Efficiency Standards and Labelling Regulations – is implemented by the Energy Commission, established by the Energy Commission Act of 1997, to encourage energy efficiency standards for buildings and appliances. ⁵</p>
EPA Act 1994 (Act 490) (PDF)	<p>It grants the Ghana Environmental Protection Agency enforcement and standards-setting powers and to ensure compliance with such standards and guidelines. It also gives it the mandate to co-manage, protect and enhance the country's environment, in particular, as well as seek common solutions to global environmental problems.</p>

³ Adapted from

http://www.mofep.gov.gh/sites/default/files/docs/mdbs/2010/GHANA_AID_POLICY_STRATEGY_FINAL_DRAFT_1.pdf (page 2)

⁴ Adapted from Ministry of Food and Agriculture, Republic of Ghana, "FASDEP II"

http://mofa.gov.gh/site/?page_id=598 accessed 15 Jul 2013.

⁵ Adapted from <http://www.ghanaef.org/publications/documents/LI%20Standards%20and%20Labelling.pdf> and Ghana ETOA 2011

Law/Policy	Summary/Relevance
Environmental Assessment Regulation 1999 (LI 1652) (PDF) and Environmental Assessment (Amendment) Regulations, 2002 (LI 1703) (PDF)	Provides guidance and ensure adequate consideration of biodiversity and related sensitive resources for Environmental Impact Assessments in Ghana. It combines both an environmental assessment and environmental management systems.
(table continues—deleted)	

2.3. Background

Economic growth and agriculture

text deleted)

Economic growth and oil and gas

text deleted)

Fisheries

text deleted)

Nutrition

text deleted)

Agricultural productivity

text deleted)

Infrastructure

text deleted)

Climate change overview

(text deleted)

3.0 Potential Environmental Impacts & Recommended Determinations, Including Conditions

As set out in Section 1.3, interventions in the USAID/Ghana EG portfolio are grouped into the following categories for the purpose of environmental review.

1. Agricultural Production: Inputs, Extension, Demonstration, Market Linkage & Related Community Outreach; Fisheries Extension
2. Fisheries Extension and Coastal Forests: Agroforestry, Silviculture, and Reforestation: Inputs, Extension, Demonstration & Related Community Outreach
3. Oil and Gas Sector Economic Integration and Linkage
4. Infrastructure: Roads; Irrigation, Renewable and Conventional Energy Infrastructure; General Structures; Agricultural Plots
5. Support to Government Policy and Capacity (Excluding Extension Services); Data and Studies
6. Improving Access to Agricultural Credit

Each category contains a number of entailed activities. In sections 3.2-3.7, the entailed activities are described and their potential impacts analyzed. On this basis, Recommended Determinations are made. In many cases, Negative Determinations entail conditions. Upon approval of this IEE, implementation of these conditions becomes mandatory.

3.1 BACKGROUND: POTENTIAL GENERAL ADVERSE IMPACTS OF GENERAL AGRICULTURAL AND AGRIBUSINESS DEVELOPMENT

The following are general adverse environmental impacts that may result from agriculture 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 EG activity categories that follow in section 3.2 through 3.7.

- **Introduction of exotic species.** It is widely accepted that introducing a non-native species to a new ecosystem must be done with great care. Quarantine laws are set up to avoid the potential adverse consequences of such an introduction. Introduced exotic species may spread diseases, out-compete native species for resources, become feral, act as predators or pests, or interbreed with native species. Lack of local competition or predators may drastically alter ecosystems as in the case of the water hyacinth and the Nile perch in Lake Victoria.
- **Soil erosion.** Unsustainable practices—such as poorly managed open-furrow agriculture, a crop grown in the wrong way or place, deforestation, or draining wetlands—can all cause soil erosion. As the soil erodes, less rainfall is absorbed and the excess runs off. This runoff removes the fertile topsoil necessary for crop production and can have serious off-site consequences, including gully formation, landslides, siltation and sedimentation of water bodies, downstream flooding, and damage to productive infrastructure.
- **Reduction in soil fertility.** Soil fertility is dependent on three major nutrients (nitrogen, phosphorous and potassium), various trace elements, and organic matter content. A productive soil contains sufficient quantities of each of these elements, which are slowly removed by repeated cropping without adding fertilizers; leaching due to rainfall; short fallow periods; and burning of crop residues. The subsequent decline in soil fertility often occurs in conjunction with soil erosion, with each problem exacerbating the other.
- **Siltation of water bodies.** Eroded topsoil is carried by runoff into water bodies. Once in the slower-moving water, the soil settles, altering the terrain, water depth and water clarity, which can harm fish and bottom-dwelling populations. Siltation can intensify downstream flooding by reducing channel capacity and can also fill the upstream areas behind a dam. One remedy for siltation, dredging, is an expensive process that must be repeated at regular intervals. Siltation in wetlands and coastal areas can reduce productivity and marine populations. Large-scale siltation impairs shipping and river transport, flood control, the efficiency of dams, fisheries and aquaculture, urban sewage treatment, and drinking water supplies.
- **Reduction in water quality.** Incorrect application of agrochemicals, fertilizers or manures can migrate from a farmer's field to local water sources, and subsequently cause environmental harm and adversely affect human health and activities.⁶ Animal manures transported from fields, pens or feedlots into water bodies through rainfall, runoff or irrigation can pollute local drinking water sources and spread human and animal diseases. Nutrients from manures/fertilizers can also cause nutrient loading in local water bodies, resulting in degraded water quality, reduced wildlife, fish and mollusk populations, and toxic algal blooms. Moreover, such impacts to water quality affect other uses of these water sources, such as drinking water, sanitation, fishing, aquaculture, recreation and tourism, and other farms.

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

⁶ The impacts of pesticides on the environment are discussed in USAID's Sector Environmental Guidelines available at <http://www.usaidgems.org/bestPractice.htm> in the agriculture, pesticides, and IPM sector chapters.

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.

- **Reductions in surface & groundwater quantity.** Excess extraction of water for irrigation from shallow or deep wells, or from river diversion can reduce the quantity of surface and/or groundwater, with adverse impacts on ecosystems, downstream users, and other users of the aquifer.

Agricultural processing activities are frequently water-intensive, and can likewise reduce surface and groundwater available for ecosystems and other users.

- **Non-participatory and undifferentiated extension policies.** Extension programs that apply a “package” of new approaches and technologies over large, diverse areas result in sub-optimal or even incorrect techniques for parts of the range of conditions. Ideally, smallholder farmers would participate in adapting packages, e.g., for soil conservation and improved agronomy and livestock management, to their local circumstances.

3.2 Agricultural Production: Inputs, Extension, Demonstration, Market Linkage & Related Community Outreach; Fisheries Extension

In general, agricultural activities focus on the strategic rice, maize, soya, and fisheries value chains. A significant portion of activities in this category aim to increase the economic and livelihood resiliency of the very poor, especially women and children in the North, by increasing their access to diverse, quality foods, supporting and facilitating improved nutritional practices and behaviors, and strengthening community and government capacity to coordinate on food and nutrition activities.

Entailed activities

Specifically, this EG intervention category consists of the following activities:

1. Agricultural Demonstration, direct extension/training and provision of inputs to:

- a. Promote control of plant pests and fungal diseases utilizing Integrated Pest Management Techniques. May include the procurement, distribution and use of pesticides.
- b. Promote integrated soil fertility management including use of fertilizers, rhizobium and other biological control agents, other than GMO/LMOs.
- c. Promote the use of higher yielding, drought tolerant, and/or pest resistant crop varieties and seeds. (Likely to involve provision of improved/fortified seed.)*
- d. Promote small-scale production techniques for diverse, high-quality diets, especially for women and young children
- e. Promote -cost-effective household- and community-level storage techniques to help prolong food supplies throughout the year, and intra-household management of money and diversification of income sources.

***NOTE: These activities do NOT include commercial seed replication.**

NOTE: Some demonstration and extension is likely to be irrigation-based.

2. Promote/strengthen government and 3rd-party extension and technical assistance

- a. Support the development of a GoG agricultural extension services to provide information and outreach to farmers and growers—especially women. Technology transfer will include best practices related to seeds, fertilizers, pesticide practices, financing, nutrition and agricultural practices. Emphasis will be on enabling support systems in place to operate more effectively

- b. Support public-private partnerships to support technical assistance at multiple levels throughout the agricultural value chain. Captures a wide range of players, including the individual farmer, local co-ops and the wider region buying and selling self-organized entities.
- 3. Support access to and strengthen agricultural services (e.g., seed multipliers, tractor hire services, crop conditioning services, fertilizer distributors)**
 - a. Build farmer capacity as agricultural services customers
 - b. Strengthen provider and potential provider technical and management capacity, including the capacity of farmers to act as providers true??
 - c. Support/establish buying agreements
 - d. Support access to services via provision of market information
 - e. Provide for subgrants for technical services, improved production technologies, crop conditioning services, post-harvest equipment procurement
- 4. Related community training/outreach**
 - a. Trainings/outreach on key nutrition messages at the household level and links with community-based monitoring to promote positive behaviors for both men and women
 - b. Training/outreach/education for household management of money and diversification of income sources.

NOTE: Rehabilitation/construction/development of supporting infrastructure (irrigation, rural roads, demonstration plots, small warehouses, training facilities and other general structures is addressed in Section 3.5)

Potential Adverse Impacts and Considerations Regarding Recommended Determinations

1. Demonstration, direct extension/training and provision of inputs. The set of crops and practices to be promoted are intended to be more productive and profitable and/or more diverse and nutritious than those common in the intervention areas. While the foci on soil fertility management and IPM are important foundations of a more sustainable farming system, these activities and the practices they promote present specific risks that must be managed.

- Unconsidered introduction of crop and/or cover species new to a given ecological zone presents risks that the species will be disruptive or invasive.
- Seed schemes that promote single or a very limited number of varieties of key crops over a sustained period do present risks of heightened vulnerability to unforeseen disease outbreaks, and may result in loss of the genetic diversity contained in traditional local varieties; this genetic diversity is a critical food security resource.

NOTE: USAID/Ghana asserts that Ghana possesses effective, robust systems to consider and approve new crop varieties and cultivars.

- As is typically the case, IPM-based pest management interventions are likely to include the use of pesticides. While IPM is intended to result in the minimum necessary use of least-toxic pesticides, any use of pesticides poses risks, particularly in an environment such as Ghana where farmer—and particularly smallholder—knowledge of pesticides and safer use principles is poor and appropriate equipment often lacking. (See section 3.1 for general discussion, for detail regarding the Ghanaian context, Ghana’s ADVANCE PERSUAP.)
- Seeds themselves are pesticide-treated and, unless handled appropriately, present risks to farmers and households.

- Use of fertilizers presents risks to surface and groundwater quality which can accelerate soil acidification, lead to build-up of heavy metals, and have adverse effects on soil biology. (See the AFR Fertilizer Factsheet; http://www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf). Water quality effects are described in section 3.1, as well as the necessary complementary extension and technical assistance.
- Irrigation presents a set of risks, including over-extraction of water, salination/permanent degradation of irrigated soils, and, contamination of surface and groundwater with agro-chemicals.
- Promoted cash crops may be successful enough that they drive conversion of forest land, even in protected or high-value forest.
- In general, if successful, these agricultural interventions may result in the expansion and intensification of agriculture—including increased land under cultivation and/or intensified smallholder production, likely with increased use of inputs. The effects of this are described in the general introduction to this section, as are the necessary complementary extension and technical assistance.

2. Promote/strengthen government and 3rd-party extension and technical assistance. A primary intent of building the capacity of 3rd-party (government, private, civil society) extension services is to increase the scale, scope and effectiveness of their efforts to promote specific agricultural and fisheries management practices. As discussed in this section for agriculture, and in section 3.6 for fisheries, the environmental soundness and health/safety risks of practices being promoted by extension activities matters significantly.

USAID is expected to have very little if any control over the actions of government or (in the case of agriculture) 3rd-party extension agents on the ground. However, in training extension agents and otherwise building the capacity of extension organizations, USAID does have a responsibility to assure that training and, as appropriate, organizational capacity-building integrate and promote a fundamental environmental and health/safety sensibility.

More specifically, the mitigation and management measures that are required when USAID directly undertakes such extension should be integrated and/or promoted in capacity-building for extension services. These measures follow from the discussion above and are set out in the “recommended determinations” section, below.

3. Support access to and strengthen agricultural services. Agricultural services cover a broad range of activities, many of which have potential for adverse environmental and health impacts, including the following:

- Commercial seed replication involves the operation of seed farms, often irrigated, and almost always involving use of fertilizers and pesticides both in cultivation to treat the harvested seeds. Irrigation and agro-chemical use present a set of significant concerns, as outlined in section 3.1.
- Tillage providers may be engaged for/engage in new land conversion --- an arduous process made much quicker and easier with a tractor and a chain.
- Agroprocessing presents a wide variety of environmental and occupational health and safety concerns. For example, substantial quantities of water are required by many processes, with commensurate quantities of high-BOD wastewater produced, which can have significant adverse impacts if discharged to surface waters.
- Fumigation service providers must conduct fumigation with precise adherence to specified procedures and use high-quality equipment to assure efficacy and prevent severe health hazards

to fumigators and anyone nearby. As demonstrated by DCHA Bureau's *Food Commodity Fumigation PEA*, these standards are rarely met.

- Fertilizer distributors may easily stock products not suited for local soil conditions or give poor advice regarding application, leading to adverse impacts on soil and surface and/or groundwater quality.

Beyond this, if successful, strengthening the agricultural services sector will contribute to growth of agriculture sector—including increased land under cultivation and/or intensified smallholder production, likely with increased use of inputs. The effects of this are described in the general introduction to this section, as is the necessary complementary extension and technical assistance for sound agricultural practices.

4. Related community training/outreach. These training/social messaging/behavior change activities present no foreseeable risks of adverse impacts.

Recommended Determinations

Pursuant to the analysis above, the activities in this category are recommended for the following determinations:

Activity	Recommended Determination
1. Agricultural Demonstration, direct extension/training and provision of inputs (all sub-activities)	<p><u>Negative determination</u> subject to the following <u>conditions</u> :</p> <p>Promoted crop and groundcover species must be endorsed for use by the relevant governmental authority;</p> <p>Promoted/utilized biologic agents for soil fertility enhancement must be approved for use in Ghana by the cognizant GoG entity and must be used/promoted in conformity with the directives and restrictions attached to such approval.</p> <p>Directly operated demonstration activities must:</p> <ul style="list-style-type: none"> • Conform to fertilizer good environmental practices as per the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) • Substantially conform to good agricultural and irrigation practices as set out USAID's Sector Environmental Guidance for Irrigation and Agriculture (http://www.usaidgems.org/sectorGuidelines.htm). • Use pesticides only in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. In the absence of such a PERSUAP, pesticide use is NOT permitted. <p>Extension activities:</p> <ul style="list-style-type: none"> • Must promote fertilizer good environmental practices as per the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) • Must incorporate and promote to good agricultural and irrigation practices as set out in USAID's Sector Environmental Guidance for Irrigation and Agriculture (http://www.usaidgems.org/sectorGuidelines.htm). • MUST be monitored to assure that promoted techniques are appropriate to the specific local context. (i.e., do not contribute to destruction or degradation of natural habitat, including deforestation, land degradation and drainage of wetlands; lead to loss of biodiversity; erosion or loss of soil fertility, siltation of water bodies or reduction in water quality; or spread disease.)

Activity	Recommended Determination
	<ul style="list-style-type: none"> • Must NOT support or reward new land conversion. • May only provide, recommend or otherwise support pesticide use in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. In the absence of such a PERSUAP, pesticide provision or support is NOT permitted. NOTE this <u>includes</u> the use of pesticides and fumigants for crop storage. • May NOT be carried out in protected areas, or within 5km of protected areas. <p>Seed distribution and input provision must be consistent with the above requirements. Treated seed must be dyed and seed distribution must be accompanied by education regarding appropriate handling and non-edibility.</p> <p>NOTES:</p> <p>1. Extension activities in or within 5km of protected areas will require amendment to this IEE</p> <p>2. Development of demonstration farms/plots and facilities and structures for crop storage or agroprocessing are subject to the requirements of section 3.5</p> <p>3. Demonstration and extension activities may not use/promote genetically modified crop varieties. Such support can only be undertaken in conformity with USAID's biosafety procedures and requires an associated amendment to this IEE.</p>
2a and 2b. Promote/strengthen government and 3rd-party extension and technical assistance in AGRICULTURE	<p><u>Negative determination</u> subject to the <u>following conditions</u> :</p> <p>In training extension agents and otherwise building the capacity of extension organizations, training and, as appropriate, organizational capacity-building will integrate and promote general awareness of the environmental, health and safety risks presented by agriculture activities, and appropriate choices and measures to manage these risks. This shall be generally consistent with, and wherever practicable, promote the specific measures required above for extension directly undertaken by USAID.</p> <p>In addition, public-private partnerships must incorporate as a core value the fostering of an environmentally sound/sustainable agribusiness and agricultural sector, and that this value must be fully mainstreamed and integrated in programming and activities.</p>
3. Support access to and strengthen agricultural services (e.g., seed multipliers, tractor hire services, crop conditioning services, fertilizer distributors) Note that “FINANCIAL ASSISTANCE” IN THIS CATEGORY IS	<p><u>Negative determination</u> subject to the <u>following conditions</u> :</p> <p>Training of and TA to service providers, potential service providers, and business development extensions agents serving this sector will:</p> <ol style="list-style-type: none"> Incorporate and promote sound environmental management practices in general conformity with relevant chapters of USAID's <i>Sector Environmental Guidelines</i> at: http://www.usaidgems.org/sectorGuidelines.htm; Conform with, promote and integrate good fertilizer practice per AFR's Fertilizer factsheet (www.encapafira.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) Incorporate Cleaner Production (CP) approaches as appropriate. 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 MSMEs Cleaner Production curriculum (www.usaidgems.org/sme.htm) . See also the

Activity	Recommended Determination
<p>CONFINED TO SUBGRANTS for agricultural services. AGRICULTURAL CREDIT IS ADDRESSED UNDER SECTION 3.7.</p>	<p>CP factsheet for Food Processing: www.usaidgems.org/mse/foodProcessing.htm.</p> <p>d. Convey Ghanaian environmental requirements pertaining to these operations.</p> <p>No training, TA, or financial assistance may be provided for services involving the procurement or use of pesticides <u>except</u> in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. <u>NOTE that this includes the use of pesticides and fumigants for crop storage.</u></p> <p>Service providers receiving financial assistance (i.e. subgrants) or substantial one-on-one TA shall, as a condition of receiving this support, be in compliance with all pertinent host country requirements, or commit to compliance as an outcome of this financial support and/or TA.</p> <p>Entities receiving financial assistance for agroprocessing, tillage, pest management, and input distribution services (including seed, fertilizers, and pesticides) MUST receive simultaneous, complementary TA embodying sound practices and supporting compliance with host country requirements.</p> <p>Entities considered for financial assistance or substantial TA in the areas of agroprocessing, pest management and input distribution must first undergo an initial environmental, health and safety review of their operations for general soundness and compliance with Ghanaian requirements. This assessment must be the basis for compliance commitments and supportive TA as required above. Assessments must be updated following conclusion of assistance. All such assessments must be maintained in project files and summaries in quarterly or 6-month project environmental compliance reporting.</p> <p>Pilots and demonstrations of agroprocessing and agricultural practices undertaken for purposes of promotion and fostering adoption are subject to the conditions above, and those governing "Directly operated demonstration" under Activity 1, above.</p> <p>Equipment and commodities procured or whose procurement is supported (e.g. by subgrants) must, to the greatest extent practicable: (1) be sourced locally; (2) not contain hazardous materials (in the case of pesticides, must be least-toxic practical alternative for the intended use, per an approved PERSUAP); (3) have appropriate options for local disposal.</p>
<p>4. Related community training/outreach.</p>	<p>Categorical Exclusion per:</p> <ul style="list-style-type: none"> 22 CFR 216.2 (c)(2) (viii) Programs involving nutrition, health care or population and family planning services except to the extent designed to include activities directly affecting the environment (such as construction of facilities, water supply systems, waste water treatment, etc.); AND 22 CFR 216.2 (c)(2) (i) Training, education and technical assistance.

3.3 Fisheries Extension and Coastal Forests: Agroforestry, Silviculture, and Reforestation: Inputs, Extension, Demonstration & Related Community

Outreach

Activities focused on coastal lands/coastal-forests management in this intervention category will be focused on six coastal districts in Ghana's Western Region which critical coastal resources (forests and fisheries) are under significant environmental pressure. A key focus is restoring "off-reserve" degraded lands; i.e. those outside protected areas.

Fisheries interventions are limited to support for GoG extension services.

Entailed activities

Specifically, this EG intervention category consists of the following activities:

- 1. Evaluation/identification of appropriate land restoration/agroforestry/reforestation techniques and approaches (may include field tests)**
- 2. Demonstration, direct extension/training and provision of inputs and other direct "scaling up" support* to:**
 - a. Agroforestry practices: integrated tree cropping & food crops
 - b. Reforestation/silviculture
 - c. promotion of multi-purpose woodlots, tree plantations (to support construction, fuelwood, charcoal),
 - d. Nursery operations in support of a, b & c.

*May include, e.g. support to out-grower schemes
- 3. Promote/strengthen government and 3rd-party extension and technical assistance**
 - a. **LAND RESTORATION/AGROFORESTRY/REFORESTATION:** Institutional strengthening and technical training/TA to strengthen government and 3rd-party extension and technical assistance for agroforestry, reforestation/silviculture, woodlots and tree plantations.
 - b. **FISHERIES** Provide technical assistance to GoG extension services supporting fisheries and coastal management
- 4. Community Participation in Governance & Community Outreach**
 - a. Enhance public awareness of ecosystem services for livelihoods through multimedia campaign and site-based awareness-raising campaigns
 - b. Community Resource Management Areas: training & mobilizing members, training in key management models

NOTE that:

- this IEE does NOT address or cover any activities conducted in protected areas/
- **ESTABLISHMENT** of tree nurseries for agroforestry and other purposes is covered under section 3.5.
- Development of land use plans and support to government NRM policy development and implementation support is covered under section 3.6.

Potential Adverse Impacts and Considerations Regarding Recommended Determinations

1. Evaluation/identification of appropriate land restoration/agroforestry/reforestation techniques and approaches (may include field tests). This activity is intended to determine the techniques and approaches to be promoted and supported under activities 2 & 3, below. As such, evaluation and testing that fails to consider the environmental, health and safety risks described under activity 2, below, substantially increases these risks.

2. Demonstration, direct extension/training and provision of inputs and other direct “scaling up” support to Agroforestry practices: integrated tree cropping & food crops; reforestation/silviculture; promotion of multi-purpose woodlots, tree plantations (to support construction, fuelwood, charcoal).

The set of practices to be promoted are intended to be more economically and environmentally sustainable than those common in the intervention areas, with the aim of restoring productivity and eco-system services in off-reserve degraded lands. However, physical interventions in ecologically important areas, even when focused on restoration of ecosystem integrity and services present environmental risks and demand careful design:

- Unconsidered introduction of tree species and agroforestry cultivars to a given ecological zone presents risks that the species will be disruptive or invasive. Even beyond species choice, many agroforestry and silviculture practices are highly context-specific: what is environmentally beneficial in one area may be adverse in another..

NOTE: USAID/Ghana asserts that Ghana possesses effective, robust systems to consider and approve new crop varieties and cultivars.

- Training/capacity building and promotion of agroforestry/silviculture/woodlots and plantations may inadvertently lead to/stimulate clearance of natural forest for agroforestry, plantations or woodlots, with potential consequent adverse impacts on water quality, aquatic organisms and human health. This is particularly true if agroforestry/woodlot/plantation schemes are provide strong economic returns.

(Plantations, woodlots, and agroforestry schemes,, while economically productive and providing most of the soil-conservation and runoff-control benefits of forests, are not biodiverse habitats and do not substitute for natural forests in this way. It is NOT appropriate for USAID to support conversion of natural forest to plantation for this reason. Similarly, species selection for afforestation or reforestation of natural forests is critical to preserving and restoring ecosystem balance.)

Similarly, training/capacity-building and promotion can result in *incomplete* adoption of good practice: eg., poorly controlled use of pesticides and fertilizers with potential consequent adverse impacts on water quality, aquatic organisms, and human health.

- Schemes that promote single or a very limited number of tree species over a sustained period present risks of heightened vulnerability to unforeseen disease outbreaks, and loss of diversity necessary for ecosystem functions.
- Agroforestry, silviculture, and plantation schemes may entail the use of pesticides and fertilizers, even where pest management interventions are IPM-based. While IPM is intended to result in the minimum necessary use of least-toxic pesticides, any use of pesticides poses risks, particularly in an environment such as Ghana where farmer—and particularly smallholder--knowledge of pesticides and safer use principles is poor and appropriate equipment often lacking. (See section 3.1 for general discussion, for detail regarding the Ghanaian context, Ghana’s ADVANCE PERSUAP.)
- Use of fertilizers presents risks to surface and groundwater quality which can accelerate soil acidification, lead to build-up of heavy metals, and have adverse effects on soil biology. (See the AFR Fertilizer Factsheet; http://www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf). Water quality effects are described in section 3.1, as well as the necessary complementary extension and technical assistance.
- Nursery operations typically entail the use of pesticides, fertilizers and irrigation. The scale is smaller than the acreage involved in agroforestry or reforestation schemes themselves, but the use of inputs may be concentrated. This presents a set of concerns outlined in section 3.1. Irrigation

presents a set of risks, including over-extraction of water, salination/permanent degradation of irrigated soils, and, contamination of surface and groundwater with agro-chemicals.

- In general, if successful, these agricultural interventions may result in the expansion and intensification of agriculture—including increased land under cultivation and/or intensified smallholder production, likely with increased use of inputs. The effects of this are described in the general introduction to this section, as are the necessary complementary extension and technical assistance.

3. Promote/strengthen government and 3rd-party extension and technical assistance. A primary intent of building the capacity of 3rd-party (government, private, civil society) extension services is to increase the scale, scope and effectiveness of their efforts to promote specific NRM/agroforestry/silviculture practices and fisheries management practices. As discussed in this section for NRM/agroforestry/silviculture, and in section 3.5 for fisheries, the environmental soundness and health/safety risks of practices being promoted by extension activities matters significantly.

USAID is expected to have very little if any control over the actions of government or (in the case of agriculture) 3rd-party extension agents on the ground. However, in training extension agents and otherwise building the capacity of extension organizations, USAID does have a responsibility to assure that training and, as appropriate, organizational capacity-building integrate and promote a fundamental environmental and health/safety sensibility. More specifically:

1. In the case of NRM/agroforestry/silviculture, the mitigation and management measures that are required when USAID directly undertakes such extension should be integrated and/or promoted in capacity-building for extension services. These measures follow from the discussion above and are set out in the “recommended determinations” section, below.
2. In the case of fisheries and coastal management, this sensibility must be grounded in the principles of sustainable fisheries and coastal zone management, reflecting the same underlying principles incorporated in USAID policy support

4. Community Governance Participation & Outreach

a. Enhance public awareness of ecosystem services for livelihoods through multimedia campaign and site-based awareness-raising campaigns. This sub-activity is intended to raise public awareness of the economic value of sound natural resources management. There is thus no contra-indication to the categorical exclusion as an education activity.

b. Community Resource Management Areas: training & mobilizing members, training in key management models. The intent of increasing the role of communities in management and governance of local natural/forest resources is to better implement and better assure the sustainability of land and forest use plans. Assuming these plans are sound and sustainable, and increased community management is accompanied by increased monitoring and oversight, results should be strongly beneficial. Experience shows, however, that failure to achieve these co-conditions, however, can easily lead to a set of significant adverse impacts, including rent-seeking “policy capture” by non-accountable local authorities

Recommended Determinations

Pursuant to the analysis above, the activities in this category are recommended for the following determinations:

Activity	Recommended Determination
1. Evaluation/ identification of appropriate land restoration/	<u>Negative determination</u> subject to the following <u>conditions</u>

Activity	Recommended Determination
agroforestry/ reforestation techniques and approaches (may include field tests).	<p>1. Evaluation must be conducted with full attention to (a) the potential adverse impacts of inappropriate choice of techniques and approaches as outlined in the discussion of “potential adverse impacts,” above and (b) the conditions specified immediately below for “demonstration, direct extension/training. . .”</p> <p>2. Field tests are subject to the conditions pertaining to “demonstration,” immediate below.</p> <p>NOTES:</p> <p>1. Field test activities in or within 1km of protected areas will require amendment to this IEE</p> <p>2. Development of test plots/schemes/woodlots and associated facilities and structures are subject to the requirements of section 3.5.</p> <p>3. Evaluation/test activities may not use/promote genetically modified cultivars. Such support can only be undertaken in conformity with USAID’s biosafety procedures and requires an associated amendment to this IEE.</p>
2. Demonstration, direct extension/training and provision of inputs and other direct “scaling up” support to Agroforestry practices: integrated tree cropping & food crops; reforestation/silviculture; promotion of multi-purpose woodlots, tree plantations (to support construction, fuelwood, charcoal).	<p><u>Negative determination</u> subject to the following <u>conditions</u> :</p> <p>1. Prior to undertaking activities in this category, a memo must be provided to and approved by the C/AOR and MEO describing how and why the techniques and approaches to be promoted were selected, with particular reference to activity 1, above, their soundness for the specific intervention areas vis a vis the risks enumerated in this section, and how remaining conditions in this section will be implemented.</p> <p>2. Promoted tree and agroforestry species must be endorsed for use by the relevant governmental authority;</p> <p>3. Promoted/utilized biologic agents for soil fertility enhancement (if any) must be approved for use in Ghana by the cognizant GoG entity and must be used/promoted in conformity with the directives and restrictions attached to such approval.</p> <p>4. Directly operated demonstration activities must:</p> <ul style="list-style-type: none"> • Conform to fertilizer good environmental practices as per the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) • Substantially conform to good agricultural and irrigation practices as set out USAID’s Sector Environmental Guidance for Irrigation and Agriculture (http://www.usaidgems.org/sectorGuidelines.htm). • Use pesticides only in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. In the absence of such a PERSUAP, pesticide use is NOT permitted. <p>5. Extension activities:</p>

Activity	Recommended Determination
	<ul style="list-style-type: none"> • Must promote fertilizer good environmental practices as per the USAID/AFR Fertilizer Factsheet (available at www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf) • Must incorporate and promote to good agricultural and irrigation practices as set out in USAID's Sector Environmental Guidance for Irrigation and Agriculture (http://www.usaidgems.org/sectorGuidelines.htm). • MUST be monitored to assure that promoted techniques are appropriate to the specific local context. (i.e., do not contribute to destruction or degradation of natural habitat, including deforestation, land degradation and drainage of wetlands; lead to loss of biodiversity; erosion or loss of soil fertility, siltation of water bodies or reduction in water quality; or spread disease.) • Must NOT support or reward new land conversion, or extensive monoculture plantations.. • May only provide, recommend or otherwise support pesticide use in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. In the absence of such a PERSUAP, pesticide provision or support is NOT permitted. NOTE this <u>includes</u> the use of pesticides and fumigants for crop storage. • May NOT be carried out in protected areas, or within 1km of protected areas. <p>Seed distribution (if any) and input provision must be consistent with the above requirements. Treated seed must be dyed and seed distribution must be accompanied by education regarding appropriate handling and non-edibility.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 1. Extension activities in or within 1km of protected areas will require amendment to this IEE 2. Development of demonstration plots/schemes/woodlots and associated facilities and structures are subject to the requirements of section 3.5. 3. Demonstration and extension activities may not use/promote genetically modified cultivars. Such support can only be undertaken in conformity with USAID's biosafety procedures and requires an associated amendment to this IEE.
3a. Institutional strengthening and technical training/TA to strengthen government and 3rd-party extension and technical assistance for agroforestry, reforestation/ silviculture, woodlots and tree plantations.	<p><u>Negative determination</u> subject to the following <u>conditions</u> :</p> <p>In training extension agents and otherwise building the capacity of extension organizations, training and, as appropriate, organizational capacity-building will integrate and promote general awareness of the environmental, health and safety risks presented by agroforestry, reforestation/ silviculture, woodlots and tree plantations, and appropriate choices and measures to manage these risks, as rooted in appropriate sustainable land management plans. This shall be generally consistent</p>

Activity	Recommended Determination
	with, and wherever practicable, promote the specific measures required above for extension directly undertaken by USAID.
3b. FISHERIES Provide technical assistance to GoG extension services supporting fisheries and coastal management	<p><u>Negative determination</u> subject to the following <u>conditions</u> :</p> <p>In training extension agents and otherwise building the capacity of extension organizations, training and, as appropriate, organizational capacity-building will integrate and promote general awareness of the environmental, health and safety risks presented by fishing and coastal economic activities, and appropriate choices and measures to manage these risks. This shall be generally consistent with the principles of sustainable fishery and coastal management, as set out, inter alia, in the fisheries chapter of USAID's Sector Environmental Guidelines (http://www.usaidgems.org/sectorGuidelines.htm).</p>
4a. Enhance public awareness of ecosystem services for livelihoods through multimedia campaign and site-based awareness-raising campaigns.	<u>Categorical Exclusion</u> per 22 CFR 216.2 (c)(2) (i) Training, education and technical assistance.
b. Community Resource Management Areas: training & mobilizing members, training in key management models.	<p><u>Negative Determination</u> subject to the following <u>conditions</u>:</p> <ol style="list-style-type: none"> 1. USAID support to community management of natural resources management/governance in any specific context is predicated on the underlying land/forest management plan substantially conforming to the conditions enumerated for land management plans in section 3.6. 2. Support to community natural resources management/governance in any specific context must be accompanied by strengthened monitoring of forest/land management, and reporting to central governmental authorities and, preferably, the public. <p><i>NOTE: IEE does NOT cover community management of nor economic uses of protected areas.</i></p>

out no plantations would replace natural forests & reforestation would consider impacts on the land-use mosaic of the areas, including impacts on natural forests & would prefer native species to non-native. Efforts to avoid large blocks of monocultures would be made

3.4 Oil and Gas Sector Economic Integration and Linkage

Entailed activities

This EG intervention category consists of the following subcategories and activities:

1. **Encourage broader participation of the oil and gas industry stakeholders in the development of the Ghanaian private sector**
2. **Strengthen the capacity of local SMEs to partner with larger, international firms to provide services and supplies through a supply chain development program for the oil and gas supply chain in Ghana.**
3. **Improve the technical capacity of the local SMEs and business service providers and Ghanaian firms to supply to the oil and gas sector through targeted technical assistance**

4. Create market linkages between Ghanaian firms and the oil and gas sector
5. Increase the understanding of Ghanaian firms of the procurement requirements and standards of the oil and gas sector
6. Support creation of a sustainable development program governed and funded by oil and gas stakeholders

NOTE that these activities **EXCLUDE** construction or rehabilitation of facilities or procurement of equipment; any such actions would require amendment of this IEE. Also excluded is financial assistance (including subsidized credit) to individual firms.

Potential Adverse Impacts and Considerations Regarding Recommended Determinations

With respect to activities 1-5: The varied operations of the oil and gas sector present a set of complex, often significant potential impacts. Inter alia, oil and gas extraction presents high risk for significant soil, surface and groundwater contamination resulting from spills and discharge of production/processing water; reduced water availability from the use and loss of water in extraction and processing; toxic air pollution flaring and venting gas. Offshore extraction presents particular risks to already threatened fisheries. In-migration, particularly of men, to production areas due to actual or perceived economic opportunities may lead to increased transmission rates of HIV/AIDs and other STDs.

The potential for significant adverse impacts generally extends into the sector's supply chain of goods and services. These are diverse, ranging from receiving and management of waste drilling and processing fluids, to vehicle, pipeline, and heavy machinery maintenance, including both field maintenance and heavy machine shop function, to local HR/workforce management, to catering, janitorial and accommodation services, among many others.

Growing and deepening the extent to which these goods and services are sourced locally is the focus of this intervention category. Examples of "supply chain impacts" deriving from provision of these and other goods and services include, among many others, the following:

- Increased heavy-vehicle traffic and demands on transportation infrastructure in general, and in particular roads, leading to impacts on abutters;
- Altered landscapes and soil erosion due to poor site design and disturbances during and after construction. (Even supporting facilities for the oil and gas sector can have a large footprint.);
- Water, soil and air pollution from waste receiving and management operations.

Increased local sourcing will tend to increase the scale and scope of impacts, unless accompanied by implementation of appropriate environmental, health and safety management measures.

This said, USAID is unlikely to have direct control over the individual actions of any Ghanaian firm in the oil and gas supply chain. In general, it is also unlikely that the future actions of firms can be specifically attributed to a USAID intervention.

Thus, USAID's responsibilities for environmentally and socially responsible implementation of this activity lie in (1) assuring that firms benefiting from substantial assistance are in compliance with Ghanaian environment, health and safety requirements; (2) where gaps or weaknesses exist, working to strengthen these Ghanaian requirements; and (3) building the capacity of relevant Ghanaian governmental entities to monitor compliance with and enforce these requirements .

With respect to activity 6: Until this activity is defined in at least general terms, analysis of potential impacts is not possible.

Recommended Determinations

Pursuant to the analysis above, the activities in this category are recommended for the following determinations:

Activity	Recommended Determination
Oil and Gas Sector Economic Integration and Linkage: all activities <u>except</u> “support creation of a sustainable development program governed and funded by oil and gas stakeholders.”	<p>Negative determination subject to the following conditions</p> <ol style="list-style-type: none"> 1. Environmental, health and safety management must be fully integrated into these activities; EG shall submit for REA review and approval IP's plans for achieving such integration prior to implementation of these activities. 2. Firms receiving substantial TA shall, as a condition of receiving this support, be in compliance with all pertinent host country requirements, or commit to compliance as an outcome of this TA. 3. Firms being considered for substantial individual TA must first undergo an initial environmental, health and safety (EHS) review of their operations for general soundness and compliance with Ghanaian requirements. This assessment must be the basis for compliance commitments and supportive TA as required above. Assessments must be updated following conclusion of assistance. All such assessments must be maintained in project files and summaries in quarterly or 6-month project environmental compliance reporting. 4. A strengths/gaps assessment must be conducted of: (1) Ghanaian EHS regulation and performance standards for enterprises and activities in the oil and gas sector supply chain; and (2) the capability of cognizant government entities to enforce these requirements. A particular focus must be standards involving transport, maintenance, waste management, and any direct support to production. 5. Based on this strengths/gaps assessment, USAID must engage in suitable regulatory and enforcement capacity-strengthening activities with appropriate GoG entities. While it is acknowledged that final decisions regarding regulations, policies and enforcement strategy lie with the GoG, USAID TA must emphasize, wherever practicable, the following known elements of successful SME regulatory approaches: (1) public reporting of firm performance; (2) simplification and accessibility of regulatory language; (3) treatment of enforcement and education/outreach as necessary, complementary activities. <p>NOTE: The BEO may determine that other activities financed by USAID/Ghana, GoG, or other donors satisfy these requirements.</p>
Support creation of a sustainable development program governed and funded by oil and gas stakeholders	<p>DEFERRAL</p>

3.5 Infrastructure: Roads; Irrigation, Renewable and Conventional Energy Infrastructure; General Structures; Agricultural Plots; Nurseries

(deleted)

3.6 Support to Governance and Government Policy and Capacity (Excluding Extension Services); Data and Studies

(deleted)

3.7 Improving Access to Agricultural Credit

(deleted)

4. Restrictions, Implementation and Monitoring

4.1 GENERAL RESTRICTIONS

- 1. GMOs/LMOs:** For purposes of compliance with USAID procedures, Genetically Modified Organisms (GMOs) or Living Modified Organisms (LMOs) are defined as “living organisms modified by genetic engineering techniques” and include, e.g., plants, microorganisms, live animal vaccines (if used outside a contained area and not approved in the US), animals, and insects.

This IEE does not authorize support for laboratory- or field-based research involving GMOs/LMOs, nor does it authorize support for multiplication or dissemination/open release of GMOs/LMOs. Support for laboratory research involving GMOs/LMOs in contained facilities would require an approved amendment to this IEE. Support for field testing or open release of GMOs/LMOs would require successful review under USAID’s Biosafety Procedures followed by an approved IEE amendment. The national requirements of Ghana must be met in either case.

See the USAID Biosafety Procedures Factsheet for more information:

http://www.usaidgems.org/Documents/complianceTopics/Biosafety_5Feb2010.pdf.

- 2. PESTICIDES.** All activities that fall outside of the category of controlled experimentation exclusively for the purpose of research and field evaluation and entail the procurement or use, or both, of pesticides shall conform with the relevant Pesticide Evaluation Report and Safer Use Action Plan, conducted in accordance with USAID Pesticide Procedures (22 CFR 216.3(b)). No funds shall be obligated or expended for the procurement or use of pesticides unless they are specifically approved in the relevant PERSUAP.

4.2 GENERAL PROJECT IMPLEMENTATION AND MONITORING REQUIREMENTS

In addition to the specific conditions enumerated in Section 3, the negative determinations recommended in this IEE are contingent on full implementation of the following general monitoring and implementation requirements:

- 1. Consideration of Project-level IEEs.** This EG portfolio IEE was developed, as required by USAID project design guidance, during the PAD analysis stage in the project design cycle. As such, it was developed with only relatively general information available regarding most activities.

Therefore, for each major EG procurement, the EG team, in consultation with the MEO and REA, must consider whether the goal of environmentally sound design and management and clarity and transparency regarding IP and EG team compliance requirements would be best served by development of a project-level IEE based on far more specific activity descriptions.

Such project-level IEEs would supercede this portfolio IEE for a particular procurement, but would be guided by and establish conditions no less stringent than those set out by this IEE. Such IEEs must incorporate all of the remaining conditions set out in this section.

2. **IP Briefings on Environmental Compliance Responsibilities.** The EG team shall provide each EG Implementing Partner (hereinafter IP), with a copy of this IEE; Each IP shall be briefed on their environmental compliance responsibilities by their cognizant C/AOR. During this briefing, the IEE conditions applicable to the IP's activities will be identified.
3. **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.

These EMMPs shall identify how the IP shall assure that IEE conditions that apply to activities supported under subcontracts and subgrant are implemented. (In the case of large subgrants or subcontracts, the IP may elect to require the subgrantee/subcontractor to develop their own EMMP.)

(Note : refer to the EMMP Factsheet, available at <http://www.usaidgems.org/mitMonRep.htm>.)

4. **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.

IPs shall assure that sub-contractors and sub-grantees integrate implementation of IEE conditions, where applicable, into their own project work plans and budgets and report on their implementation as an element of sub-contract or grant performance reporting.

5. Integration of compliance responsibilities in prime and sub-contracts and grant agreements.

The EG team shall assure that all solicitation and award documents include environmental compliance language generated by the ADS Help Document/Tool: Environmental Compliance: Language for Solicitations and Awards. (<http://transition.usaid.gov/policy/ads/200/204sac.pdf>)

Award language generated by this document requires not simply compliance with IEE conditions, but the budgeting and planning tasks necessary for compliance, such development of EMMPs and annual review of workplans against the scope of approved Reg. 216 documentation.

IPs shall assure that sub-contracts and sub-grant agreements reference and require compliance with relevant elements of IEE and EA conditions.

6. **Assurance of sub-grantee and sub-contractor capacity and compliance.** IPs shall assure that sub-grantees and subcontractors have the capability to implement the relevant requirements of this IEE. The IP shall, as and if appropriate, provide training to subgrantees and subcontractors in their environmental compliance responsibilities and in environmentally sound design and management (ESDM) of their activities.
7. **EG Team monitoring responsibility.** As required by ADS 204.5.4, the EG team will actively monitor and evaluate whether the conditions of this IEE are being implemented effectively and whether there are new or unforeseen consequences arising during implementation that were not

identified and reviewed in this IEE. If new or unforeseen consequences arise during implementation, the team will suspend the activity and initiate appropriate, further review in accordance with 22 CFR 216. USAID Monitoring shall include regular site visits.

8. **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.

9. **Compliance with Host Country Requirements.** Nothing in this IEE substitutes for or supersedes IP, subgrantee and subcontractor responsibility for compliance with all applicable host country laws and regulations. The IP, subgrantees 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.
10. **Government to Government (G2G) assistance.** Where activities are carried out via direct funding of governmental partners and this is not noted in the IEE activity description, EG will nonetheless assure, via negotiated implementation arrangements with the governmental partner and, potentially, complementary environmental monitoring and management support activities, that the conditions established by this IEE will be met.

In some cases, responsibility for appropriate environmental management of the activity may be appropriately assigned in the entirety to the governmental partner and/or host country environmental assessment and management authorities. Required considerations regarding degree of reliance on partner government entities for appropriate environmental management are (1) the environmental assessment and management capacity of these partners, and (2) the relative risk posed by the activities in question.

Annex A. Acronyms

AFR	Africa	IPP	Independent Power Producer
AIDS	Acquired Immunodeficiency Syndrome	IPM	Integrated Pest Management
BEO	Bureau Environmental Officer	IEE	Initial Environmental Examination
BOD	Biological Oxygen Demand	LMO	Living modified organism
CAADP	Comprehensive Africa Agriculture Development Program	MDG	Millennium Development Goal
CDCS	Country Development and Cooperation Strategy	MEO	Mission Environmental Officer
CIS	Customer Information Systems	METASIP	Medium-Term Agricultural Sector Investment Plan
DCHA	Democracy, Conflict, and Humanitarian Assistance	MIS/ERP	Management Information System/Enterprise Resource Planning
DP	Development Partners	MoEP	Ministry of Energy and Petroleum
EA	Environmental Assessment	MoFEP	Ministry of Finance and Economic Planning
EC	Energy Commission	NEP	National Environmental Policy
ECG	Electricity Company of Ghana	PAPA	Participating Agency Partnership Agreement
EG	Economic Growth	PEA	Programmatic Environmental Assessment
EHS	Environmental Health and Safety	PERSUAP	Pesticide Evaluation Report and Safe Use Action Plan
EMMP	Environmental Mitigation and Monitoring Plan	PMI	President's Malaria Initiative
ERF	Environmental Review Form	PPA	Power Producer Agreements
FASDEP	Food and Agriculture Sector Development Policy	PURC	Public Utilities Regulatory Commissions
FtF	Feed the Future	PV	Photovoltaic
GC	Government Contractors	REA	Regional Environmental Advisor
GCLMS	Ghana Child Labor Monitoring System	REDD	Reducing Emissions from Deforestation and forest degradation in Developing Countries
GDP	Gross Domestic Product	RF	Rural Feeder
GMO	Genetically Modified Organisms	SCADA	Supervisory Control and Data Acquisition
GNGC	Ghana Natural Gas Company	SME	Small and Medium Sized Enterprises
GoG	Government of Ghana	STD	Sexually Transmitted Disease
GPRS	Growth and Poverty Reduction Strategy	TA	Technical Assistance
G2G	Government-to-Government	USAID	United States Agency for International Development
GRIDCO	Grid Company of Ghana	VRA	Volta River Authority
HIV	Human Immunodeficiency Virus	WHO	World Health Organization
ICS	Industrial Control System		
IP	Implementing Partner		