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Subaward

by

International Fertilizer Development Center

to

Iowa State University

I. Preamble

This Subaward is made between International Fertilizer Development Center (IFDC), P.O. Box 2040, Muscle Shoals, AL 35662, U.S.A. and Iowa State University (ISU or Recipient), Office of Sponsored Programs Administration, 1138 Pearson Hall, Ames, IA 50011-2207, each individually called a “Party” and collectively “the Parties.”

On April 15, 2013, IFDC and the U.S. Agency for International Development (USAID) entered into Cooperative Agreement No. AID-641-A-13-00001, which is to provide support for the Feed the Future USAID Agriculture Technology Transfer Project (FTF-USAID-ATT). In furtherance of the objectives of that program, and to engage in development activities in which both Parties have a common interest and will mutually benefit, IFDC and ISU enter into this Subaward.

IFDC is a public international organization located in the State of Alabama, United States of America. By virtue of Executive Order 11977, dated March 14, 1977, IFDC is designated a public international organization (PIO). IFDC addresses critical issues such as international food security, the alleviation of global hunger and poverty, environmental protection and the promotion of economic development and self-sufficiency. IFDC focuses on increasing productivity across the agricultural value chain in developing countries. This is achieved by the creation and transfer of effective and environmentally sound crop nutrient technology and agribusiness expertise.

ISU is an international university that boasts students from all 50 states and more than 100 countries. ISU, located in Ames, Iowa, offers more than 100 majors in a learning environment where students can enjoy reaching their potential and discovering their passions. The ISU College

of Agriculture and Life Sciences is one of the world's leading institutions of agriculture. Building on 150 years of excellence, the college provides leadership in science, education and research, areas vital to the future of Iowa, the nation and the world.

II. Objectives and Activities

Through its FTF-USAID-ATT Cooperative Agreement, IFDC will provide funding to ISU for performance of the following global scope of work. It is agreed as between the Parties that this is a preliminary scope of work, and that a final, detailed scope of work will be agreed upon once the Project Monitoring Plan (PMP) has been finalized and approved by USAID and the Parties have entered into a corresponding amendment to this Subaward.

Creating a Competitive Ghanaian Seed Sector

Upgrade skills and performance of government regulatory bodies

- Develop a program to raise public awareness of potential benefits of biotechnology.

Develop seed technical and market information system (jointly with other partners)

- Improve information and communications services for all project stakeholders;
- Online publications of the seed catalog, crop handbooks, biosafety guidelines.

Establishment of seed trade association (Jointly with CDI)

- Provide support to ASCOG and SEEDPAG to professionalize their business;
- Improve governance structure, building trust between seed trade associations;
- Promote dialogues, foster collaboration to resolve bottlenecks in seed value chain;
- Organize action research to create basis for policy awareness and advocacy;
- Conduct awareness and advocacy enabling policies to implement the Seed Act;
- Publish policy briefs on systemic bottlenecks;
- Capacity Building Training seed industry association leaders;
- Provide training to SEEDPAG in advocacy with the government decision makers;
- Build the capacity in seed quality control, business plan, and marketing.

Research Capacity and Outreach

Support SARI in seed operations and ISFM (jointly with IFDC)

- Stakeholder workshops with users of seed and ISFM technologies;
- Prioritization of research projects for the relevant research institutions;
- Empower SARI in system and participatory approaches, modeling, GIS;
- Provide assistance SARI to identify technologies with potential commercial impact;
- Advise SARI on better systems of consultation stakeholders;
- Assist SARI to design and conduct focused research projects;
- Develop farm budgets to demonstrate the profitability of technology packages;
- Promote research collaboration between project-assisted institutions and others;
- Assist SARI to build linkages with international/domestic research organizations.

Build research capacity genetically engineered seed

- Provide technical assistance to CSIR and the BNARI to build their capacity;
- Develop systems for scanning international sources for genetic improvements;
- Production of a risk assessment manual and technical guides;
- Development of related communication tools;
- On the job training, workshops and conferences for Ghanaian research staff.

Facilitation of exchange missions outside Ghana

- Training researchers and extension managers in the USA to ISU.

III. Period of Subaward

- a. The effective date of this Subaward is April 15, 2013. The estimated completion date of this Subaward is April 14, 2018.
- b. Funds obligated hereunder are available for program expenditures for the estimated period from the effective date to April 30, 2014, as shown in the Subaward Budget, attached hereto as Annex A.
- c. Notwithstanding the foregoing, this Subaward shall not be made effective until ISU had provided its DUNS number to IFDC.

IV. Amount of Subaward and Payment

- a. The total estimated amount of this Subaward for the period shown in III. a. is \$1,660,066.
- b. IFDC hereby obligates the amount of \$187,273 for program expenditures during the period set forth in III. b. and as shown in the Subaward Budget.
- c. Payment will be made to the Recipient as follows:

Upon finalization of the project Work Plan and PMP for the initial project period of performance (through September 2014), the Parties shall implement activities through separate written amendments to this Subaward (Subaward Amendments) that will provide further details on the activities to be performed. Said Subaward Amendments shall be signed by authorized representatives of each Party.

It is anticipated that an advance payment in the amount of 75% of the approved annual ISU budget will be provided upon the signing of each Subaward Amendment, and that 25% will be paid upon satisfactory performance of the amendment activities and submission of all deliverables and reports. All funding to be provided by IFDC is strictly contingent upon receipt of USAID funding for the implementation of activities under FTF-USAID-ATT.

- d. IFDC is not obligated to reimburse the Recipient for the expenditure of amounts in excess of the total obligated amount, nor for expenditures that are not considered allowable costs as herein defined.

V. Deliverables

ISU shall provide the following technical and financial reports to IFDC for approval:

a. Annual Work Plans and Budgets

▶ **First Work Plan is due no later than June 1, 2013.** The first work plan should cover the period from the effective date of this Subaward through end of September 2014. The Work Plan should include major activities that will be undertaken, the rationale behind these activities, anticipated results of these efforts and how they will be measured, any outside technical assistance that will be required to complete the activity, and a timeframe for when activities will commence and end. The planned activities must be arranged by the overall objectives of the Program Description and further broken down by sub-activities and tasks and by geographic location. Details of collaboration with other partners should also be included. Also include budgetary forecasts and notes tied to proposed activities. The Work Plan should also provide an exit strategy which details the approaches, steps and activities that will be undertaken to ensure that project results will be sustained after the end of the project.

▶ **Subsequent Annual Work Plans are due no later than August 1 of subsequent years** and shall contain the same information as described above covering the future program implementation year.

b. Monitoring and Evaluation Plan (M & E)

The M & E Plan will consist of a Performance Monitoring Plan (PMP) and a Knowledge Management and Learning (KM & L) Plan. The PMP should track a set of required and standard indicators in accordance with the Foreign Assistance Framework and Feed the Future Agriculture Program Objective. In addition to these required and standard indicators, additional indicators that measure program outcomes should be proposed.

ISU contributions to the M & E Plan are due no later than June 1, 2013. They should cover the entire period of this Subaward and should cover those portions of the PMP for which ISU is responsible. Elements of the M & E Plan may be adjusted based on any changes in planned activities.

For each indicator proposed in the PMP, a brief narrative will include:

- Data collection method;
- Data reliability and timeliness (i.e., intrinsic data quality);
- Indicator validity (i.e., the relationship between the indicator and the desired output of result).

The M & E Plan shall clearly stipulate how and when baselines will be established and shall include relevant indicators to measure performance annually and at the end of the program, with baselines and targets for each indicator.

c. **Interim Reports**

▶ **Weekly Bullets** – Brief weekly bullets on project activities that provide highlights of major events shall be provided. The update will identify current and up-coming consultations/visitors, key activities and events of the previous week, and upcoming activities and events. The information is combined with those of other projects and circulated to help keep overall FTF activities coordinated. These shall be due **every week**, on a day to be determined by IFDC.

▶ **Quarterly Progress Reports** – Due no later than **15 calendar days** from the end of each quarter. IFDC will provide a template for use in this reporting, including performance results reporting. Information to be provided in the report may include: (1) progress to date, per the agreed-upon deliverables; (2) identification of specific problems and delays and recommendations for adjustments and corrective action; (3) outcomes of any high-level meetings held and field visits; (4) planned activities for the next reporting period; (5) assessment of the validity and efficacy of progress against the objectives and results; (6) progress on gender and environmental compliance, including but not limited to issues arising.

The fourth quarter report should be an annual report with a descriptive analysis of activities conducted during that USG fiscal year, a quantitative and/or qualitative description of actual achievements versus planned activities for the year, in both narrative and in data performance table formats. The data performance table should include accomplishments for the fiscal year against that year's targets.

The recipient will provide IFDC with an electronic copy of the products – studies, trip reports, technical reports – of all short-term consultants financed under the agreement.

d. **Final Reports**

A draft of the final report shall be submitted 30 days after the end date of the contract, and a final copy 60 days after the end date and shall cover the period of the Subaward. It shall include the cumulative results achieved, an assessment of the impact of the program, lessons learned and recommendations, notable impacts, and detailed financial information. It should be grounded in evidence and data.

e. **Financial Reports**

Federal Financial Form (SF-425) must be submitted on a quarterly basis to IFDC. All final financial reports and the final Federal Financial Form (SF-425) must be submitted to IFDC.

In addition, deliverables that shall be due from ISU may be more particularly specified in the finalized PMP and corresponding amendment to this Subaward.

VI. Relationship

IFDC and ISU are separate and independent organizations. Except as set forth herein, neither Party to this Subaward shall have any rights whatsoever in obligation of or representation of the other in any activities. The employees of IFDC shall not be entitled to any remuneration or other benefits from ISU. The employees of ISU shall not be entitled to any remuneration or other benefits from IFDC. No contractual relationship is created between ISU and USAID, and ISU shall refrain from direct contact with USAID relative to this Subaward, unless prior written consent is obtained from IFDC.

VII. Amendments

Changes or modifications of the terms or scope of this Subaward shall be made in writing and signed by both Parties.

VIII. Intellectual Property Rights and Publications

In general, it is expected that any intellectual property rights that result in furtherance of the objectives of this Subaward will be a public good, intended for the betterment of agriculture production globally and jointly held by the Parties and/or USAID. Any publication resulting from this collaborative project shall reflect the joint efforts of both institutions.

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IX. Authorized Representatives

The following persons are authorized as official contacts under this Subaward. Any notice given by either Party under this Subaward shall be sufficient only if in writing and delivered in person, sent by registered mail or faxed to the official contact persons identified below:

IFDC

Amit H. Roy
President & CEO
IFDC
PO Box 2040
Muscle Shoals, AL 35662
Telephone: 256/381-6600, ext. 204
Email: aroy@ifdc.org
Website: www.ifdc.org

ISU

For Technical Matters:

Manjit Misra
Denise Bjelland
College of Agriculture and Life Sciences
Global Programs Office
18 Curtiss Hall
Ames, Iowa 50011-1050
Telephone: 515/294-8454
Email: mkmisra@iastate.edu;
bjelland@iastate.edu
Website: www.ag.iastate.edu

For Contractual Matters:

Rochelle R. Athey, or designee
Director, Office of Sponsored Programs
Administration, Iowa State University
1138 Pearson Hall, Ames, IA 50011-2207
Telephone: 515-294-5225
Email: grants@iastate.edu
Website: www.ospa.iastate.edu

X. Termination

Either Party may terminate the Subaward by giving thirty (30) days' written notice of the intent to terminate the Subaward. Upon receipt of notice of termination by IFDC, the recipient must take immediate action to cease all expenditures financed by the Subaward and to cancel all unliquidated obligations if possible. The recipient may not enter into any additional obligations under the Subaward after receiving the notice of termination, other than those reasonably necessary to effect the close out of the Subaward. Except as specifically provided, no further reimbursement will be made after the effective date of termination. As soon as possible, but in any event no later than 60 days after the effective date of termination, the recipient must repay to IFDC all unexpended funds that are not otherwise obligated by a legally binding transaction applicable to the Subaward.

In the event USAID suspends or terminates the underlying FTF-USAID-ATT Cooperative Agreement, IFDC shall have the right to immediately suspend and/or terminate this Subaward, and ISU shall immediately return all funds advanced to ISU that have not been spent or obligated under a legally binding agreement.

XI. Settlement of Disputes

The Parties shall use their best efforts to settle any disputes arising out of or in any way connected with this Subaward. Any dispute that cannot be amicably resolved within fifteen (15) days after receipt by one Party of the other's request for amicable settlement shall be resolved under the laws of the State of Iowa or the federal laws of the United States, as applicable. The resolution determined under this clause shall be final and binding on both Parties. Moreover, any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not apply in interpreting this Subaward. The language of this Subaward shall be interpreted according to its fair meaning and not strictly for or against either Party.

XII. Non-Liability

Neither IFDC nor ISU assumes liability for any third party claims for damages arising out of this Subaward.

XIII. Required Provisions

ELIGIBILITY RULES FOR GOODS AND SERVICES

- a. This provision is not applicable to commodities or services that ISU provides with private funds as part of a cost-sharing requirement, or with Program Income generated under this Subaward.
- b. Ineligible and Restricted Commodities and Services:
 - (1) Ineligible Commodities and Services. ISU must not, under any circumstances, procure any of the following under this Subaward:
 - (i) Military equipment;
 - (ii) Surveillance equipment;
 - (iii) Commodities and services for support of police or other law enforcement activities;
 - (iv) Abortion equipment and services;
 - (v) Luxury goods and gambling equipment; or
 - (vi) Weather modification equipment.
 - (2) Ineligible Suppliers. Any firms or individuals that do not comply with the requirements in [Standard](#) Provision, "Debarment, Suspension and Other Responsibility Matters" and [Standard](#) Provision, "Preventing Terrorist Financing" must not be used to provide any commodities or services funded under this Subaward.
 - (3) Restricted Commodities. The recipient must obtain prior written approval of IFDC when procuring any of the following commodities:
 - (i) Agricultural commodities;

- (ii) Motor vehicles;
- (iii) Pharmaceuticals;
- (iv) Pesticides;
- (v) Used equipment;
- (vi) U.S. Government-owned excess property; or
- (vii) Fertilizer.

c. Source and Nationality:

Except as may be specifically approved in advance by IFDC, all commodities and services that will be reimbursed under this Subaward must be from the authorized geographic code 935 and must meet the source and nationality requirements set forth in 22 CFR 228.

For a current list of countries within each geographic code, see:

<http://inside.usaid.gov/ADS/300/310.pdf>.

- d. Guidance on the eligibility of specific commodities and services may be obtained from IFDC. If IFDC determines that the recipient has procured any commodities or services under this Subaward contrary to the requirements of this provision, and has received payment for such purposes, IFDC may require the recipient to refund the entire amount of the purchase.
- e. This provision must be included in all subagreements, including subawards and contracts, which include procurement of commodities or services.

TRAVEL AND INTERNATIONAL AIR TRANSPORTATION

a. Prior Budget Approval

Direct charges for travel costs for international air travel by individuals are allowable only when each international trip has received prior budget approval. Such approval is met when all of the following are met:

- (1) The trip is identified by providing the following information: the number of trips, the number of individuals per trip, and the origin and destination countries or regions;
- (2) All of the information noted at a.(1) above is incorporated in this Subaward or amendments to this Subaward; and
- (3) The costs related to the travel are incorporated in the budget of this Subaward.

IFDC may approve, in writing, international travel costs that have not been incorporated in this Subaward. To obtain IFDC approval, the recipient must request approval at least four weeks before the international travel, or as far in advance as

possible. The recipient must keep a copy of the IFDC approval in its files. No other clearance (including country clearance) is required for employees of the recipient, its subrecipients or contractors. International travel by employees who are not on official business of the recipient, such as rest and recuperation (R&R) travel offered as part of an employee's benefits package, must be consistent with the recipient's personnel and travel policies and procedures and does not require approval.

b. Travel Costs

All travel costs must comply with the applicable cost principles and must be consistent with those normally allowed in like circumstances in the recipient's non-USAID-funded activities. Costs incurred by employees and officers for travel, including air fare, costs of lodging, other subsistence, and incidental expenses, may be considered reasonable and allowable only to the extent such costs do not exceed charges normally allowed by ISU in its regular operations as the result of ISU's written travel policy.

In the absence of a reasonable written policy regarding international travel costs, the standard for determining the reasonableness of reimbursement for international travel costs will be the Standardized Regulations (Government Civilians, Foreign Areas), published by the U.S. Department of State, as from time to time amended. In the event that the cost for air fare exceeds the customary standard commercial airfare (coach or equivalent) or the lowest commercial discount airfare, the recipient must document one of the allowable exceptions from the applicable cost principles.

Notwithstanding anything contained herein, all local travel and per diem rates for Ghanaian government officials and local organizations shall be paid in accordance with the terms of USAID Ghana Mission Order No. MO 500-1, attached hereto as Annex B and made an integral part hereof.

c. Fly America Act Restrictions

- (1) The recipient must use U.S. Flag Air Carriers for all international air transportation (including personal effects) funded by this Subaward pursuant to the Fly America Act and its implementing regulations to the extent service by such carriers is available.
- (2) In the event that the recipient selects a carrier other than a U.S. Flag Air Carrier for international air transportation, in order for the costs of such international air transportation to be allowable, the recipient must document such transportation in accordance with this provision and maintain such documentation pursuant to the Standard Provision, "Accounting, Audit and Records." The documentation must use one of the following reasons or other exception under the Fly America Act:
 - (i) The recipient uses a European Union (EU) flag air carrier, which is an airline operating from an EU country that has signed the US-EU "Open Skies" agreement ([http://www.state.gov/e/eb/rls/othr/ata/i/ic/170684 .htm](http://www.state.gov/e/eb/rls/othr/ata/i/ic/170684.htm)).

- (ii) Travel to or from one of the following countries on an airline of that country when no city pair fare is in effect for that leg (see <http://apps.fas.gsa.gov/citypairs/search/>):
 - a. Australia on an Australian airline;
 - b. Switzerland on a Swiss airline; or
 - c. Japan on a Japanese airline.
- (iii) Only for a particular leg of a route on which no US Flag Air Carrier provides service on that route;
- (iv) For a trip of 3 hours or less, the use of a US Flag Air Carrier at least doubles the travel time;
- (v) If the US Flag Air Carrier offers direct service, use of the US Flag Air Carrier would increase the travel time by more than 24 hours; or
- (vi) If the US Flag Air Carrier does not offer direct service,
 - a. Use of the US Flag Air Carrier increases the number of aircraft changes by 2 or more;
 - b. Use of the US Flag Air Carrier extends travel time by 6 hours or more; or
 - c. Use of the US Flag Air Carrier requires a layover at an overseas interchange of 4 hours or more.

d. Definitions

The terms used in this provision have the following meanings:

- (1) “**Travel costs**” means expenses for transportation, lodging, subsistence (meals and incidentals), and related expenses incurred by employees who are on travel status on official business of the recipient for any travel outside the country in which the organization is located. “Travel costs” do not include expenses incurred by employees who are not on official business of the recipient, such as rest and recuperation (R&R) travel offered as part of an employee’s benefits package that are consistent with the recipient’s personnel and travel policies and procedures.
- (2) “**International air transportation**” means international air travel by individuals (and their personal effects) or transportation of cargo by air between a place in the United States and a place outside thereof, or between two places both of which are outside the United States.
- (3) “**U.S. Flag Air Carrier**” means an air carrier on the list issued by the U.S. Department of Transportation at <http://ostpxweb.dot.gov/aviation/certific/certlist.htm>. U.S. Flag Air Carrier service also includes service provided under a

code share agreement with another air carrier when the ticket, or documentation for an electronic ticket, identifies the U.S. flag air carrier's designator code and flight number.

- (4) For this provision, the term “**United States**” includes the fifty states, Commonwealth of Puerto Rico, possessions of the United States, and the District of Columbia.

e. Subagreements

This provision must be included in all subagreements, including all subawards and contracts, under which this Subaward will finance international air transportation.

EXCHANGE VISITORS AND PARTICIPANT TRAINING (JUNE 2012)

For any Exchange Visitor, Participant Training or Invitational Travel activities, the recipient must comply with this provision.

a. Definitions

- (1) An **Exchange Visitor** is any host-country or third-country national traveling to the U.S., for any purpose, including Participant Training and Invitational Travel, funded by USAID in whole or in part, directly or indirectly.
- (2) A **Participant** is a host-country or third-country national sponsored by USAID for a Participant Training activity taking place in the U.S., a third country, or in the host country.
- (3) **Participant Training** is a learning activity conducted within the U.S., a third country, or in the host country for the purpose of furthering USAID development objectives. A learning activity takes place in a setting in which an individual (the Participant) interacts with a knowledgeable professional, predominantly for the purpose of acquiring knowledge or skills for the professional or technical enhancement of the individual. Learning activities may be formally structured, such as an academic program or a technical course, or they may be more informal, such as an observational study tour.
- (4) **Invitational Travel** is a type of travel that USAID funds for non-U.S. Government employees. This type of travel may be approved for both U.S. and foreign citizens who are not employed by the U.S. Government (USG), not receiving any type of compensation from the USG for such travel, and only when it is determined that the functions to be performed are essential to the interests of USAID.

Notwithstanding anything contained herein, all local travel and per diem rates for Ghanaian government officials and local organizations shall be paid in accordance with the terms of USAID Ghana Mission Order No. MO 500-1, attached hereto as

Annex B and made an integral part hereof.

b. Program Monitoring and Data Reporting

The recipient must monitor Exchange Visitors' and Participants' progress during their program and ensure that problems are identified and resolved quickly.

- (1) For U.S.-based activities, the recipient must use USAID's official Exchange Visitor and Participant Training information system, currently called "Training Results and Information Network – TraiNet" (see <http://trainethelp.usaid.gov/>), to report and manage Exchange Visitor and Participant Training data. The recipient must also use the USAID Visa Compliance System – VCS (see <http://trainethelp.usaid.gov/>) to transfer required data for USAID Exchange Visitors to the Department of Homeland Security's Student and Exchange Visitor Information System (SEVIS).
- (2) For all third-country activities, and for host-country activities of two consecutive days or 16 contact hours or more in duration, the recipient must use USAID's official Exchange Visitor and Participant Training information system, currently called "Training Results and Information Network – TraiNet" (see <http://trainethelp.usaid.gov/>), to report and manage Participant Training data.

c. Health and Accident Insurance

- (1) For Exchange Visitors traveling to the United States, the recipient must enroll Exchange Visitors in health and accident insurance coverage that meets or exceeds Department of State and USAID minimum coverage requirements as set forth in 22 CFR 62.14 and ADS 252.3.6.2. Please see:
<http://www.usaid.gov/gsearch/22%20cfr%2062.14%20ads%20253.3.6.2>
<http://transition.usaid.gov/policy/ads/200/252.pdf>.
- (2) For Participants traveling to a third country, the recipient must obtain health and accident insurance coverage for all Participants.
- (3) For Participants traveling within the host country, the recipient must determine whether specific in-country participant training activities subject them to any risk of health and accident liability for medical costs. Participants may incur, and if so, take appropriate steps according to the local situation, including obtaining health and accident insurance coverage for Participants.

d. Immigration Requirements

- (1) For Exchange Visitors traveling to the United States, the recipient must ensure that all USAID-sponsored Exchange Visitors obtain, use, and comply with the terms of the J-1 visa, issued in conjunction with a USAID-issued Certificate of Eligibility for J-1 Visa Status (DS-2019).

- (2) For Participants traveling to a third country or within the host country, the recipient must ensure that all Participants obtain, use, and comply with the terms of all applicable immigration, visa and other similar requirements.

e. **Language Proficiency**

The recipient must verify language proficiency. Exchange Visitors must possess sufficient English language proficiency to participate in a U.S.-based activity. Participants of third-country or host-country training must be proficient in the language of training at a sufficient level for participation, unless an interpreter has been arranged. Language competency can be verified through a variety of means including proficiency assessments of interviews, publications, presentations, education conducted in English, and formal testing.

f. **Pre-departure Orientation**

The recipient must conduct pre-departure orientation for U.S.-bound Exchange Visitors and Participants of third-country training programs. Pre-departure orientation covers: program objectives; administrative and policy review; cultural aspects; and training/learning methods (see http://pdf.usaid.gov/pdf_docs/PNADT444.pdf).

g. **Conditions of Sponsorship**

The recipient must ensure that all Exchange Visitors read and sign the Conditions of Sponsorship for U.S.-Based Activities form (AID 1381-6). The recipient must also ensure that all Participants of long-term (six months or longer) third-country training read and sign the form Conditions of Sponsorship for Third-Country Training form (AID 1381-7). The recipient must report to the Agreement Officer any known violations by Exchange Visitors of visa or other immigration requirements or conditions.

h. **Exchange Visitor Security Risk and Fraud Inquiry**

Each USAID Mission has an established process for conducting a Security Risk and Fraud Inquiry (SRFI) for Exchange Visitors. The recipient must be prepared to assist Missions in conducting the SRFI, if requested. However, the recipient's role is contributive, and the Mission is ultimately responsible for conducting the SRFI.

i. **Fly America**

To the extent that participants travel by international air travel, the recipient must comply with the Standard Provision, "International Air Travel and Air Transportation of Property."

j. **Use of Minority Serving Institutions**

For U.S.-based Participant Training, the recipient must, to the maximum extent

possible, maintain their use of Historically Black Colleges and Universities (HBCUs) and other Minority Serving Institutions (MSIs), including Hispanic Serving Institutions and Tribal Colleges and Universities, as training or education providers.

TRAFFICKING IN PERSONS

- a. IFDC is authorized to terminate this Subaward, without penalty, if the recipient or its employees, or any subrecipient or its employees, engage in any of the following conduct:
 - (1) Trafficking in persons (as defined in the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, especially Women and Children, supplementing the UN Convention against Transnational Organized Crime) during the period of this Subaward;
 - (2) Procurement of a commercial sex act during the period of this Subaward; or
 - (3) Use of forced labor in the performance of this Subaward.
- b. For purposes of this provision, “employee” means an individual who is engaged in the performance of this Subaward as a direct employee, consultant, or volunteer of the recipient or any subrecipient.
- c. The recipient must include in all subagreements, including subawards and contracts, a provision prohibiting the conduct described in a(1)-(3) by the subrecipient, contractor or any of their employees.

DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

By entering into this Subaward, the recipient certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any Federal department or agency.

The policies and procedures applicable to debarment, suspension, and ineligibility under USAID-financed transactions are set forth in Subpart C of 2 CFR Section 180, as supplemented by 2 CFR 780.

BRANDING STRATEGY AND MARKING PLAN

The Recipient must comply with the Branding Strategy and Marking Plan made a part of the FTF-USAID-ATT Cooperative Agreement. The plan is attached hereto as Annex C and made an integral part hereof.

ENVIRONMENTAL COMPLIANCE AND MANAGEMENT

An Environmental Monitoring and Mitigation Plan (EMMP) for the FTF-USAID-ATT

Project will be developed by IFDC. This plan, once developed, will be binding on both Parties, to the extent it is applicable to the respective statements of work.

If requested, Recipient will cooperate in completing an Environmental Review Form (ERF) or Environmental Review (ER) checklist using impact assessment tools for possible adverse environmental impact, to develop mitigation measures, as necessary, and to specify monitoring and reporting.

The Initial Environmental Examination applicable to Ghana Feed the Future projects is attached hereto as Annex D for reference purposes.

CHILD LABOR

The US Government is committed to the elimination of the worst forms of child labor internationally. As part of these efforts, the Recipient shall address—in an appropriate and mutually agreed upon manner with USAID—child labor concerns including any work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children and any work which is likely to interfere with a child's education. For the purpose of this agreement a child is defined as a person less than 18 years of age. The Recipient shall use as a guide relevant international standards on the elimination of child labor including International Labor Organization Convention 182 on the Worst Forms of Child Labor and Convention 138 on the Minimum Age for Work both of which have been ratified by the Government of Ghana. All activities designed by the Recipient to address child labor concerns must align with the Government of Ghana's laws, policies and priorities regarding child labor including the Children's Act, hazardous work lists, and National Plan of Action (NPA) on the Elimination of the Worst Forms of Child Labor (2008-2015).

The Government of Ghana has prioritized nine worst forms of child labor including fishing and agriculture. The Feed the Future Initiative is focused on the agriculture sector (rice, maize and soya) in Northern Ghana, increased resiliency of vulnerable households in the Northern Region and fishing sector in the Western Coastal region. USAID Agreements funded under the Feed the Future Initiative in Ghana must design and implement strategies to ensure that the efforts to increase productivity, expand trade and markets, and increase resiliency of vulnerable households properly address child labor concerns where relevant. Such efforts may include for example, training, capacity building and awareness raising activities among farmers, communities and children on the worst forms of child labor and work place hazards and safety standards; establishment of community monitoring systems in cooperation with the Government of Ghana Child Labor Monitoring Systems (GCLMS); and research and policy analysis aimed at improving the knowledge base on child labor. USAID expects that all efforts carried out under the Feed the Future Initiative will be designed to coordinate and compliment the Governments efforts. Proposed activities are also expected to complement and not duplicate efforts being carried out by other USG agencies or those carried out by bi-lateral or multi-lateral donors, International Organizations, NGOs, workers' organizations, employer's organizations or other civil society organizations.

ALLOWABLE COSTS

- a. The recipient must use funds provided under the award for costs incurred in carrying out the purposes of the award which are reasonable, allocable, and allowable.
 - (1) “Reasonable” means the costs do not exceed those that would ordinarily be incurred by a prudent person in the conduct of normal business.
 - (2) “Allocable” means the costs are necessary to the award.
 - (3) “Allowable” means the costs are reasonable and allocable, and conform to any limitations set forth in the award.
- b. The recipient is encouraged to obtain the IFDC’s written determination in advance whenever the recipient is uncertain as to whether a cost will be allowable.

AUDIT AND RECORDS

The recipient is required to maintain books, records, documents, and other evidence, in accordance with the recipient’s usual accounting procedures to sufficiently substantiate charges to the Subaward. The recipient confirms that its program will be subject to an independent audit in accordance with the recipient’s usual auditing procedures, and agrees to furnish copies of these audit reports to IFDC along with other related information, as may be reasonably requested by IFDC with respect to questions or findings arising from the audit report.

REFUNDS

- a. If the recipient earns interest on advances before expending the funds for program purposes, the recipient must remit the interest annually to IFDC. Interest amounts up to \$250 per year may be retained by the recipient for administrative expenses.
- b. Funds obligated by IFDC, but not disbursed to the recipient before the Subaward expires or is terminated will revert to IFDC, except for funds committed by the recipient to a legally binding transaction applicable to the Subaward. Any funds advanced to, but not disbursed by, the recipient before the Subaward’s expiration or termination must be refunded to IFDC, except for funds committed by the recipient to a legally binding transaction applicable to the Subaward.
- c. If, at any time during the life of the Subaward, or as a result of an audit, IFDC determines that funds provided under the Subaward have been expended for purposes not in accordance with the terms of the Subaward, then the recipient must refund the amount to IFDC.

SUBAWARD BUDGET LIMITATIONS AND REVISIONS

- a. The approved Subaward budget is the financial expression of the recipient's program as approved during the Subaward process. IFDC is not obligated to reimburse the recipient for any costs incurred in excess of the total amount obligated under the Subaward.
- b. The recipient must immediately request approval from the IFDC when there is reason to believe that, within the next 30 calendar days, a revision of the approved Subaward budget will be necessary for any of the following reasons:
 - (1) To change the scope or the objectives of the program or to add any new activity.
 - (2) To revise the funding allocated among program objectives by more than ten percent (10%) of the total budget amount unless the Subaward states otherwise.
 - (3) Additional funding is needed.
 - (4) The recipient expects the amount of IFDC authorized funds to exceed its needs by more than \$20,000 or ten percent (10%) of the Subaward, whichever is greater.
- c. The recipient will not be obligated to continue performance under the Subaward (including actions under the "Termination Procedures" provision) or otherwise to incur costs in excess of the amount obligated under the Subaward, unless and until IFDC notifies the recipient in writing that the obligated amount has been increased and specifies the new Subaward total amount.

FINANCIAL MANAGEMENT, PROCUREMENT, AND EVALUATION

To the extent not inconsistent with other provisions of the Subaward, USAID and the recipient understand that funds made available to the recipient must be administered in accordance with the recipient's own financial rules and regulations, and that the recipient will follow its own procurement and evaluation policies and procedures.

USAID DISABILITY POLICY AND UN CONVENTION ON THE RIGHTS OF PERSONS WITH DISABILITIES ASSISTANCE

- a. The principles of the present UN Convention on the Rights of Persons with Disabilities include promoting:
 - (1) respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons;
 - (2) nondiscrimination;
 - (3) full and effective participation and inclusion in society;
 - (4) respect for difference and acceptance of persons with disabilities as part of human diversity and humanity;
 - (5) equality of opportunity;
 - (6) accessibility;

- (7) equality between men and women; and
- (8) respect for the evolving capacities of children with disabilities.

The full text of the Convention can be found at the following Web site:
<http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>.

- b. USAID requires that the recipient not discriminate against persons with disabilities in the implementation of USAID-funded programs and make every effort to respect the principles of the Convention on the Rights of Persons with Disabilities in performing the program under the Subaward. One of the objectives of the USAID's Disability Policy is to engage other U.S. Government agencies, host country counterparts, governments, implementing organizations, and other donors in fostering a climate of nondiscrimination against people with disabilities. To that end, and to the extent it can accomplish this goal within the scope of the program objectives, the recipient should demonstrate a comprehensive and consistent approach for including men, women, and children with disabilities.

TERRORIST FINANCING CLAUSE

U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the responsibility of the recipient to ensure compliance with these Executive Orders and laws.

This provision must be included in all contracts or subagreements issued under the Subaward.

REPORTING OF FOREIGN TAXES

- a. Final and Interim Reports. If applicable, the recipient must annually submit two reports:
 - (1) An interim report by November 17; and
 - (2) A final report by April 16 of the next year.
- b. Contents of Report. The reports must contain:
 - (1) Recipient name;
 - (2) Contact name with phone, fax and e-mail;
 - (3) Award number(s);
 - (4) Amount of foreign taxes assessed by a foreign government [each foreign government must be listed separately] on commodity purchase transactions valued at \$500 or more financed with U.S. foreign assistance funds under the Subaward during the prior U.S. fiscal year;
 - (5) Only foreign taxes assessed by the foreign government in the country receiving U.S. assistance are to be reported. Foreign taxes by a third party foreign government are not to be reported. For example, if an assistance program for Lesotho involves the purchase

- of commodities in South Africa using foreign assistance funds, any taxes imposed by South Africa would not be reported in the report for Lesotho (or South Africa);
- (6) Any reimbursements received by the recipient during the period, regardless of when the foreign tax was assessed. Additionally, for the interim report, any reimbursements on the taxes reported in (4) received by the recipient through October 31, and for the final report, any reimbursements on the taxes reported in (4) received through March 31;
 - (7) The final report is an updated cumulative report of the interim report;
 - (8) Reports are required even if the recipient did not pay any taxes during the report period;
 - (9) Cumulative reports may be provided if the recipient is implementing more than one program in a foreign country.
- c. Definitions. For purposes of this clause:
- (1) "Agreement" includes USAID direct and country contracts, awards, cooperative agreements, and interagency agreements;
 - (2) "Commodity" means any material, article, supply, goods, or equipment;
 - (3) "Foreign government" includes any foreign governmental entity;
 - (4) "Foreign taxes" means value-added taxes and custom duties assessed by a foreign government on a commodity. It does not include foreign sales taxes.
- d. Where. Submit the reports to IFDC.
- e. Subagreements. The recipient must include this reporting requirement in all applicable subcontracts, subawards, and other subagreements.
- f. For further information, see **AAPD 03-12 Reporting on Taxation of U.S. Foreign Assistance** (http://www.usaid.gov/business/business_opportunities/cib/pdf/aapd03_12.pdf).

FOREIGN GOVERNMENT DELEGATIONS TO INTERNATIONAL CONFERENCES

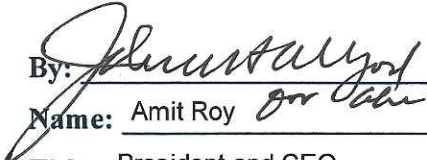
Funds provided under the Subaward may not be used to finance the travel, per diem, hotel expenses, meals, conference fees, or other conference costs for any member of a foreign government's delegation to an international conference sponsored by a public international organization, unless approved by the Agreement Officer.

XIV. Other

The Parties further agree that a telefaxed, scanned, e-mailed, or other electronic copy of this Subaward may be used for execution and that a telefaxed, scanned, emailed, or other electronic copy of the fully executed Subaward shall have the same force and effect as the original, executed Subaward.

IN WITNESS WHEREOF, the Parties duly authorized have agreed and executed this Subaward on the date of the last signature hereunder.

FOR AND ON BEHALF OF IFDC

By: 
Name: Amit Roy
Title: President and CEO
Date: June 27, 2013

FOR AND ON BEHALF OF ISU

By: 
Name: Marva K. Ruther
Title: Senior Award Administrator
Office of Sponsored Programs Administration
Iowa State University
Date: 6/20/2013

ANNEX A Budget

IOWA STATE UNIVERSITY REVISED BUDGET

DESCRIPTION	USAID Year 1	USAID Year 2	USAID Year 3	USAID Year 4	USAID Year 5	TOTAL USAID
A. SALARIES						
1a. CO-LEADERS AND SENIOR FACULTY						
a. Strengthen Res. Capacity: J. Colletta @ \$635/day - Project Lead (20 days)	\$12,700	\$13,081	\$13,473	\$13,878	\$14,294	\$67,426 increased days from 8 to 20
b. Seed Science: Manjot Misra @ \$635/day (20 days)	\$12,700	\$13,081	\$13,473	\$13,878	\$14,294	\$67,426 increased days from 8 to 20
c. Risk Comm. in Biotech.: L. Rodriguez @ \$428/day (20 days)	\$8,560	\$8,817	\$9,081	\$4,677	\$2,409	\$33,544
d. Agronomy Scientists (TED): 4 @ \$480/day (20 days) Note: Faculty budgeted for 20 days/year in Yrs 1-3; reduced Yrs 4-5	\$38,400	\$39,552	\$40,739	\$20,980	\$10,805	\$150,476
1a. Total Senior Faculty	\$72,360	\$74,531	\$76,767	\$53,412	\$41,801	\$318,871
1b. Research/Administrative Support						
a. Scientists/Seed Science: A. Harris @ \$238/day (20 days)	\$4,760	\$4,903	\$5,050	\$5,201	\$5,357	\$25,271
b. Administrative Support Services (logistics/financial) @ \$314/day (20 days)	\$6,280	\$6,468	\$6,662	\$6,862	\$7,068	\$33,341
1b. Total Research/Admin Staff	\$11,040	\$11,371	\$11,712	\$12,064	\$12,426	\$58,613
1c. 2 Ghanaian Graduate Student at ISU - Agronomy (biotech/plant path) 1/2 time K	\$0	\$49,440	\$50,923	\$52,451	\$54,024	\$206,839
Long-term ag research capacity development training						
1d. Fringe Benefits						
a. Faculty @ 30.5%	\$22,070	\$22,732	\$23,414	\$16,291	\$12,749	\$97,256
b. Support Services @ 37%	\$4,085	\$4,207	\$4,334	\$4,464	\$4,597	\$21,687
c. Graduate students @ 12.9%	\$0	\$6,378	\$6,569	\$6,766	\$6,969	\$26,682
1b. Total Fringe Benefits	\$26,155	\$33,317	\$34,317	\$27,521	\$24,316	\$145,625
A. TOTAL SALARY/BENEFITS	\$109,555	\$168,659	\$173,719	\$145,448	\$132,567	\$729,948
*Annual salary increase increment at 3% in years 2-5. Senior faculty effort reduced in years 4-5						
B. TRAVEL						
1a) Strengthen Seed Association: 3 ISU to Ghana (1 trip/yr - 10 days ea)						
a. Roundtrip airfare: DSM to Ghana @ \$2200/ea	\$6,600	\$6,600	\$6,600	\$6,600	\$4,400	\$30,800
b. Lodging/Meal per diem @ \$105/day x 10 days x 3 faculty (Tamil)	\$3,150	\$3,150	\$3,150	\$3,150	\$2,100	\$14,700 per diem rate adjusted
c. Visa, emergency medvac, ground transport @ \$325/person/trip Notes: 3 ISU experts to Ghana in yrs 1-4; 2 in year 5	\$975	\$975	\$975	\$975	\$650	\$4,550
1b) Strengthen Seed Association: 5 Ghanians to ISU for 14 days						
a. Roundtrip airfare: Accra to DSM @ \$2200/ea	\$0	\$11,000	\$11,000	\$0	\$0	\$22,000
b. Lodging/Meal per diem @ \$123/day x 14 days x 5 participants	\$0	\$8,610	\$8,610	\$0	\$0	\$17,220 per diem rate adjusted
c. Visa, medical insurance, ground transport @ \$500/person/trip Notes: Capacity Building Training at ISU in Years 2 and 3	\$0	\$2,500	\$2,500	\$0	\$0	\$5,000
2a) Risk Communication: 2 ISU to Ghana						
a. Roundtrip airfare: DSM to Ghana @ \$2200/ea	\$4,400	\$4,400	\$4,400	\$2,200	\$2,200	\$17,600
b. Lodging/Meal per diem @ \$105/day x 20 days	\$4,200	\$4,200	\$4,200	\$2,100	\$2,100	\$16,800
c. Visa, emergency medvac, ground transport @ \$325/person/trip Notes: 2 ISU experts in yrs 1-3 for evaluation and workshops, 1 in yrs 4-5 followup	\$650	\$650	\$650	\$325	\$325	\$2,600
2b) Risk Communication: 5 Ghanians to ISU for 14 days						
a. Roundtrip airfare: Accra to DSM @ \$2200/ea	\$0	\$11,000	\$11,000	\$11,000	\$0	\$33,000
b. Lodging/Meal per diem @ \$123/day x 14 days x 5 participants	\$0	\$8,610	\$8,610	\$8,610	\$0	\$25,830 per diem rate adjusted
c. Visa, medical insurance, ground transport @ \$500/person/trip Notes: Capacity Building Training at ISU in Years 2-4	\$0	\$2,500	\$2,500	\$2,500	\$0	\$7,500
3a) Agricultural Reserch Capacity: 4 ISU Experts to Ghana						
a. Roundtrip airfare: DSM to Ghana @ \$2200/ea	\$8,800	\$8,800	\$8,800	\$8,800	\$8,800	\$44,000
b. Lodging/Meal per diem @ \$105/day x 10 days x 4 faculty	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200	\$21,000 per diem rate adjusted
c. Visa, emergency medvac, ground transport @ \$325/person/trip Notes: 4 ISU experts each year; needs assessment, research training; followup	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$6,500
3b) Ag Research Capacity: 5 Ghanians to ISU for 30 days						
a. Roundtrip airfare: Accra to DSM @ \$2200/ea	\$0	\$11,000	\$11,000	\$11,000	\$0	\$33,000
b. Lodging/Meal per diem @ \$123/day x 30 days x 5 participants	\$0	\$18,450	\$18,450	\$18,450	\$0	\$55,350 per diem rate adjusted
c. Visa, medical insurance, ground transport @ \$500/person/trip Notes: Capacity Building Training at ISU in Years 2-4	\$0	\$2,500	\$2,500	\$2,500	\$0	\$7,500
TOTAL TRAVEL	\$34,275	\$110,445	\$110,445	\$83,710	\$26,075	\$364,950

C. Other Program Costs						
a. Laboratory supplies for Ghanaian training component at ISU (\$1,000/ea)	\$0	\$10,000	\$10,000	\$10,000	\$0	\$30,000
b. Laboratory supplies for Ghanaian graduate students at ISU (per academic year)	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000
c. Materials development (print and e-media) capacity development training	\$4,800	\$4,800	\$4,800	\$4,800	\$0	\$19,200
d. Professional conferences for Ghanians to US @ \$1500/ea	\$0	\$22,500	\$22,500	\$15,000	\$0	\$60,000
e. Graduate student tuition (2 students): Not subject to IDC <i>Note: Tuition increases 4.2% per AY based on two prior years</i>	\$0	\$21,719	\$22,631	\$23,581	\$24,572	\$92,503
C. Total Other Costs	\$4,800	\$69,019	\$69,931	\$63,381	\$34,572	\$241,703
TOTAL DIRECT COSTS SUBJECT TO IDC (TOTAL MINUS TUITION)	\$148,630	\$326,404	\$331,464	\$268,958	\$168,642	\$1,244,098
TOTAL DIRECT COSTS NOT SUBJECT TO IDC (TUITION)	\$0	\$21,719	\$22,631	\$23,581	\$24,572	\$92,503
IV. Indirect Cost @ 26%	\$38,644	\$84,865	\$86,181	\$69,929	\$43,847	\$323,465
TOTAL BUDGET	\$187,273	\$432,988	\$440,275	\$362,468	\$237,062	\$1,660,066

Notes re budget changes:

- 1) Daily salary rates for senior faculty Colletti and Misra are reduced from their actual salaries paid by the university to the maximum allowable \$635/day.
- 2) Reduced per diem rate for U.S. experts to Tamale, Ghana, from \$205 to \$105 per USAID directive.
- 3) Reduced per diem rate for Ghanians to US from \$150/day to \$123/day per U.S. GSA guidelines for Ames, Iowa (<http://www.gsa.gov/portal/category/100120>).
- 4) Reduced costs for visa, medical insurance ground transport from \$350 to \$325/person for US experts to Ghana.
- 5) Reduced materials development for capacity training from \$5,000 to \$4,800 in years 1-4 for the seed association and research management electronic materials associated with risk communication training and campaigns. The material development funds may also be used for distance training.

ANNEX B

USAID Ghana Mission Order No. NO 500-1

Mission Order: Per Diem Policy
Page 1 of 6



MISSION ORDER

MISSION ORDER NUMBER	MO 500-1
SUBJECT	Per Diem Policy
DATE ISSUED	11-26-2012
SUPERSEDES	Not Applicable
REFERENCES	ADS Series 500
RESPONSIBLE OFFICE	Program and Project Development Office

I. PURPOSE

To establish a Policy addressing reimbursable per diem rates for implementing partners (IPs), including host country ministries, departments, and agencies, for per diem payments made to members of the Government of Ghana or Ghanaian local organizations. Establishing pre-determined reimbursement rates facilitates discussions with IPs and documents specific rates and associated limits for reimbursement purposes.

II. AUTHORITY

ADS Series 500-Management Services addresses Travel and Transportation matters primarily associated with USAID employees and temporary duty travel. This Mission Order, however, addresses the establishment of a USAID/Ghana Mission Policy concerning per diem rates allowed by IPs as part of USAID's development efforts. This Mission Order is guided by the ADS Series 500, which identifies the need for Mission Management to establish a Policy, including pre-determined reimbursement rates, applicable to IPs on behalf of USAID's development efforts.

III. MISSION POLICY

This Mission Order establishes a Policy addressing per diem rates allowed to IPs. These pre-determined rates are subject to semi-annual review with stakeholders. Reference to and use of this Policy by Mission staff in acquisition and assistance as well as government-to-government arrangements serves to promote efficiency by eliminating ambiguity concerning the nature and amount of reimbursable costs.

IV. PROCEDURAL GUIDANCE

1. The Contracting Officer's Representative, Agreement Officer's Representative, or Activity Manager's approval is required prior to the initiation of conferences, symposia, workshops, or other educational forums not initially identified in an IP's Approved Work Plan.
2. The IP's Senior Manager, or another authorized representative, must approve all travel in advance ensuring that travel is appropriate and necessary.
3. Travel Advances:
 - a. Travel advances amounting up to 80% of anticipated per diem rates are permissible; however, it must be documented that **the recipient of the advance promises to repay the outstanding advance amount not offset by reimbursable costs.**
 - b. Only one outstanding travel advance may be due from the same individual at any time; additional travel advances may not be extended to this individual if a previous travel advance is outstanding. Advances should be cleared within 30 days from the end of travel.
4. Reimbursement requests should be submitted promptly upon completion of a trip and no later than 30 days from the end of travel.
5. Receipts are required for hotel accommodations, airfare, hired car with driver, and any other cost claimed for reimbursement exceeding GHC 50.
6. Reimbursable Expenses:
 - a. **Lodging:** See Section V for pre-determined reimbursement rates.
 - b. **Incidental Costs:** See Section V for pre-determined reimbursement rates. This includes tips, office supplies, phone calls, etc.
 - c. **Meals:** See Section V for pre-determined reimbursement rates.
 - d. **Travel and Transportation Costs:** This includes personal vehicle; hired car with driver; airfare; taxi fares; highway tolls; and public transportation such as bus fares.

NOTE: For personal vehicle usage, the current reimbursement rate is GHC 1.81/km (currently equivalent to USD 60 cents/mile). (GHC 1.87= 1 USD). $[(1.87 * .60) * 1.60934] = \text{GHC } 1.81/\text{km}$ (as of November 2012). Refer to Attachment 1-Estimated Kilometer Chart for One-Way Travel.

- e. **Conference or Tuition Fees:** Reasonable conference or tuition fees are reimbursable.
7. A supplemental or "sitting" fee to attend a conference will not be paid by the IP nor will such a fee be subsequently reimbursed by USAID.
- Pre-determined rates (lodging, meals, reimbursement per km, incidentals, etc.) will be reviewed every six months in consultation with IPs and adjusted as appropriate. In addition, suggestions from IPs operating in the field are welcome at any time.

Pre-determined reimbursement rates are subject to change, at USAID's sole discretion, due to significant changes in the USD/GHC exchange rate.

V. PER DIEM REIMBURSEMENT RATES

Pre-determined Reimbursement Rates in GHC as of November 2012:

In GHC	Hotel (Maximum Per Night)	Incidental s	Meals	Breakfast	Lunch	Dinne r
Accra and Takoradi	140	5	40	8	12	20
Kumasi and Tamale	120	5	40	8	12	20
All other areas	90	5	35	7	10	18

VI. APPLICABILITY

This Mission Order is effective from the date of signature indicated below.

VII. EFFECTIVE DATE

Date of signing by the Mission Director.

Approved: Cheryl Anderson,
USAID/Ghana Mission Director

Disapproved: _____

Date: 11/20/2012

VIII. ATTACHMENT

Attachment 1: Estimated Kilometer Chart for One Way Travel

ATTACHMENT 1-Estimated Kilometer Chart for One-Way Travel					
TOWN	KM	EST HRS	TOWN	KM	EST HRS
ABETIFI	184	3.5	FUMBISI	899	15
ABOR	149	2	GAMBAGA	810	14
ABURI	37	2	GOASO	406	10
ACHERENSUA	378	6	HALF - ASINI	394	9
ACHIASE	171	4	HAMLE	851	15
ADA FOAH	114	3	JASIKAN	254	6
ADIDOME	134	3	JUABEN	267	6
ADIESO	53	2	KADE	112	4
ADUKROM	64	2	KADJEBI	280	8
AFLAO	192	3	KAPNDO	205	4
AGBOZUME	168	2.5	KETA	113	3
AGOGO	243	4	KETE KRACHI	494	15
(AGONA) ASHANTI	296	3.5	ENCHI	472	10
AGONA SWEDRU	80	3	KIBI	99	3
AKOSOMBO	107	3	KINTAMPO	444	8
AKROPONG	54	3	KOFORIDUA	85	3
AKUSE	82	3	KONONGO	218	4
AKWAPIM (MAMPONG)	61	2	KPEDZE	208	5
AMEDZOFE	240	3	KUMASI	277	6
ANGOLA	162	2.5	KWABENG	142	4
ANUM BOSO	142	2.5	KWAME DANSO	458	15
ANYINAN	133	3	LAMAKORA (TOGO)	931	18
APAM	86	2	LAWRA	813	15
APEDUA	83	2	NANDUWULI	848	15
APIREDE	67	2.5	NEW TAFO	107	3
ASIKUMA (ANUM)	120	2.5	NKAWKAW	165	4
ASSIN FOSO	195	3.5	NKORANZA	424	9
ASUOM	138	4	NKWANTA	355	6
ASUTSUARE	104	2	NKWATIA	179	5
AXIM	388	6	NSAWAM	37	1.5
BAWKU	893	7	NSUTA	328	7
BECHEM	358	7	OBO	176	5
BEGORO	144	5	OBUASI	288	5
BEKWAI	193	8	OUAGADOUGOU	1011	22
BEREKUM	434	9	PAGA	851	15
BIMBILLA VIA NKWANTA	472	10	PEKI	141	3
BIMBILLA VIA TAMALE	814	14	PEPEASI	189	5
BOLE	587	10	PRAMPAM	57	1.5
BOLGA	810	11	SALTPOND	115	3
BREMAN ASIKUMA	147	4	SAMPA	488	14
CAPE COAST	144	3	SANDEMA	867	16
CHEREPONI	830	15	SEKONDI	221	4
DAMANGO	560	15	SOGAKOPE	114	2.5

Mission Order: Per Diem Policy
Page 5 of 6

DAMBAI	410	13	SOMANYA	78	2
DODOWA	40	2	SUHUM	66	2.5
DORMA AHENKRO	496	9	SUNYANI	400	8
DUAYAW NKWANTA	362	8	SWEDRU	85	2
DUNKWA	366	8	TACHIMAN	390	8
DZODZE	211	3	TARWA	317	9
ELIMINA	90	3.2	TAKORADI	227	5
EFFIDUASE	272	5	TAMALE	821	15
EJISU	234	4	YENDI	744	13
ELUBO	360	9	WA	717	15
HO	395	7			

CLEARANCES FOR PER DIEM POLICY MISSION ORDER

Drafters:

D/CONT:	Sike	<u>Cleared</u>	Date: <u>11/08/2012</u>
PPD:	CMurphy	<u>Cleared</u>	Date: <u>11/08/2012</u>

Clearances:

D/PPD:	BTadesse	<u>Cleared</u>	_____	Date: <u>11/08/2012</u>
PPD:	TCrubbaugh	<u>Cleared via email</u>	Date: <u>11/08/2012</u>	
HPN:	LFain	<u>Cleared via email</u>	Date: <u>11/13/2012</u>	
ED:	MPerez	<u>Cleared via email</u>	Date: <u>11/14/2012</u>	
EG:	PTrenchard	<u>Cleared via email</u>	Date: <u>11/13/2012</u>	
DG:	BKauffeld	<u>Cleared via email</u>	Date: <u>11/14/2012</u>	
REXO:	CDailey	<u>Cleared with no comments</u>	Date: <u>11/14/2012</u>	
ROAA:	YKore	<u>Cleared with no comments</u>	Date: <u>11/14/2012</u>	
CONT:	KCollins	<u>Cleared with no comments</u>	Date: <u>11/14/2012</u>	
RLA:	RMeighan	<u>Cleared via email</u>	Date: <u>11/14/2012</u>	
D/MD:	LHowey	<u>Cleared via email</u>	Date: <u>11/14/2012</u>	

ANNEX C

FTF-USAID-ATT Branding Strategy and Marking Plan

**Branding Strategy and Marking Plan
for**

**“Feed the Future USAID
Agriculture Technology Transfer Project”**

**Prepared for the
United States Agency for International Development (USAID)**

Submitted by



**P.O. Box 2040
Muscle Shoals, Alabama 35662, USA**

www.ifdc.org

March 2013

Program Title:

“Feed the Future USAID
Agriculture Technology Transfer Project”

Agreement Number: *(To be assigned)*

Period of Activity: Five years *(XXXX, 2013– XXXX, 2018)*

Implementing organization:

International Fertilizer Development Center (IFDC)

Date: March 2013

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Acronym List

ADS	Automated Directives System
AOR	Agreement Officer's Representative
BS	Branding Strategy
FBO	Farmer-Based Organization
FTF-USAID-ATT	Feed the Future USAID Agriculture Technology Transfer
ICT	Information and Communications Technology
IFDC	International Fertilizer Development Center
ISFM	Integrated Soil Fertility Management
MP	Marking Plan
PIO	Public International Organization
R&D	Research and Development
RFA	Request for Application
SARI	Savannah Agricultural Research Institute
USAID	United States Agency for International Development

1. Introduction

On January 11, 2013, IFDC submitted a proposal in response to a request for application (RFA # 641-13-000001) which was extended by the USAID/Ghana mission for the Feed the Future USAID Agriculture Technology Transfer Project (FTF-USAID-ATT). This project will seek to increase the competitiveness of the rice, maize and soybean value chains to foster broad-based and sustained economic growth. The project goals are to improve the availability and use of agricultural technologies to increase and sustain productivity in Northern Ghana by: (a) increasing the private sector role in, and capacity to, develop and disseminate improved seed and integrated soil fertility management (ISFM) technologies; (b) increasing efficiency and transparency of government functions to support seed, fertilizer, and ISFM technology development, release and dissemination; and (c) increasing capacity of targeted agricultural research centers to develop, release and communicate technologies that support sustainable agricultural productivity.

In order to fulfill the grant requirements, IFDC, as a public international organization (PIO) implementing the program where USAID will be the sole funding source of this RFA, is requested (per ADS 320.3.3 and 320.3.5 b) to submit the branding strategy and marking plan prior to the grant agreement as part of its application submission.

This document is divided into two main sections: the Branding Strategy (BS) and the Marking Plan (MP). The BS describes specifically how IFDC will promote its activities to its three target groups (public sector, private fertilizer and seed sector and farmer-based organizations [FBOs]) and national stakeholders as well as host country citizens in compliance with the USAID branding strategy. It specifically addresses how the program, its activities, public communication and commodities will incorporate and deliver the message, that this assistance is “from the American people,” in its communications and materials. The MP describes how all program-related documents, products or materials will be marked with the USAID identity.

2. Branding Strategy

2.1. Positioning

USAID/Ghana envisions funding the proposed “Feed the Future USAID Agriculture Technology Transfer Project” for five years (2013-2018). USAID is referred to as the owner of the program. IFDC is referred to as the implementer of the program. Strongly linked to the program are the national research institutes, specifically the Savannah Agricultural Research Institute (SARI), different divisions of the Government of Ghana, private sector partners and financial institutions, and other donor-supported agricultural projects. The project proposes to develop competitive rice, maize and soybean value chains by improving the availability and use of agricultural technologies to increase and sustain productivity in Northern Ghana. The project’s efforts to support an engaged seed and fertilizer private sector, combined with more efficient and responsive research capacities will increase the application of seed and

ISFM technologies for an effective intensification of the agricultural sector in Northern Ghana, thus ensuring sustained economic growth.

Wherever possible during its implementation, the program will incorporate the message, “This assistance is made possible by generous support from the American people.” In all public communications the program will be referred to as the “Feed the Future USAID Agriculture Technology Transfer Project.”

2.2. Program Communications and Publicity

a. Promotion of the Program among Host Country Citizens

There is an understandable mistrust of the agricultural sector by different value chain actors in many West African countries due to the below-par quality of (often adulterated) agricultural inputs available on local markets. Promotion of the appropriate role of the research institutions as well as the private sector in developing, releasing, procuring, processing and delivering fertilizer- and seed-related technologies and products on time to farmers and publicity regarding achievements will be essential to develop trust between the various actors in the sector.

Widespread publicity will be given to the establishment of the Feed the Future USAID Agriculture Technology Transfer Project and its objectives in order to solicit support from potential stakeholders involved in the supply, demand and research and development (R&D) sides of the seed and fertilizer sectors. A regular publicity and promotional campaign will follow throughout the life of the project, publicizing success stories from the supply-side (private sector businesses), the demand-side (farm level), as well as the R&D-side (research institutions). This will include publicity for SARI and other universities or research institutions, the Government of Ghana, as well as collaborative and leveraging efforts undertaken by the project with other donor-supported activities related to the seed and fertilizer technology development sector.

Promotion/Public Events

IFDC will organize meetings with public and private sector partners, as well as field days for farmer organizations and cooperatives, agricultural input distributors and retailers, and research technicians to promote the use and application of new technologies for agricultural intensification activities. IFDC also proposes to support the establishment of a technology dialogue and innovation platform. The use of information and communications technology (ICT) platforms provides an important opportunity to share information and promote the use of technologies to a large audience.

The primary and secondary audiences for these activities include:

- Agricultural technology distributors, input dealers and traders (wholesalers, distributors, retailers).
- Public sector institutions involved in R&D, agricultural extension and agricultural sector development.
- Private businesses involved in the seed and fertilizer industries (fertilizer blenders and importers, seed production companies, etc.).

- Other donor and private sector entities from which funds may be leveraged to expand the impact of the program’s activities (including financial institutions and other development projects).
- FBOs, including value chain-specific structures and associations.

b. Main Program Message

The intended general message of the program is – USAID through the “Feed the Future Agriculture Technology Transfer Project” desires to increase food security and reduce poverty and hunger by:(1) increasing the role and capacity of the private sector in seed, fertilizer and ISFM technologies; (2) increasing the effectiveness of agricultural research to develop, release and properly communicate these technologies; and (3) increasing the efficiency and transparency of government functions to support these developments to ensure sustained agricultural productivity in Northern Ghana.

Message to Private Sector (private firms and companies, traders, FBOs) – support will be given to develop the capacities to store, trade and distribute crop-appropriate fertilizers and ISFM technologies as well as develop and disseminate improved seed.

Message to agro-dealers – the input distribution system will be improved through training for trainers, business mentorship and strengthening the existing structures that support both private firms and farmer-based enterprises.

Message to farmers/FBOs – the FTF-USAID-ATT project is working to improve access to fertilizer, seed and ISFM technologies to increase the competitiveness of different value chains and generate a greater return on farm-based investment.

Message to research institutions – assistance will be given to increase the quality and efficiency in seed-related research operations and ISFM technology development, while also strengthening the technical and management capacities of research institutions to better respond to farmer needs.

Message to public officials – creating the environment in which a competitive and knowledgeable private sector network for agricultural technologies is directly connected to competent and well-operating research and development functions. These will ensure the release and dissemination of the most appropriate technologies, improving farmers’ access to working capital and helping the government implement its responsibilities for agricultural sector development and increasing food supplies, improving rural incomes and reducing poverty.

c. Communications or Program Materials that Will be Used to Explain or Market the Program to Beneficiaries

IFDC will publicize the program through a variety of communications tools, including:

- Informational brochures on the general objectives and components of the project.
- Success stories, case studies and lessons learned that result in greater use of appropriate technologies and best practices within the targeted value chains.

- Training modules extended to researchers, agro-dealers, FBOs and other private entrepreneurs.
- Technologies published and disseminated through occasional newsletters, research papers, catalogues and other print and electronic media, including newspaper/magazine articles and ICT platforms.
- General and specialized technical information made available through sign boards, wall posters, publication of brochures that are distributed in the input stores, at demonstration days and training programs as well as IFDCs website.

d. Promotion of the Program among Host Country Citizens

The key events, milestones and opportunities that IFDC envisions to achieve will be communicated to create awareness that the FTF-USAID-ATT project (“from the American people”) results generated will include the following (see Marking Plan for examples):

- Publishing reports and studies, including technical information on seed and fertilizer/ISFM technologies, annual yield reports for targeted commodities that are distributed or made available through ICT platforms.
- Highlighting success stories and visits by officials to program sites. IFDC anticipates that government officials, private sector company representatives, and donor institutions will have an interest to visit specific sites and program clients/beneficiaries. Public and press events will be associated with these visits, described in the quarterly reports.
- Each year the program will take advantage of the occasion of the pre-season and pre-harvest stakeholder planning events, which have been organized by the ACDI/VOCA ADVANCE project in collaboration with the IFDC-led FTM project. These events are excellent opportunities to promote and communicate the work of the FTF-USAID-ATT project in the Northern Region of Ghana.
- Featuring beneficiaries as spokespeople, especially those who confer a gender perspective. At training programs, beneficiaries tell their stories of how the project has helped them. Female beneficiaries can be featured.
- The Technology Transfer sites or field demonstrations sites will all have signboards with the USAID logo.
- Showcasing before-and-after photographs of small grant fund-financed activities in publications and success stories.
- Communicating the project’s impact and overall results in quarterly reports to USAID, success stories, etc.
- ICT platforms and other possible forms of e-platforms or websites linked to this project will feature the USAID logo.
- Banners at all public events will feature the USAID logo. The programs quarterly reports list the events.
- Briefings at the Ministry of Agriculture and public events by program staff and beneficiaries with PowerPoint presentation will include the USAID logo.

e. Conveying the Message “From the American People” through Public Communications

At each public event, including conferences, seminars, training events, farm demonstrations, expos and other events, USAID and support from the American people will be verbally acknowledged in the following way: *“This assistance is made possible by generous support from the American people.”*

The project will use the USAID identity in all public communications (events and materials). Additionally, all publications will include the following note in the relevant language:

“The Feed the Future Agriculture Technology Transfer Project is one of the many assistance programs supported by the American people through the United States Agency for International Development (USAID).”

All public printed, video, and audio materials will include a disclaimer (text included in the marking plan) to identify parties responsible for the contents.

f. The Use of the USAID Identity:

The project will use guidance set in the USAID graphic standards manual related to the use of the USAID Identity.

2.3. Acknowledgement of Other Organizations

Many activities will be collaboratively organized with the Government of Ghana, national research institutions or universities, other IFDC projects and non-IFDC donor-funded development programs. This will lead to a unique situation allowing IFDC to address issues for capacity strengthening of public and private sector institutions involved in agriculture technology development and transfer through channels other than those directly managed by the FTF-USAID-ATT project. The project will also work with researchers, agro-dealers and input suppliers and with other organizations on technology development, training programs, field demonstrations, etc. When describing an activity that was implemented in cooperation with others the project shall state: The “Feed the Future USAID Agriculture Technology Transfer Project” in cooperation with partner XXX, has conducted research, field demonstrations, research expos, organized training programs, prepared brochures, etc. Other program partners are mentioned in written documents that are related directly to them. Co-branding requirements will be applied in instances where local partners as well as relevant national government agencies will be referenced as contributing partners and given credit in communications and promotional documents to ensure that use of their logos is done appropriately and in accordance with USAID marking rules.

2.4. Coordination with USAID on Publicity and Project Promotion Issues

The project will submit any press releases, media events and media interviews for comments to USAID/Ghana (to the Agreement Officer's Representative [AOR] and the Development Outreach and Communications officer) before issuing them.

Throughout the project implementation, IFDC will provide to USAID/Ghana:

- a. An updated quarterly list of public events to be organized by the project during the coming three months, including approximate date, location and audience. The project will coordinate with USAID regarding inclusion of USAID promotional materials for the participants, participation of USAID/USG representatives, etc.
- b. Two success stories a year with an accompanying photograph (see item [c] for specifications). The success stories will be provided in a Word document format, using a standard USAID success story template (<http://www.usaid.gov/stories/guidelines.html>).
- c. A CD with a collection of a minimum of 20 photographs per year from where the project is implemented that are illustrative of project's achievements in jpeg format. The photographs will comply with a guidance provided in the USAID Graphic Standards Manual, http://www.usaid.gov/branding/USAID_GSM_Section_6.pdf) and be at least 500kb in size each. Each photograph will have a brief explanation about its subject, and identify: the author and his/her organization, person(s) featured in the photograph, and the location where the photograph was taken.
- d. Clippings of press articles that mention the project.
- e. At least two copies of all public communications materials produced by the program. In addition, the recipient shall submit one electronic and/or one hard copy of all final documents to USAID's Development Experience Clearinghouse.

In the event of changed circumstances for implementation of this Branding Strategy, IFDC, through its AOR, will submit to USAID a request to modify this plan and/or other related documents, such as the Marking Plan.

2. Marking Plan

IFDC intends to co-mark deliverables and public communications under this program as outlined in this MP.

3.1. Marking of Sub-Awards

To ensure that program's sub-awards comply with USAID marking requirements, IFDC will include the following marking provision in its sub-grants:

"As a condition of the recipient of the sub-award, marking with the USAID Identity of a size of prominence equivalent to or greater than the recipient's, sub-recipient's, other donor's, or third party is

required. In event the recipient chooses not to require marking with its own identity or log with the sub-recipient, USAID may, at its discretion, require marking by the sub-recipient with the USAID Identity.”

3.2. Disclaimer Language for Public Communications

All studies, reports, publications, web sites and all informational and promotional products will contain the following provision:

English	This study/report/web site/audio visual/other information (specify) is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of IFDC and do not necessarily reflect the views of USAID or the United States Government.
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3.3. Marking of Project Deliverables and Public Communications

List and description of the public communications, commodities and project materials that will be produced as part of the grant agreement and will visibly bear the USAID identity:

- Informational brochures on the general objectives and components of the FTF-USAID-ATT project.
- Technical papers, manuals and other materials for training programs and workshops.
- Grant application guideline.
- Success stories, case studies and lessons learned that result in best practices.
- Technical brochures and field demonstrations aimed at researchers, farmers, agro-dealers, input and technology distributors, etc.
- Studies generated by the project in all intervention areas.
- Posters and banners at conferences, training and other public events.
- Any equipment and physical structures made available through small grants.
- Video recordings of the project’s events for broadcast to a larger public audience.

IFDC will display the USAID logo prominently on all communications products and describe the project as “made possible by the generous support of the American people” in all public communications materials. All press releases, fact sheets, letters and other written communications will carry this branding, and other documents such as reports, studies, success stories and brochures will include the USAID identity. Selected examples of marking shown below indicate how IFDC will display the USAID Identity:

Table 1. Marked Deliverables and Public Communications

Project Deliverable	Type of Marking	Start Date and Frequency	Marking Materials Used	Placement of Marking
Fact sheets about the project	1. USAID identity 2. Text about USAID	As produced, quarterly	Included in electronic draft	1. The identity will be located on the upper left hand side of the first page 2. Included as the first paragraph
Brochures about the project	1. USAID identity 2. Text about USAID 3. Disclaimer	As produced, updated annually	Included in electronic draft	1. The identity will be placed in the upper left corner of the front page 2. Included as the first paragraph 3. At the bottom of the back page
Reports, research/studies, and other multiple page documents requiring a cover	1. USAID identity 2. Disclaimer	As produced	Included in electronic draft	1. The identity will be centered on the cover either on the top or the bottom of the page depending on formatting 2. Included at the bottom of the first page
Event banners	USAID identity	As produced; as used in training and other events	Included in electronic draft	On the left hand side of the banner above any writing
Training materials	USAID identity	As conducted	Included in electronic draft	1. Cover page, top left corner 2. At the bottom of the front page, in italics
Success stories	USAID identity	As produced, quarterly	Included in electronic draft	As part of the standard USAID template, on the top left corner
Demonstration sites	USAID identity	As conducted	Signboards	Top left corner
Certificates	USAID identity	Throughout year	Hard copies	Top left corner
Physical structures	USAID identity	When under construction and opened	Signs	Top left corner

PowerPoint presentations	USAID identity	As produced	Electronic and hard copies	1. Cover page, top left corner 2. At the bottom of the front page, in italics
News on TV/radio	USAID identity	As opportunities are generated	Verbal acknowledgement	Verbally acknowledged: “This assistance is from the American people”
Press releases(pre-approved by USAID – and distributed by both)	USAID identity	As produced	Electronic and hard copies	Top left corner

Table 2. Marked Supplies and Equipment

Project/Deliverable	Type of Marking	Start Date and Frequency	Marking Materials Used	Placement of Marking
Computers	USAID identity	As soon as procured	USAID identifying vinyl label	On back of monitor
Printers	USAID identity	As soon as procured	USAID identifying vinyl label	On top of printer
Photocopiers/scanners	USAID identity	As soon as procured	USAID identifying vinyl label	On top of copier/scanner
UPS surge protectors	USAID identity	As soon as procured	USAID identifying vinyl label	On top of UPS
Office furniture (tables, desks, chairs)	USAID identity	As soon as procured	USAID identifying vinyl label	On top or side of furniture (in a visible place)

Any other public communications, supplies and equipment not mentioned in the table above (except for those items that are exempt from marking by USAID regulations – offices, vehicles, administrative stationery and business cards) will be marked in the manner consistent with described above.

For the specific placement of the USAID identity on any printed matter (*such as publications, official and/or public program communications, banners and other signs, plaques, certificates, also promotional products developed to increase the visibility of the program among its target audiences, etc.*), the project will use guidance set in the USAID Graphic Standards Manual.

All project-related recipient publicity includes the USAID identity, along with IFDC logo; the latter will be placed on the opposite upper or lower side of the page from the USAID logo. IFDC will display the USAID identity prominently on all communications products and describe the program as the “Feed the Future USAID Agriculture Technology Transfer Project.” The detailed graphic display of USAID identity along with the USAID logo will be submitted to the Development Outreach and Communications Officer and the AOR for approval as soon as the program.

Concerning signage, IFDC will work with the Development Outreach and Communications Officer to determine the standard site signage, the requested language, the number of and locations for standard signs.

All public events organized and funded by the project will be discussed with USAID first and will prominently display the USAID identity.

Any activity conducted jointly by project and other donor or local organizations or any ministry will be promoted and presented with prominent positioning of the USAID Identity and the primary message “From the American People.”

3.4. Modifications

In the event of changed circumstances for implementation of this Marking Plan, IFDC, through its AOR, will submit to USAID a request to modify this plan and/or other related documents, such as the Branding Strategy.

ANNEX D

FTF-Ghana Initial Environmental Examination

INITIAL ENVIRONMENTAL EXAMINATION AND REQUEST FOR CATEGORICAL EXCLUSION

PROGRAM/ACTIVITY DATA:

Program/Activity Number: USAID/Ghana_FTF_EE_2011_2015.doc

Country: Republic of Ghana

Program/Activity Title: USAID/Ghana Feed the Future Program

SO 6: Economic Growth

SO 7: Health

USG Foreign Assistance Framework:

Functional Objective 3: Investing in People

Program Area 3.1: Health

Program Element 3.1.9: Nutrition

Program Area 3.3: Social and Economic Service and Protection of Vulnerable Populations

Program Element 3.3.3: Social Assistance

Functional Objective 4: Economic Growth

Program Area 4.2: Trade and Investment

Program Element: 4.2.1: Trade and Investment Enabling Environment

Program Element: 4.2.2: Trade and Investment Capacity

Program Area 4.4: Infrastructure

Program Element: 4.4.3: Transport Services

Program Area 4.5: Agriculture

Program Element: 4.5.1: Agricultural Enabling Environment

Program Element: 4.5.2: Agriculture Sector Capacity

Program Area 4.6: Private Sector Competitiveness

Program Element: 4.6.1: Business Enabling Environment

Program Element: 4.6.2: Private Sector Capacity

Program Area 4.8: Environment

Program Element: 4.8.2: Clean Productive Environment

Funding Begin: 2010 Funding End: 2015 LOP Estimated/Planning Amount: US\$ 318,000,000

IEE Prepared By: Justice Odoi; Environmental Specialist & Mission Environmental Officer, USAID/Ghana (jodoi@usaid.gov)

Current Date: September 30, 2011

IEE Amendment (Y/N): N

ENVIRONMENTAL ACTION RECOMMENDED: (Place X where applicable)

Categorical Exclusion: X Negative Determination: X

Positive Determination: X Deferral (GMOs): X

ADDITIONAL ELEMENTS: (Place X where applicable)

CONDITIONS X PVO/NGO: X EMMP: X ERR: X

Private/Public Partnership: X World Bank co-financing (GCAP) X

RELATED DOCUMENTATION:

ENVIRONMENTAL ASSESSMENTS

INITIAL ENVIRONMENTAL EXAMINATIONS

- Competitiveness of Ghanaian Private Sector in World Markets Increased/SO6 (approved: 06/25/2010) ([DOC](#)) ([PDF](#))
- Agricultural Development and Value Chain Enhancement (ADVANCE) (approved: 06/25/2010)
- Integrated Coastal Fisheries Governance Program (ICFG) (under review)
- Business Sector Advocacy Challenge Fund (BUSAC) (approved: 04/06/2011) ([DOC](#)) ([PDF](#))
- Support to Millennium Development Authority (MiDA) for Rehabilitation of Roads and Irrigation Schemes (approved: 07/05/2011) ([DOC](#)) ([PDE](#))
- Improved Health Status (approved: 03/25/2010) ([DOC](#)) ([PDE](#))
- Protracted Relief and Recovery Operation (PPRO) (approved: 09/28/2010) ([DOC](#)) ([PDF](#))
- Global Hunger and Food Security Initiative – USAID and Peace Corps Feed the Future Participating Agency Program Agreement (PAPA) (approved: 06/08/2011) ([DOC](#)) ([PDE](#))

PESTICIDE EVALUATION REPORT AND SAFER USE ACTION PLAN

- ADVANCE (under review)

STRATEGY DOCUMENT

- Ghana Food Security Strategy (Feed the Future), USG initiative

ENVIRONMENTAL AND CLIMATE CHANGE ANALYSIS

- Ghana: Climate Change Vulnerability and Adaptation Assessment. A report submitted to USAID/Ghana
- Ghana: Biodiversity and Tropical Forests Environmental Threats and Opportunities Assessment. A report submitted to USAID/Ghana
- Food Security and Climate Change in Drought-Sensitive Savanna Zones of Ghana. ([PDF](#))

GENDER ANALYSIS

- Ghana: Gender Assessment required for the Country Development Cooperation Strategy (CDCS). A draft report submitted to USAID/Ghana
- Agricultural Development and Value Chain Enhancement: Gender Assessment

IMPLEMENTATION PLAN

- Feed the Future Performance Monitoring Plan. A draft report submitted to USAID/Ghana

GHANA COMMERCIAL AGRICULTURE PROGRAM PRE-APPRAISAL

- Co-financing Government of Ghana with World Bank, many associated analysis by USAID and World Bank, meaning USAID buys into World Bank financial and program management systems and oversight
- Agreement between USAID/Ghana and World Bank on the Environmental and Social Safeguards applied to GCAP (under review)

LAND TENURE ANALYSIS

- Land Tenure and Property Rights Issues in USAID Food Security Programming in Ghana (Link on Allnet: <http://portal.usaidallnet.gov/documents/3249>)

SUMMARY OF FINDINGS:

The purpose of this IEE, in accordance with 22CFR216, is to provide the first review of the reasonably foreseeable effects on the environment, as well as recommended Threshold Decisions for current and new activities under the USAID/Ghana Feed the Future (FtF) program using FY2010 – FY2015 resources to improve the livelihoods and nutritional status of households in Ghana.

Section 1 covers the purpose and scope of this IEE; Section 2 provides an overview of Ghana’s Country and Environmental Information; Section 3 provides a program description of USAID/Ghana’s FtF strategy; Section 4 provides an evaluation of the potential environmental impacts of current and anticipated agriculture and food security activities and the threshold environmental determination and mitigation measures for them; Section 5 describes environmental monitoring and compliance assurance responsibilities for USAID/Ghana’s Feed the future program. Monitoring, compliance and reporting expectations are addressed in Section 6. Finally, section 7 identifies “Climate-Smart” Agriculture measures relevant to the FtF investments.

For Feed the Future’s investment in the Ghana Commercial Agriculture Program (GCAP) in northern Ghana, USAID will co-finance the program with the World Bank, and USAID intends to buy-in to the World Bank Environmental and Social Safeguards (compliance) procedures, as well as other World Bank management and oversight systems and structures in working with the Government of Ghana, *to the extent that they equal or exceed the standards of USAID’s statutory procedures and accepted good practices*. USAID and World Bank are establishing an “Agreement Document on Use of World Bank Environmental and Social Safeguards in the GCAP under Co-financing by USAID.”

Recommended Environmental Determinations:

1. Categorical Exclusion: The following activities under the two foreign assistance objectives (Economic Growth and Health) to improve the livelihoods and nutritional status of households in Ghana are Categorical Excluded from initial environmental examination as no environmental impacts are expected as a result of these activities. All are excluded per the following citations from Title 22 of the Code of Federal Regulations 216 (22 CFR 216), subparagraph 2(c)(2):

- (i) Activities involving education, training, technical assistance or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);
- (ii) Activities involving controlled experimentation exclusively for the purpose of research and field evaluation and carefully monitored;
- (iii) Activities involving analyses, studies, academic or research workshops and meetings;
- (v) Activities involving document and information transfers;
- (vi) Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning.
- (viii) Programs involving nutrition, health care, or 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.);
- (xi) Programs of maternal or child feeding conducted under title II of Pub. L. 480; and
- (xiv) Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning.

However, if any topic associated with these activities is one that inherently affects the environment, such as training in agricultural land preparation or training under Development Credit Authorities (DCAs) or Global Development Alliances (GDA) or other public/private partnerships, to enhance the capacity of finance institutions in rural lending, then such training will include information on how to minimize and/or mitigate these impacts. Examples include: instruction on land preparation that minimizes erosion and maximizes the retention of soil moisture or training for rural investment banks in screening loan portfolios of micro-finance institutions for potential negative impacts. See below provisions on Financial Intermediation, and on Corporate Environmental and Social Responsibility (CESR), and Responsible Agricultural Investment (RAI).

The following Categorical Exclusions *are not foreseen to be applicable* to the Ghana FtF or Economic Growth Programs: (iv) Projects in which [USAID] is a minor donor to a multi-donor; (vi) Contributions to international, regional or national organizations by the United States which are not for the purpose of carrying out a specifically identifiable project or projects; (vii) Institution building grants to research and educational institutions in the United States such as those provided for under title XII (1979); (ix) Assistance provided under a Commodity Import Program; (x) Support for intermediate credit institutions when the objective is to assist in the capitalization of the institution or part thereof and when such support does not involve reservation of the right to review and approve individual loans made by the institution; (xii) Food for development programs conducted by food recipient countries under title III of Pub. L. 480; (xiii) Matching, general support and institutional support grants provided to private voluntary organizations (PVOs) to assist in financing programs where [USAID]'s objective in providing such financing does not require knowledge of or control over the details of the specific activities conducted by the Private Voluntary Organization (PVO). See Section 5.

2. Deferral

- A Deferral is recommended for technology development and dissemination involving genetically modified organisms (GMOs), pending further details on if, how and which transgenic materials may be addressed by the Intervention, and more details on the biotechnology component. Prior to irreversible commitment of funds to activities potentially involving GMOs in research, field trials or dissemination, the appropriate USAID Biosafety Procedures will be addressed (ADS 201.3.6.3b and draft ADS 211). Likewise, approval will be sought as appropriate from the cognizant national biosafety authority.
- All USAID-funded interventions involving biotechnologies must be subjected to a biosafety review prior to implementation.

3. Negative Threshold Determinations (22 CFR216.3 (a) (2) (iii))

3.1. Financial intermediation, micro-credit, loans, micro-finance institutions (MFIs) and micro-enterprises, loan guarantees, and Global Development Alliances (GDA) and Development Credit Authority (DCA) commitments.

Conditions:

The Mission shall ensure that the Guaranteed Party or Parties have environmental screening system *sufficient to demonstrate compliance with Government of Ghana (GoG) environmental laws and to enable USAID to make an assessment of the environmental impact of such activities and shall submit to USAID their proposed policies and procedures to assure that the projects financed are environmentally sound and comply with applicable laws and procedures.*

In the event a DCA or GDA is to be established, refer to guidance on the ENCAP Africa website, <http://www.encapfrica.org/mcoEntry.htm>, Recommended and Acceptable Language and Formats

(RALF) for IEEs, and consult with the Regional Environmental Advisor (REA) and Bureau Environmental Officer (BEO). Responsible Agricultural Investment and Corporate Environmental and Social Responsibility will be promoted. See the GCAP AllNet Portal GCAP Document, Responsible Investment, at <http://portal.usaidallnet.gov/documents>.

3.2. Agricultural productivity technologies and inputs (e.g. fertilizers, pesticides, hybrid seeds, construction, land and water management practices, new crop commodity sub-sectors and construction) as follows:

3.2.1. Use of fertilizers

Conditions:

The FtF team shall work with activity implementing partners to ensure that only fertilizers that are approved by both the local regulatory authority and the USEPA shall be introduced and utilized. Also implementing partners must assure that potential users are trained in proper fertilizer handling, storage, use and application techniques and fertilizers are employed according to the best practices, promoting integrated soil fertility management (ISFM). Refer to Annex 3, Fertilizer Fact Sheet. USAID/Africa Bureau, also at this URL: http://www.encapafrika.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf.

3.2.2. Pesticides

Pursuant to 22 CFR216.3 (b) (1), a **Negative Determination with conditions** is recommended for activities involving use of pesticides.

Conditions:

The FtF team shall ensure that any activity involving pesticides, or new pest management products or technologies will be preceded by the preparation and BEO approval of PERSUAPs in accordance with Agency guidance, and fulfilling all analytical elements required by 22CFR216.3 (b), USAID's Pesticide Procedures. The AFR BEO and USAID/WA Regional environmental staff will assist the Ghana Mission Environmental Officer (MEO) and FtF Activity Managers in establishing the need. New PERSUAP, if any, will be commissioned as necessary, by the respective implementing partners.

The existing ADVANCE PERSUAP will be adapted to encompass the scope of USAID/Ghana's Commercial Agriculture and other FtF Programs in Northern Ghana. The Government of Ghana will be producing a Pest Management Plan (PMP) in accordance with the World Bank Operational Procedure 4.09. USAID's PERSUAP will be controlling in terms of influencing the use of pesticides (USEPA-registered) and integrated pest and plant health management.

3.2.3. Seeds, seed supply, planting materials, germ plasm, exotic species

Conditions:

The FtF team and activity implementing partners shall ensure that suppliers:

- a) Ensure appropriateness for the agroclimatic zone to which they are being introduced;
- b) Avoid introducing exotic invasive species; and
- c) Avoid providing or promoting GMOs, unless the Ghana and USAID Biosafety Procedures are followed.

The Foreign Assistance Act, Part I, Section 119(g) - Endangered Species, specifies that USAID shall deny any direct or indirect assistance under this chapter for actions which significantly degrade national parks or similar protected areas or introduce *exotic plants or animals* into such areas.

This requires identifying and mitigating any potential direct adverse impacts on the physical environment and human health and safety (such as due to aflatoxin contamination) arising from distribution of seeds.

If biotechnology, biosafety, and genetically-modified organisms (GMOs) or life-modified organisms (LMOs) activities are to be considered in the scope of Ghana FtF activities, any support for laboratory- or field-based research, multiplication, or dissemination of GMOs or LMOs shall be subject to review under the Agency's Biosafety procedures, and an appropriate environmental review conducted and approved in advance of commitment of funds.

3.2.4. Small scale construction

Condition:

The FtF team shall ensure rehabilitation of existing facilities and construction of facilities in which the total surface area disturbed is less than 10,000 square feet (1000 m²), is not done in protected areas or other environmental sensitive areas and that these activities shall be conducted following principles for environmentally sound construction, as provided in the Small Scale Construction chapter of USAID/Africa Bureau's *Environmental Guidelines for Small-scale Activities in Africa* (EGSSAA): http://www.encapafrika.org/EGSSAA/Word_English/construction.doc.

For the construction of any facilities in which the total surface area disturbed exceeds 10,000 square feet (1,000 square meters), the program shall conduct a supplemental environmental review according to guidance contained in the Environmental Review Form (ERF/ERR) on the ENCAP website "Compliance Forms" page (<http://www.encapafrika.org/compliance.htm>). Construction will not begin until such a review is completed and approved by the Mission Environmental Officer.

3.2.5. Activities involving land and water management improvement, watershed management, soil erosion control

Conditions:

To ensure that optimal practices are followed, pertinent chapters of the USAID EGSSAA are the following: Chapter 1- *Agriculture: Soil and Water Resources, including Irrigation* (http://www.encapafrika.org/EGSSAA/Word_English/agriculture.doc).

The FtF team and activity implementing partners shall ensure that improvements in land and water management techniques do not cause destruction or degradation of natural habitat, including deforestation, land degradation and drainage of wetlands; lead to loss of biodiversity; do not lead to the introduction of exotic and non-native animals and plants; lead to erosion and loss of soil fertility, siltation of water bodies or reduction in water quality; or spread disease.

3.3. Minor Irrigation Infrastructure

"Minor" rehabilitation activities are recommended for a Negative Determination with Conditions stipulating that optimal environmental design and engineering practices be applied in accordance with USAID/AFR's EGSSAA, Chapter II.2, Agriculture and Irrigation: http://www.encapafrika.org/EGSSAA/Word_English/agriculture.doc

See below for major irrigation works' recommended Positive Determination (4.2 in Summary).

3.4. Minor Roads

A Negative Determination with conditions is recommended for activities involving minor feeder rural road construction and rehabilitation of old roads. Negative impacts on the environment may occur.

Rural roads development and improvement should be conducted in a manner consistent with the good planning, design and implementation practices described in *EGSSAA Part II: Chapter 14: Rural roads* (http://www.encapafrika.org/EGSSAA/Word_English/roads.doc).

See below for major road works' recommended Positive Determination (4.1 in Summary).

3.5. Sub-grants

Pursuant to 22 CFR216.3(a)(2)(iii), a Negative Determination with Conditions is recommended for activities involving subawards, sub-grants and small grants programs, such as to business association, civil society and private sector partners, involving support for activities with the potential for impact on the environment, i.e. those that would not qualify for Categorical Exclusion. The EG Team, together with the MEO, is responsible for determining whether the activities intended for support warrant an environmental screening process.

Conditions:

In the event that sub-grants and small grants will support activities with the potential for impact on the environment, the Contracting and Agreement Officer Technical Representatives (COTR/AOTRs) and Activity Managers in USAID/Ghana's FtF program has the responsibility for assuring that an environmental screening process is introduced by implementing partners. The standards to achieve for these activities are presented in USAID's "Environmental Guidelines for Small-scale Activities in Africa" (EGSSAA), found on-line at <http://www.encapafrika.org/EGSSAA>, specifically Part II Sector-specific Guideline and Part III Micro and Small Enterprises.

Refer to Annex 2 for the template "Environmental Review Form (ERF/ERR) Screening Form for new activities proposed under USAID/Ghana FtF program", which can be adapted by partners. This can be found online at <http://www.encapafrika.org/documents/AFR-EnvReviewForm-20Dec2010.doc>

The Contracting and Agreement Officer Technical Representatives (COTR/AOTRs) and Activity Managers in USAID/Ghana's FtF program shall be responsible for, first, clearing the implementing partner's category determination of sub-grant activities. Classifications of Moderate or unknown risk or higher will be referred to the Mission Environmental Officer along with any required Environmental Review Reports (ERRs). All classifications of High risk and their ERRs must be approved by the Bureau Environmental Officer (BEO).

When ERRs are necessary, implementing partners will observe recommendations in the Africa Bureau-EGSSAA for relevant sectors when developing mitigation actions and monitoring plans. Once the ERRs are approved, project implementers should ensure mitigation measures and monitoring procedures described therein are in place as they will be considered requirements.

4. Positive Threshold Determinations (22 CFR216.2 (d) (2) and 216.6)

- 4.1. **Major road and related infrastructure construction, a Positive Determination is recommended, pursuant to 22 CFR216.2 (d) (2) and 216.6.** For any USAID support for the construction of roads under this program, an Environmental Impact Assessment shall be developed before program can begin.
- 4.2. **Major irrigation infrastructure activities -- e.g. irrigation works rehabilitation and new development, dam construction).** They can have a negative impact on the physical environment. The FtF team and activity implementing partners shall ensure that any USAID support for the construction irrigation system and of roads construction under this program, an Environmental Impact Assessment (EIA) shall be developed before program can begin.

These determinations to produce Environmental Assessments are consistent with World Bank and GoG confirmation that (1) the social and environmental safeguards policies triggered for the GCAP and (2) the five sets of safeguard instruments that would be prepared by the GoG to ensure social and environmental impacts will be appropriately mitigated as per the World Bank's safeguard policies. GoG will prepare five stand alone safeguards documents, namely:

- an *Environmental and Social Management Framework* (ESMF),
- a *Pest Management Plan* (PMP);
- a *Resettlement Policy Framework* (RPF) which will mainly apply to activities in Components 2, and 3 for the entire project. A framework approach is being adopted for the entire Ghana Commercial Agriculture Project to mitigate against impacts for project activities that will not be identified prior to project appraisal,

In the Accra Plains, a well-defined but not a USAID investment area; an *Environmental and Social Impact Assessment* (ESIA) and a *Resettlement Action Plan* (RAP) will be prepared.

Further, though not strictly a Safeguards requirement, a gender assessment and land tenure and property rights assessment will be brought to bear on the design and implementation of GCAP in Northern Ghana.

5. Private Sector CESR.

Given the public/private partnership modalities expected to be emphasized, especially under GCAP, it is expected that private sector Corporate Environmental and Social Responsibility (CESR) (http://en.wikipedia.org/wiki/Corporate_social_responsibility), and Responsible Agricultural Investment (<http://www.responsibleagroinvestment.org/rai/node/256>) will be promoted proactively, and investor expected to support appropriate measures.

Banks - The Equator Principles (EPs) are a voluntary set of standards for determining, assessing and managing social and environmental risk in project financing. Please refer to http://www.equator-principles.com/documents/Equator_Principles.pdf for further details.

6. General Across-the-Board Conditions

There are 18 sector-specific chapters in Part II of *Environmental Guidelines for Small-Scale Activities in Africa*, (2nd Edition) and 7 in Part III. Micro and Small Enterprises (<http://www.encapafrika.org/egssaa.htm#II>) which are expected to be applied across-the-board, as applicable.

In addition, there are certain requirements that apply to all activities falling under the threshold determination of "Negative Determination with Conditions" and "Positive Determination". These include:

6.1. Environmental Compliance Language in Procurements/Solicitations

The responsibility for implementing activities in accordance with the findings and conditions of this IEE must be incorporated into all contracts and grants that serve to implement activities covered under this IEE. Refer to the fact sheet "Environmental Compliance: Language for Use in Solicitations and Awards" for help in assembling appropriate, ADS-mandated environmental compliance language for all solicitations and awards¹, which links to the appropriate ADS 204 Helpfile. The solicitation language will draw upon the determinations in this IEE.

6.2. Budget provisions

¹ [http://www.encapafrika.org/meo_resources/ECL_Factsheet%20\(final\).pdf](http://www.encapafrika.org/meo_resources/ECL_Factsheet%20(final).pdf).

This will be made within USAID/Ghana and/or the partners to allow for the environmental reviews and EIAs to be accomplished appropriately.

6.3. Oversight and Field Monitoring.

Contracting and Agreement Officer Technical Representatives (COTR/AOTRs) and Activity Managers in USAID/Ghana's Food Security program, working with the MEO, will undertake field visits and consultations with implementing partners to jointly assess the environmental impacts of ongoing activities, and the effectiveness of associated mitigation and monitoring plans.

AOTRs/COTRs and Activity Managers will undertake a review of the existing PERSUAPs and determine their continued applicability and, with the USAID/WA REA and AFR BEO, establish the need for amendment or preparation of new PERSUAPs. In the event new PERSUAPs are required for new sectoral programs, then no pesticides shall be procured or used until the PERSUAP is approved by the BEO.

Organizations receiving USAID/Ghana funds and transferring them through grants or other mechanisms to other organizations must incorporate provisions stipulating:

- the completion of annual EMMRs, and
- that activities to be undertaken will be within the scope of the environmental determinations and recommendations of this IEE.

USAID/Ghana will ensure that implementing organizations have sufficient capacity to complete the environmental screening process and to implement monitoring and mitigation measures.

For activities that are not funded or fully funded by USAID/Ghana, but are an identifiable part of an Agriculture and Food Security program activity (for example if another source of funding is supporting agricultural activities), the implementing partner must assure that, at a minimum, the equivalent USAID standards for mitigation, as presented in Section 4, are followed.

6.4. Adherence to applicable GoG environmental laws and policies

USAID has always intended to work within, complement and reinforce the host government's environmental compliance policies and regulations. Within the 22 CFR Part 216 framework, it is A.I.D. policy to: (1) Ensure that the environmental consequences of A.I.D.-financed activities are identified and considered by A.I.D. and the host country prior to a final decision to proceed and that appropriate environmental safeguards are adopted; (2) Assist developing countries to strengthen their capabilities to appreciate and effectively evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental programs.

Since 2005, the World Bank Executive Directors approved OP and BP 4.00 proposals for Expanding the Use of Country Systems in Bank-Supported Operations. This was to pilot the use of borrower systems to address environmental and social safeguard issues and that are approved by the Board.

7. Environmental Mitigation and Monitoring Report (EMMR)

Bi-lateral implementing partners under USAID/Ghana FtF program will complete an annual EMMR of all activities, using the guidance and forms in Section 5 and as explained further under "Monitoring and Reporting" in that section. Provision for completing EMMRs in October of each year should be a part of annual work plans.

USAID/Ghana FtF program's implementing partners will use an annual Environmental Mitigation and Monitoring Report (EMMR) to ensure programmatic compliance with 22 CFR 216 and ADS 204.5.4 by

documenting that any conditions applicable under this IEE have been met for relevant activities carried out under bi-lateral awards.

EMMRs will be reviewed and approved by the COTR/AOTR and the Mission Environmental Officer. The EMMR consists of 3 parts, the:

1. Environmental Verification Form
2. Mitigation Plan for specific environmental threats carried out by the implementer
3. Reporting Form

EMMR, Environmental Verification Form. Because of the integrated nature of the USAID/Ghana's FtF program, a single bi-lateral award (along with any sub-awards) might contain activities with various conditions required for prevention or mitigation of environmental impacts. This form indicates the categories of activities carried out by implementing partners (or their sub-awardees).

EMMR, Mitigation Plan. The Mitigation Plan describes specific actions that will be undertaken under each category of activity when screening reveals potential environmental threats as outlined in Section 4 of this IEE. In these cases, mitigation will be undertaken as described in Section 4. Also, it identifies the person responsible for monitoring compliance with mitigation and the indicator, method and frequency of monitoring.

EMMR, Reporting Form. This form reports on the results of applying the mitigation measures described in the Mitigation Plan and identifies outstanding issues with respect to required conditions. In some cases, digital photos will be the best way to document mitigation and should be included in the report.

As laid out in ADS 204.5.4, USAID/Ghana is responsible for the monitoring and evaluation of the environmental effects of all ongoing and proposed program development activities, so as to ensure they remain as Categorical Exclusions or within the bounds of the Negative Determinations with Conditions, and the Positive Determinations. The process of environmental monitoring and evaluation will be integrated into the Agriculture and Food Security Team's Performance Monitoring and Evaluation Plan.

Annexes:

Annex 1: Environmental Mitigation and Monitoring Plan and Report (EMMR) Template. Also available at URL: [Recommended template for EMMPs](http://www.encapafrika.org/meo_resources/EMMP%20Templat%209May08.doc)
http://www.encapafrika.org/meo_resources/EMMP%20Templat%209May08.doc

Annex 2: Environmental Screening Form for New Activities Proposed under USAID/Ghana FtF/EG programs: , as last revised in Dec. 2010. Also available at:
<http://www.encapafrika.org/documents/AFR-EnvReviewForm-20Dec2010.doc>

Annex 3: Fertilizer Fact Sheet. USAID/Africa Bureau. Also at
http://www.encapafrika.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf

Annex 4: Illustrative Options for Integrating NRM/CC/Water Considerations into Bilateral Mission Feed the Future Programs

APPROVAL OF ENVIRONMENTAL ACTION RECOMMENDED:

CLEARANCE:

USAID/Ghana Mission Director: _____ Date: _____
Cheryl Anderson

CONCURRENCE:
Bureau Environmental Officer: _____ Date: _____
Brian Hirsch

File No: USAID/Ghana_FTF_IEE_2011_2015.doc


Mission Environmental Officer: _____ Date: _____
Justice Odoi

Senior Food Security Officer: _____ Date: _____
Fenton Sands

SO6 Team Leader: _____ Date : _____
Nino Nadiradze

SO7 Team Leader: _____ Date : _____
Laurel Fain

Supervisory Program Officer: _____ Date: _____
Daniel Sanchez-Bustamante


Sr. Regional Env. Policy Advisor:  Date: 9/15/2011
(USAID/AFR/SD): Walter Krausenberger

OPTIONAL CLEARANCES

Regional Legal Advisor: _____ Date: _____

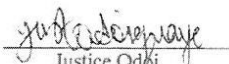
APPROVAL OF ENVIRONMENTAL ACTION RECOMMENDED:


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Bureau Environmental Officer:  Date: 12/06/11
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File No: USAID/Ghana_FTF_IEE_2011_2015.doc


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Senior Food Security Officer:  Date: 08/27/11
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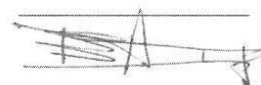
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Supervisory Program Officer:  Date: 10.11.11
Daniel Sanchez-Bustamante

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Walter Knausenberger

OPTIONAL CLEARANCES

Regional Legal Advisor: _____ Date: _____
Deputy Mission Dir:  12 Oct 2011

INITIAL ENVIRONMENTAL EXAMINATION
AND
CATEGORICAL EXCLUSION

USAID/GHANA FEED THE FUTURE

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List of Abbreviations

ADVANCE	Agricultural Development and Value Chain Enhancement
AFR	Africa
AgSWAp	Agriculture Sector, Sector-Wide Approach
AOTR	Agreement Officer Technical Representatives
BEO	Bureau Environmental Officer
BFS	Bureau of Food Security
BUSAC	Business Sector Advocacy Challenge Fund
CESR	Corporate Environmental and Social Responsibility
COTR	Contracting Officer Technical Representatives
DCA	Development Credit Authority
DRLRLU	Diagnostic Review of Land Rights and Land Uses
EGSSAA	Environmental Guidelines for Small Scale Activities in Africa
EIA	Environmental Impact Assessment
ENCAP	Environmentally Sound Design and Management Capacity-building for Partners and Programs in Africa
ERF	Environmental Review Form
ERR	Environmental Review Report
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
FtF	Feed the Future
GAIDA	Ghana Agricultural Input Dealers Association
GCAP	Ghana Commercial Agriculture Program
GDA	Global Development Alliances
GMO	Genetically Modified Organisms
GSS	Ghana Statistical Services
GSSP	Ghana Strategy Support Program
ICFG	Integrated Coastal and Fisheries Governance
IEE	Initial Environmental Examination
IFPRI	International Food Policy Research Institute
IDA	International Development Association
IR	Intermediate Results
ISFM	Integrated Soil Fertility Management
METSS	Monitoring, Evaluation, and Technical Support Services
MFI	Micro-Finance Institutions
MiDA	Ghana Millennium Development Authority
MoFA	Ministry of Food and Agriculture
MoFEP	Finance and Economic Planning
MOTI	Ministry of Trade and Industry
PAPA	Participating Agency Program Agreement
PASA	Participating Agency Service Agreement
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PMP	Pest Management Plan
PPP	Private-Public Partnerships
RAI	Responsible Agricultural Investment
RALF	Recommended and Acceptable Language and Formats
RAP	Resettlement Action Plan
REA	Regional Environmental Advisor
RPF	Resettlement Policy Framework
SADA	Savannah Agricultural Development Authority
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
WA	West Africa
WB	World Bank
WIAD	Women in Agriculture Development

1. PURPOSE AND SCOPE OF THIS INITIAL ENVIRONMENTAL EXAMINATION (IEE)

The purpose of this IEE, in accordance with 22CFR216, is to provide the first review of the reasonably foreseeable effects on the environment, as well as recommended Threshold Decisions for current, new and potentially to be designed activities under the USAID/Ghana Feed the Future (FtF) program using FY2010 – FY2015 resources to improve the livelihoods and nutritional status of households in Ghana. A series of subsidiary IEEs and Request for Categorical Exclusions are in place and being applied, or will be put in place as necessary. USAID/Ghana will participate with the World Bank in the implementation support and oversight for the Ghana Commercial Agriculture Program, co-financed with the World Bank and implemented by the Government of Ghana, contracted partners and the private sector.

2. COUNTRY ENVIRONMENTAL 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, La 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 savanna to wet evergreen forests. A summary profile for Ghana outlined below (Table 1).

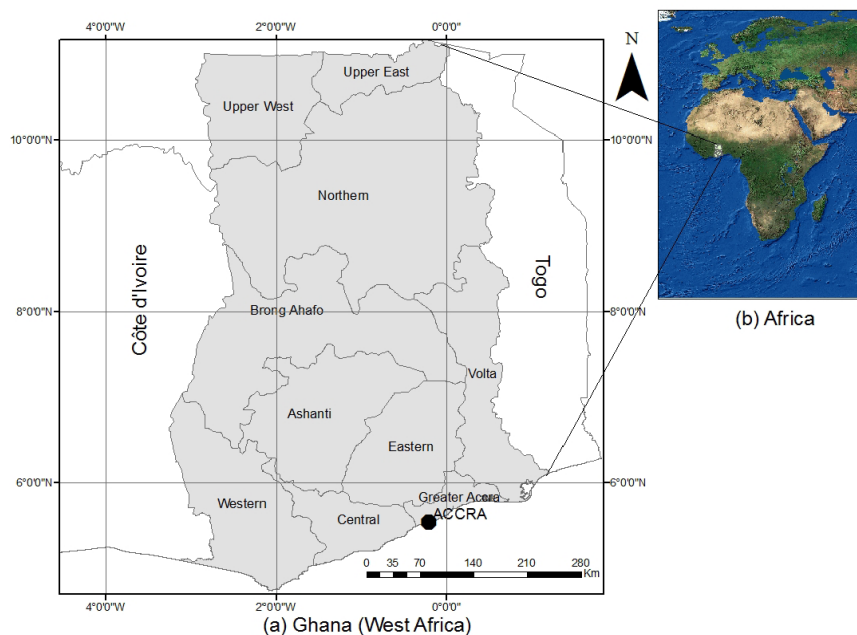


Figure 1. Map of Ghana (West Africa) Source: Justice Odoi

Table 1. Ghana Country Profile

Geography and Environment	
Total surface area:	238,540 sq km
Coastline:	565 km
Natural resources:	Gold, timber, industrial diamonds, bauxite, diamond, manganese, fish, rubber, hydropower, salt.
Agriculture Land Area	13,628,179 Hectares (Ha) (2010)
Area under cultivation	7,846,551Ha (2010)
Total area under irrigation	30,269 Ha (2010)
Area not under cultivation	5,781,628 Ha (2010)
Area under inland waters	1,100,000 Ha (2010)
Population	
Population:	24, 223,431 (Ghana Statistical Service, 2011)
Population growth rate:	1.8% (2000 population)
Life expectancy: <i>total population:</i>	59.85 years (2009 est)
Urban population (% of total):	46.3 (2005 population)
Urban population annual growth rate:	4.15% (1995-2015)
Economy	
GDP:	US\$16.654 billion (2008 est.)
GDP - real growth rate:	6.2% (2008 est)
GDP per capita: purchasing power parity	
GDP composition by sector:	US\$739 (2008 est.)
<i>agriculture, forestry and fisheries:</i>	
<i>industry:</i>	36%
<i>services:</i>	25% (including 15% from manufacturing)
Population below poverty line:	31.4% (2000 est.)
Labor force:	11.5 million (2008 est.)
Labor force - by occupation:	9 million (2000 est.)
	agriculture 56% (including 3% in fisheries), industry 16.2%, services 5.9%, sales & clerical 19.3%, Professional 8.9% (1999 est.)
Unemployment rate:	20.3% (2001 est.)
Industries:	mining, lumbering, light manufacturing, aluminium smelting, food processing
Industrial production growth rate:	4.2% (1996 est.)
Industries located in coastal zone:	70%
Electricity - production:	5.466 billion kWh (1999)
Electricity - production by source:	<i>fossil fuel:</i> 26.82%
Electricity - consumption:	<i>hydro:</i> 73.18%
Electricity - exports:	5.573 billion kWh (1999)
Electricity - imports:	400 million kWh (1999)
	890 million kWh (1999)
Agriculture - products:	cocoa, rice, coffee, cassava (tapioca), peanuts, corn, shea nuts, bananas; timber
Exports:	US\$1.6 billion (f.o.b., 2000)

Exports - commodities:	gold, cocoa, timber, tuna, bauxite, aluminium, manganese ore, diamonds
Imports:	US\$2.2 billion (f.o.b., 2000)
Imports - commodities:	capital equipment, petroleum, foodstuffs
Currency code:	Cedi (GHC)
Exchange rate:	Cedis per US dollar – 1.50 (December 2010)
Water Resources and Uses	
Internal flows	30 billion cu. m. 1999
Flows from other countries	22.9 billion cu. m. 1999:
Total resources per capita cu. m ³ :	2,832
Annual freshwater withdrawals:	0.3 billion cu. m
% of total renewable resources:	0.6
% for agriculture:	52
% for industry:	13
% for domestic:	35

Adapted from the ICFG IEE

2.1. Environmental baseline

Agro-ecological zones Characteristics

Ghana is ecologically diverse, supporting two major biomes: tropical high forest and savannah, which are further divided into six agro-ecological zones on the basis of climatic conditions, geology, and soil. The agro-ecological zones from north to south are: Sudan savanna, Guinea savanna, Forest-savanna transition, Deciduous forest, Rain forest, and the Coastal savanna zones (Fig. 2).

The forest zone covers roughly one third and the drought-sensitive savanna areas cover two-thirds (about 40 percent) of the total land area of Ghana. Rainfall significantly varies between these zones, with the forest areas experiencing bi-modal rainfall ranging between 1,300 and 2,100 mm and the savanna experiencing mono-modal rainfall ranging between 800 and 1200 mm per annum.

Most soils in Ghana are old and classified as *Lixisols*, *Acrisols*, *Nitisols*, *Luvissols*, *Lithosols*, *Plinthosols*, *Gleysols* and *Cambisols*. Alluvial soils (*Fluvisols*) and eroded shallow soils (*Leptosols*) are found in all the ecological zones. The soils found in the lowland evergreen forests are mainly forest *oxysols* (or *Oxisol* in the USDA soil classification system) or forest *Oxysol-ochrosol* intergrade. The principal soils which cover nearly the whole area of moist semi-deciduous (MSD) forests are the forest *Ochrosols* (mainly *Ultisols* in the USDA system). They differ from the forest *Oxysols* by being slightly alkaline in nature, richer in nutrients and not highly leached. They support many tree crops including cocoa citrus and coffee. The most extensive soils in the northern savannas are the groundwater lateritic soils developed over the Voltaian shales and granites (Menczer and Quayle, 2006).

Water resources

Northern Ghana is drained by the Black and White Volta Rivers, which join to form the Volta, which then flows south to the sea. The two major tributaries of the Volta are the Oti and Afram Rivers. Together, the rivers drain the Volta Basin. The Volta finally enters the Gulf of Guinea at Ada in southeastern Ghana. The South-Western Rivers System comprises the Bia, Tano, Ankobra and Pra Rivers, while the Coastal Rivers System is made up of Ochi-Amisshah, Ochi-Nakwa, Ayensu, Densu and Tordzie/Aka Rivers. The Volta River basin is shared with Cote d'Ivoire, Burkina Faso, Togo, Benin and Mali. The Bia is shared with Cote d'Ivoire, while the lower reaches of the Tano River also form part of the boundary with Cote d'Ivoire. The Volta River and Lake provide water for industrial and domestic use, irrigation as well as livelihoods for a number of people who are engaged in fishing along its banks and

remains an important transportation link between southern and northern Ghana. The quality of freshwater in these three major systems is generally good for multipurpose use. Figure 3 shows the water resources in Ghana.

Land degradation and desertification

Land degradation is geographically widespread in all areas of the country and can be attributed to physical (in the form of soil erosion, compaction, crusting, and iron-pan formation), chemical (depletion of nutrients, salinity, and acidification), and biological (loss of organic matter) processes. Soil erosion is the primary form of land degradation in Ghana (EPA 2002). The main forms of soil erosion in Ghana are sheet erosion through surface runoff, rill erosion in permanent and shifting microchannels, and gully erosion in permanent channels (EPA 2002). The estimated percentage of total land area of Ghana prone to desertification is 35 percent (about 83,489 km²) with the Upper East and eastern part of Northern Region (78,718 km²) or 33 percent of the total land area of the country) facing the greatest hazard.



Figure 2. Map of agro-ecological zones; source: RESPTA (<https://www.uni-hohenheim.de/respta/climate.php>)

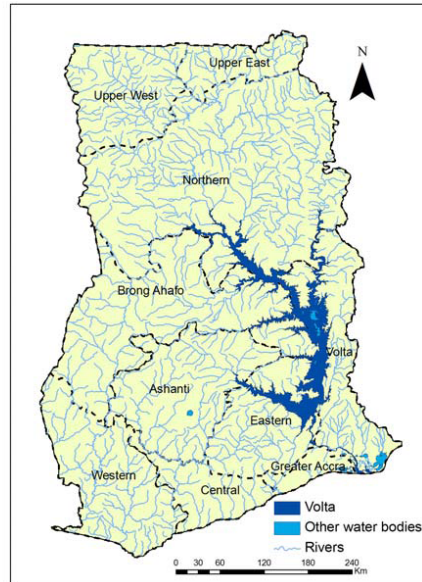


Figure 3. Map of water resources in Ghana; Source; Justice Odoi

2.2. Environmental Policies and Procedures

Main national policies relevant to the FtF investments are outlined in Table 2.

Table 2. Policies relevant to the FtF investments

Policies	Objectives Relevant to FtF Program
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>
EPA Act 1994 (Act 490)	It grants the Ghana Environmental Protection Agency enforcement and standards-setting powers and to ensure compliance with such

Policies	Objectives Relevant to FtF Program
(PDF)	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.
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.
Water Resources Commission (WRC) Act 522, 1996 (PDF)	Provides for the preparation of comprehensive plans for the regulation, utilization, conservation, development and improvement of water resources and develops policy framework for water resources management in the country. This Act also grants rights to exploit water resources
National Water Policy (PDF)	Provides a framework for the development of Ghana's water resources. The aim is to "achieve sustainable development, management and use of Ghana's water resources to improve health and livelihoods, reduce vulnerability while assuring good governance for present and future generations".
National Land Policy (PDF)	Seeks to protect a variety of habitat types, and states that all lands declared as forest reserves, strict game reserves, national parks, wildlife reserves, and similar land categories are fully protected for ecosystem maintenance and biodiversity conservation.
Fisheries Act 625, 2002 (PDF)	Seeks to establish priorities for the utilization of fishery resources and ensure the proper conservation of the fishery resources through the prevention of overfishing by: <ul style="list-style-type: none"> • Minimize fishery gear conflict among users as well as ensure the monitoring, control and surveillance of the fishery waters; • Promoting co-operation among local fishermen and advice on development of artisanal fishing; • Correlating fisheries with other water uses and environmental protection particularly with respect to the fish resources and food chain in the rivers, lagoons, lakes and the continental shelf along the coast of the country; • Supporting District Assemblies and fishing communities to ensure the enforcement of the fishery laws including by-laws made by the relevant District Assemblies.
Pesticides Control and Management Act 1996 (Act 528) (PDF)	Seeks to regulate the use and management of pesticide, insecticide, weedicide, herbicide and other related chemicals in Ghana. The Act makes the EPA of Ghana the lead agency responsible for a comprehensive pesticides regulatory program. In that capacity, the EPA has the sole authority and responsibility to register all pesticides imported, manufactured, distributed, advertised, sold or used in Ghana.
National Development Planning Act, 1994 Act 479	This Act ensures the effective implementation of approved national development plans and strategies and coordinates economic and social activities country wide in a manner that will ensure

Policies	Objectives Relevant to FtF Program
	accelerated and sustainable development of the country and improvement in the standard of living for all Ghanaians
National Action Plan to Combat Drought and Desertification (PDF)	The objective is to emphasize environmentally sound and sustainable integrated local development programs for drought prone semi-arid and arid areas, based on participatory mechanisms, an integration of strategies for poverty alleviation and other sector programs including forestry, agriculture, health, industry and water supply into efforts to combat the effects of drought.
Local Government Act 1993, Act 462, Act 2003, Act 656 (PDF)	It enjoins the District Assemblies to be responsible for the development, improvement and maintenance of human settlements and environment in the district and local levels
Biosafety Law 2011	The Ghanaian Parliament has approved a Biosafety Bill which creates a favorable enabling environment for the development and commercialization of biotech seeds and crops in Ghana. Ghana's biosafety legislation is considered user friendly, in that it does not contain any labeling requirements for biotech or genetically modified food products, or strict liability provisions (instead adopting a simple negligence standard of liability for biotech products). Observers believe the bill will shortly be signed by the President, paving the way for a number of biotech seeds or crops to be developed for the Ghanaian market over the next few years, including biotech varieties of cotton, sweet potato, cowpea, corn, soy, and rice. The successful conclusion to the years-long effort to establish enabling legislation for agricultural biotechnology in Ghana was thanks in part to USG technical assistance and outreach efforts, and should help the country respond to the challenges of food security and climate change. USAID/Ghana will explore opportunities to partner with international agricultural research organizations, Ghanaian agricultural research institutions and/or other public and private organizations to help build an enabling environment that facilitates biotechnology development and transfer.

2.3. Background

Economic growth and agriculture

Impressive growth and record poverty reduction over the past twenty years have made Ghana an African success story. Agricultural growth has played an important role in this impressive development and broad agreement among policy makers and researchers exists that the sector needs to continue to play an important role in Ghana's future development. Analysis of the recent past yields a potential average annual total GDP growth rate of 4.9 percent between 2006 and 2015. This growth performance is anticipated to be sufficient to reach the Millennium Development Goal (MDG) 1 of halving rural poverty well before 2015. Ghana is now classified as a middle-income country as a result of recently re-basing its GDP, although this did not cause any change in people's lives. There is a risk that poverty in the North will remain high and the income gap between the North and the rest of Ghana will further widen especially if oil production grows as expected. Thus, despite the sound agricultural performance of the past five years, sustaining and accelerating this growth remains a challenge.

Agriculture contributes close to 30 percent of GDP. It is the largest source of employment for Ghanaians, employing more than half of the total labor force and providing employment for roughly 49 percent of men and 51 percent of women. Eighty percent of agriculture is conducted by smallholder farmers on an

average on 1.2 hectares who produce food and cash crops. The sector has been a major driver of poverty reduction, especially in the southern part of Ghana. The sector dominates the lives of people as the main activity of rural households and will continue to be an important and large sector over the coming decade. Despite an overall reduction in poverty rate from 52 percent to 28 percent over the past 10 years, the northern part of the country has poverty rates nearly twice that of the south.

Fisheries

In Ghana, the fisheries sector supplies about 60 percent of all animal-protein for human consumption and contribute about 4.5 percent to GDP while employing about 3 percent of the population. It is estimated that over 60 percent of all fish catches in Ghana are produced from marine fishing and about 150,000 fishers are engaged in marine capture fisheries. Local fish demand far exceeds the supply and the gap between supply and demand is expected to increase over the next decade. This places increasing pressure on fish stocks that are already considered overexploited.

Nutrition

While Ghana has made progress in decreasing the prevalence of underweight children under five (from 25 percent in 1998 to 14 percent in 2008), major child health challenges remain. Nearly one third of children nationwide are stunted and 78 percent are anemic. Moreover, national averages for child health and nutrition mask substantial disparities within the country. The Northern regions (Upper East, Upper West, and Northern) have greater rates of underweight and wasting, which are linked closely to food insecurity. Chronic malnutrition in these regions is linked to household poverty levels, disease burden (malaria, HIV/AIDS, intestinal worms, diarrheal diseases) inadequate sanitation facilities, and infant and young child feeding practices.

Over the last decade, progress has been made in the use of optimal breastfeeding behaviors, but not in complementary feeding of children 6-23 months, which represents an extremely critical period for growth and development. Less than half of children 6-23 months receive foods from four or more food groups and just half are fed the minimum meal frequency. Poor complementary feeding practices, illness and micronutrient deficiency are leading contributors to childhood morbidity and mortality. The most severe micronutrient deficiency among Ghanaian mothers and children is iron deficiency. When combined with a high malaria burden, the result is an alarming prevalence of anemia among young children – 78 percent among children under five. Anemia in children negatively impacts mental and physical development.

Agriculture productivity

Agriculture is predominantly on a smallholder basis in Ghana. About 90 percent of farm holdings are less than 2 hectares in size, although there are some large farms and plantations, particularly for rubber, oil palm and coconut and to a lesser extent, rice, maize and pineapples. Main system of farming is traditional. There is little mechanized farming, but bullock farming is practiced in some places, especially in the North. Agricultural production varies with the amount and distribution of rainfall. Soil factors are also important. Most food crop farms are intercropped. Mono cropping is mostly associated with larger-scale commercial farms.

Ghana has a deficit of nearly 70 percent of its rice needs, 15 percent of its maize needs and produces 60 percent of fish requirements. Consumption of staple crops especially rice and maize is predicted to escalate with the rise in incomes and a 3.5 percent urban growth rate. This presents a significant market potential for staples in Ghana

Infrastructure

Infrastructure development is crucial to enhancing Ghana's competitiveness in regional and international trade. Rural roads have potential to reduce transport cost for both farm inputs and agricultural produce. The Medium-Term National Development Policy among other factors recognizes inadequate

infrastructure (i.e. roads, irrigation, storage, processing, transport etc) as contributing to low productivity in the agricultural sector. The main focus of agricultural development policy, over the medium-term, will be to accelerate the modernization of agriculture and ensure its linkage with industry through the application of science, technology and innovation. The modernized agriculture sector is expected to underpin the transformation of the economy through job creation, increased export earnings, food security, and supply of raw materials for value addition and rural development as well as significant reduction in the incidence of poverty.

Climate change overview

Ghana similar to most African countries is vulnerable to the effects of climate change because of the dependence of much of the population on agriculture, particularly rain-fed agriculture, and widespread poverty that renders them unable to withstand climate stress. Available temperature data indicates a warming climate in Ghana with the drier northern area warming more rapidly than southern Ghana. Changes in rainfall will increase variability in groundwater recharge and river flow, thus affecting all water resources. Key vulnerabilities to climate change in Ghana's three northern regions include high rates of illiteracy (>73 percent in most districts), and relatively underdeveloped infrastructure. Climate change in conjunction with other destructive land use practices could accelerate desertification in northern Ghana. Again, decline in rainfall coupled with increasing temperatures, would make much of northern Ghana even more vulnerable to desertification (Stanturf, et. al., 2011, Brady, et al., 2011).

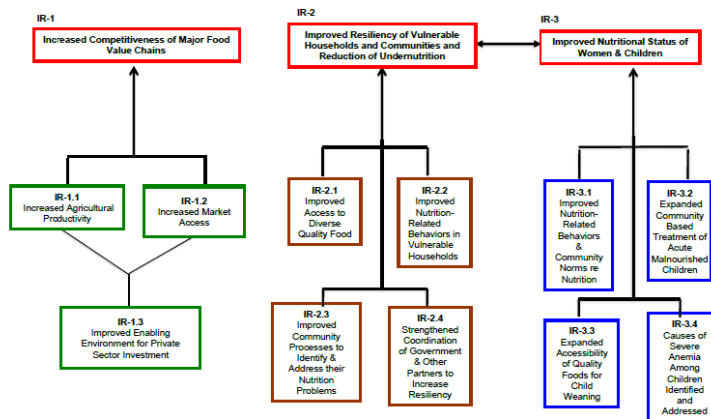
3. USAID/GHANA FEED THE FUTURE OBJECTIVE AND PROGRAM STRUCTURE

3.1. Program framework

The overall objective of the FtF objective is to “*Improve the livelihoods and nutritional status of households in Ghana*”. The expected/intermediate results are:

- **Increased Competitiveness of Major Food Value Chains (IR-1):** The aim is to increase the competitiveness of the important and strategic rice, maize, soya, and fisheries value chains in ways that support broad-based economic growth.
- **Improved Resilience of Vulnerable Households Communities and Reduction of Under-Nutrition (IR-2):** The aim is to improve the resiliency of vulnerable households in targeted communities of the Northern region. This program will target food insecure households with women of reproductive age and children and will provide them with an integrated package of income generation, nutrition education, and other inputs to support dietary diversity.
- **Improved Nutritional Status of Women and Children (IR-3):** The aim is to improve the nutritional status of pregnant women and children. Activities under will promote positive nutrition behaviors, improve clinical and community-based services to prevent and treat under-nutrition, and improve access to therapeutic and supplemental foods.

Figure 2. Ghana FTF Results Framework



3.2. Geographic focus of USAID/Ghana Feed the Future program

The targeted areas for the FTF investments are the Upper West, Upper East, Northern regions, parts of the Brong-Ahafo and Volta regions as well as the Western Coast of Ghana (Fig. 4). Poverty levels in these regions are higher than the national average of 20 percent with the highest poverty level of 88 percent occurring in the Upper East Region (Table 3).

A third (34 percent) of the population in Upper West region is food insecure followed by 15 percent of Upper East region and 10 percent of Northern region. This equals about 453,000 people, more than the rest of the rural areas combined. By contrast, the lowest prevalence of food insecurity occurs in Accra (2 percent) and the rural areas in Greater Accra (1 percent) and Western region (1 percent)

Table 3. Poverty incidence by administrative region, 1991/92 and 1998/99

The poor form less than a third of the population and is shrinking nonetheless, geographic disparity requires focus □ = least steep

	GLSS surveys			Model projection			
	Poverty headcount rate (PO)		Percent decline from 1991/92 to 1998/99	Poverty headcount rate (PO)		Percent decline by 2015 from 2009	
	1991/92	1998/99		2009	2015		
• Accra	20.0	4.2	-70.0	4.0	2.0	2.1	-40.0
• Ashanti	41.2	27.7	-32.7	20.7	14.0	13.4	-41.0
• Brong-Ahafo	66.0	36.0	-45.0	27.0	14.7	12.0	-49.0
• Central	44.0	48.4	8.4	48.2	26.0	28.4	-47.0
• Eastern	48.0	48.7	1.5	41.1	28.1	28.4	-30.4
* Northern	63.4	69.2	9.1	65.7	59.3	56.5	-18.3
* Upper East	66.9	88.2	31.8	86.3	77.8	69.9	-20.7
* Upper West	88.4	83.9	-5.1	76.0	70.8	67.3	-19.9
• Volta	47.0	27.7	-41.0	21.0	16.0	14.0	-40.2
• Western	66.0	27.0	-59.0	20.0	11.0	8.0	-60.0
• National, rural	63.0	46.0	-22.2	44.2	38.1	38.1	-39.1
• National, urban	27.7	16.4	-40.0	16.1	11.4	8.0	-48.0
• National, total	42.0	38.0	-9.1	34.0	28.0	23.0	-41.0

Source: GLSS, Ghana Statistical Service

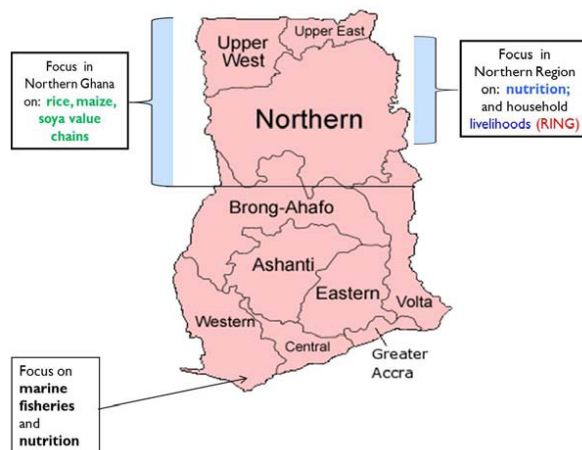


Figure 4. Geographic focus for Feed the Future investments

3.3 Program outcomes and illustrative activities

Functional Objective	Investing in People (Health)
Program areas	Improve Resiliency in Northern Ghana (RING)

Program objective A proposed integrated project and partnership effort to contribute to Government of Ghana (GoG) efforts to sustainably reduce poverty and improve the nutritional status of vulnerable populations. The aim to increase the resiliency of the very poor by increasing consumption of diverse quality foods, especially among women and children; improving behaviors relations to nutrition of women and young children; and strengthening local support networks to address the ongoing needs of vulnerable households in the Northern Region.

Sub-Purpose *1. Increased consumption of diverse quality food, especially among women and young children*

Outputs

1.1: Increased access to savings and credit especially for household consumption

1.2: Increased diversified income throughout the year

1.3: Increased availability of affordable, diverse plant and animal foods within targeted communities throughout the year, especially for women and children

Illustrative interventions

- Strengthen mechanisms for households to manage money via increased access to financial services (e.g., savings and credit) to meet daily needs. Informal structures (such as the “village savings and loan association” model) have been

pre-selected as high-potential because they build on traditional 'susu' practices.

- Diversify household income sources through the promotion of alternative livelihood opportunities that have unsaturated market demand, require low investment, imply little financial risk, and yield revenue during the lean season. The following opportunities have been pre-selected based on these criteria: cowpeas, shea nuts, poultry, small ruminants, and vegetables.
- Strengthen mechanisms for households to manage food assets, especially during the lean season, for those households that continue to prioritize home consumption, rather than commercialization of staple food production.
- Promote production of food sources that add diversity to prevailing diets in Northern Ghana, recognizing that some production will be consumed at home and some will be sold on local markets. The following food groups have been pre-selected for their overall nutritional benefit: animal sources of protein, fruits, and vegetables.
- Promote localized commercial markets for diverse food sources to provide monetary incentives for expanded local production as well as increased access for households who rely on food purchases. This is expected to include upfront efforts to stimulate supply and demand, such as targeting more market-oriented farmers to start or expand production, forging linkages with existing traders or retail locations, as well as consumer marketing through village demonstrations. However, existing market mechanisms are expected to take over and scale up efforts through demonstration effect.

2. Improved behaviors related to nutrition for women and children

Outputs

2.1: Increase in knowledge of positive nutrition behaviors at the household level, especially towards women and small children

2.2: Increase in knowledge of hygiene and sanitation behaviors in households and communities

Illustrative interventions

- Policy and advocacy efforts targeting local decision-makers to elevate nutrition priorities on community action plans and increase awareness of impact of undernutrition on local development.
- Promotion of Essential Nutrition Actions (ENA) through multiple contact points, including community health officers, agriculture extension agents, teachers, local traditional leaders, and other community members. ENA provides an operational framework for the promotion of: optimal nutrition for women; adequate intake of iron and folic acid and prevention and control of anemia for women and children; adequate intake of iodine by all members of the household; optimal breastfeeding during the first six months; optimal complementary feeding starting at 6 months with continued breastfeeding to 2 years of age and beyond; nutritional care of sick and severely malnourished children; and, prevention of vitamin A deficiency in women and children.

- Integration of Infant and Young Child Feeding (IYCF) messages into counseling activities at health facility and agricultural extension services with a strong focus on enhancing interpersonal communication skills of various service delivery providers.
- Training and promotion of Essential Hygiene Actions (EHA) which include hand washing, water treatment and storage and optimal sanitation practices.
- Participatory approaches to develop dietary diversity messages based on local available foods and linked with activities under sub-purpose 1. These messages will be integrated into the ENA and EHA frameworks.
- Technical assistance and capacity building for local NGOs to develop nutrition communication strategies to implement, monitor, and evaluate activities.
- Strengthen joint planning and outreach by community based actors (community health officers, agriculture extension agents, growth promoters) and ensure utilization of harmonized nutrition messaging.
- Strengthen referrals to necessary maternal and child health services, including Community Management of Acute Malnutrition.
- Care Groups to improve coverage and behavior change through building teams of women who each represent, serve and promote health and nutrition among women in 10-15 households in their community. Volunteers meet weekly or bi-weekly with a paid facilitator to learn a new health message, report on the incidence of disease and support each other. Care group members visit the women for whom they are responsible, offering support, guidance and education to promote behavior change.
- Strengthen nutrition education through other support groups (mothers, grandmothers, other community affinity groups) where peers can learn from and support each other to practice optimal child care and feeding practices.
- Integrate nutrition education, especially messages regarding equitable allocation of household resources, into income generation activities, as well as savings and credit groups.

3. Strengthened local support networks addressing the ongoing (nutrition and livelihoods) needs of vulnerable households

Outputs

3.1: Strengthened community capacity to integrate nutrition and livelihood priorities, especially for the most vulnerable households, into community action plans, implement activities, and monitor progress

3.2: Strengthened capacity of target District Administrative Assemblies (DAAs) to respond to community priorities around nutrition and livelihoods

3.3: Strengthened capacity of target Regional Coordinating Councils (RCC) and District

Administrative Assemblies to coordinate and monitor relevant efforts for nutrition and livelihoods in their respective areas

3.4: Increased access to social safety nets through representation in communal groups

Illustrative interventions

- In up to 5 sub-districts per district in the Northern Region:
- Facilitate greater communication and networking between existing community support groups (i.e. farmers groups, churches, mosques, credit and savings groups, PTAs, etc.) and/or create new support systems where community gaps exist in order to help integrate the most vulnerable populations into existing supportive social networks.
- Work with community support groups (CSOs), traditional leaders, local NGOs, and other community stakeholders in target communities, to identify the major issues impacting food security and nutritional status in the community and better articulate these issues to local government and partner agencies in the Northern Region.
- Incorporate identified nutrition and livelihood priorities into the existing community action plan (CAP), placing special emphasis on identifying local solutions to nutrition and livelihood issues. The technical advisor will then help the community design, implement and monitor grassroots solutions.
- Implement a community-wide survey that measures household nutritional needs and attitudes, perceptions about local government's ability to respond to community needs and community resources. The results will be disseminated throughout the community, DAA and RCC.
- In up to 12 District Administrative Assemblies (DAAs):
- In order to strengthen the local government's ability to respond to the communities' proposals, RING will offer technical and financial assistance to the District Administrative Assemblies (DAAs) and Regional Coordinating Council (RCC) to allow DAAs to directly fund small-scale, food security-related community requests.
- A technical advisor will work with key administrative staff in the DAAs/RCC to increase knowledge and understanding of the nutritional practices and behaviors in the District's coverage area and help mainstream nutrition and livelihood programming into the districts' and regional programs.
- Work with district and regional-level key personnel to develop and implement a nutrition monitoring and evaluation plan that involves routine field trips to RING communities, community stakeholder meetings, and opportunities for information dissemination at the local, district and regional levels.
- Provide intensive financial management training for key DAA personnel in order to strengthen their ability to manage direct USAID funding.

Functional Objective	Economic Growth
Program areas	Improved Competitiveness of Major Food Value Chains
Program objective	To increase the competitiveness of rice, maize, soya and fisheries value chains in ways that support broad based and sustained economic growth
Sub-Purpose	<p>1. Improved agricultural productivity</p> <p>Outputs</p> <p>1.1: Enhanced technology development, dissemination, management and innovation (research and extension)</p> <p>1.2: Agricultural producer organizations strengthened</p> <p>1.3: Increased access to and better management of factors of production (land, seeds, fertilizers, finance, labor, water, and sustainable management practices)</p> <p>1.4: Increased capacity of financial institutions to deliver innovative products</p> <p>1.5: Enhanced human capacity development for increased agricultural sector productivity</p> <p>1.6: Enhanced institutional capacity development for increased agricultural sector productivity</p>
Sub-Purpose	<p>2. Market access</p> <p>Outputs</p> <p>2.1: Enhanced agricultural trade</p> <p>2.2: Property rights to land and other productive assets strengthened</p> <p>2.3: Improved post-harvest market information</p> <p>2.4: Improved access to business development and sound and affordable financial and risk management services</p> <p>2.5: Increased private sector investment in socially inclusive agriculture related activities</p> <p>2.6: Feeder roads improved to link productive areas to markets</p> <p>2.7: Improved value chain commercial arrangements</p> <p>2.8: Enhanced human capacity development for improved market access</p> <p>2.9: Enhanced institutional capacity development for improved market access</p>
Sub-Purpose	<p>3. Enabling environment for private sector investment</p> <p>Outputs</p>

3.1: Improved policies to support agriculture growth

3.2: Improved execution of public sector investment

Focus Programs

A. Commercial Agriculture

A.1. Ghana Commercial Agriculture Program (GCAP):

The Government of Ghana (GoG) is exploring the feasibility of a World Bank and USAID/Ghana supported agricultural development project – the Ghana Commercial Agriculture Project (GCAP), with the principal objective of improving the investment climate for agri-business and developing inclusive Private-Public Partnerships (PPPs) and smallholder linkages aimed at increasing on-farm productivity and value addition in selected value chains. GCAP has three distinct project components: (i) strengthening the investment promotion infrastructure, facilitating secure access to land, and strengthening the government’s project management capacity; (ii) promoting PPPs and smallholder linkages in the Accra Plains; and (iii) promoting PPPs and smallholder linkages in the northern breadbasket. GCAP will focus on: (1) Nation-wide policy; (2) irrigation in the Accra Plains; and (3) fostering growth of commercially-oriented agricultural enterprises in the Northern Regions (or Savannah Agricultural Development Authority (SADA) Region) of Ghana, with an emphasis upon public/private partnerships (PPP). USAID/Ghana’s co-financing of this project focuses on the first and third of these components.

The preferred implementation modality is to co-finance GCAP with the World Bank (WB), using WB systems and structures. USAID/Ghana and WB will participate equally in supervision missions and regular consultation with the GoG, GCAP will be accountable for a single set of accounting obligations, procurement procedures, and project reporting requirements – as determined by the International Development Association (IDA) rules and regulations.

A relevant investment which GCAP will seek to capitalize upon is the USG investment in the Ghana Millennium Challenge Corporation (MCC) Compact, and in the Ghana Millennium Development Authority (MiDA). The Ghana MCC Compact entered into Force in February 2007, and ends in February 2012. It is a large and complex Compact, covering the agriculture, rural services and transport sectors, and having fourteen sub-activities. The total value of the Compact was US\$547 million.

The goal of the Ghana compact was poverty reduction through economic growth. This was to be achieved through increasing the production and productivity of high-value cash and food staple crops in the three Intervention Zones (the North, South and Afram Basin) and, secondly, by enhancing the competitiveness of Ghana’s high-value cash and food crops in both local and international markets. Each of the three Compact projects had additional objectives, as follows:

- The Agricultural project is intended to enhance the profitability of cultivation, improve agricultural production and product handling in support of the expansion of commercial agriculture among groups of smallholder farmers
- The Transport Project is intended to reduce the transportation costs affecting agricultural commerce at sub-regional and regional levels, and
- The Rural Services Project is intended to strengthen the rural institutions that provide services complementary to, and supportive of, agricultural and agri-business development.

MiDA invested significantly in Environmental and Social Safeguards, including many in the Northern Ghana region. This investment, and capacity built, can be taken advantage of constructively to further GCAP's purposes, and sustainability.

A.2. Private Sector Engagement

USAID/Ghana is exploring activities to increase access to rural and agricultural finance by filling lending gaps which constrain critical agricultural investment and potentially through addressing broader, systemic challenges to access to finance (in particular the high real interest rate). Where there are financing gaps, the objective is to overcome the obstacles to private sector infrastructure or other critical value chain investments through the creation of a range of specialized financing and project development facilities/programs, as well as facilitating PPPs. USAID/Ghana is exploring opportunities for designing and supporting an "investment fund" for high-impact investments in pre-identified critical areas of value chain infrastructure in northern Ghana.

A.3. Agricultural Development and Value Chain Enhancement (ADVANCE) Program (Expansion and Extension of Existing Mechanism)

USAID/Ghana existing Agricultural Development and Value Chain Enhancement (ADVANCE) program is to fully align with the FtF. ADVANCE employs a comprehensive value chain approach to increase efficiency, value-addition, and value and volume of products delivered to market, thereby increasing the competitiveness of targeted value chains. Full alignment requires two phases. Phase I will involve a modification of the cooperative agreement within the current total estimated ceiling by August 2011, allowing ADVANCE to re-align with FtF priorities by October 2011. Phase II will involve both an expansion and an extension of ADVANCE to align with the FtF multi-year strategy timeline and to ensure continuity in programming and sustainable transfer of responsibility to Ghanaian institutions. Phase II will require a Board for Acquisition and Assistance Reform (BAAR) review and clearance from the Administrator and will need to be completed by February 2012.

A.4. Peace Corps FtF Partnership (Extension of Existing Mechanism)

USAID/Ghana and Peace Corps have partnered on FtF through a Participating Agency Program Agreement (PAPA). Through this partnership, Peace Corps Volunteers' (PCVs) support agricultural production, improve farmer business and marketing skills, ensure a greater role for women, build bankable credit-worthy programs, provide farmer based organizations with institutional and management training, introduce new nutrition programs to communities, test alternative on-farm or processing energy options and extend new technologies. PCVs provide critical day-to-day follow-up at the grassroots level, which is important for rural farmers as they engage more and more with commercial agriculture. As much as possible, the plan is for Peace Corps activities under this partnership to be integrated with the Resiliency in Northern Ghana project activities, as well as ADVANCE and GCAP activities. The recommendation is to align this partnership (currently ending in 2014) with the FtF multi-year strategy timeline.

B. Sustainable Management of Marine Fisheries

B.1. Integrated Coastal and Fisheries Governance (ICFG) Initiative

In FY 2009, USAID initiated ICFG, a four-year program designed to assist Ghana to sustainably manage its coastal and marine ecosystems and improve the livelihoods and food security of coastal communities. The goal of the ICFG initiative is to support the government of Ghana in achieving its development objectives of poverty reduction, food security, sustainable fisheries management and biodiversity conservation by contributing to the following vision: Ghana's coastal and marine ecosystems are sustainably managed to provide goods and services that generate long term socio-economic benefits to communities while sustaining biodiversity. It is recommended that a design team explore the option of either extending and/or expanding ICFG to align with the end of the FtF multi-year strategy, or design a

new fisheries program. In this design work, complementary interventions that could reinforce the marine fisheries value chain approach, e.g., strengthening market linkages, quality standards, and value addition, may be considered.

B.2. Marine Fisheries Governance (New Activity)

To ensure the sustainability of key policy implementation, USAID/Ghana is considering direct support to the GoG to expand engagement in the governance of marine fisheries. Although this requires additional design work in FY 2012, activities may include:

- Providing training to government and non-government organizations in the fisheries sector to better implement the Ghana fisheries and aquaculture sector development plan (yet to be approved) with a focus on conservation of marine fisheries and alternative livelihood strategies for fisher folk.
- Reviewing marine fisheries regulation through the implementation of the fisheries and aquaculture sector development plan.
- Raising awareness on key steps and benefits to registering and licensing fishing vessels.
- Supporting the establishment of a fisheries enforcement unit.

C. Capacity Building and Policy Reform

C.1 Ghana Strategy Support Program

USAID/Ghana's primary mechanism for agricultural policy research, data collection and analysis is the Ghana Strategy Support Program (GSSP). Implemented by the International Food Policy Research Institute (IFPRI), it is currently in its second phase and is scheduled to end in 2013. GSSP addresses specific knowledge gaps concerning agricultural and rural development strategy implementation, methods to improve the data and knowledge base for applied policy research, and building government capacity to collect, analyze and utilize agricultural data for policy formulation and decision-making. Due to the program's focus on agricultural research and policy that will ultimately support modernizing the agriculture sector, contributing to the overall economic growth of Ghana, GSSP will be extended to align with the end of the FtF multi-year strategy.

C.2. Business Sector Advocacy Challenge Fund (BUSAC)

Since 2005, USAID/Ghana has been using the multi-donor Business Sector Advocacy Challenge Fund (BUSAC) mechanism, currently through a delegated cooperation agreement with DANIDA. BUSAC is designed to enhance the capacity of private sector organizations including business associations, trade unions, the business media, and farmer based organizations to research and advocate effectively for change by engaging in public/private, private/private and private/general public dialogue on the legal and regulatory conditions that impede business operations.

One illustrative example of this is the advocacy work that the Ghana Agricultural Input Dealers Association (GAIDA) initiated. GAIDA took action against a growing practice of counterfeiting, misbranding, adulterating, and mislabeling of pesticides by engaging with stakeholders from both the public and private sectors to raise awareness on the far-reaching effects of adulterated products and on how to identify and avoid the purchase and use of such products. BUSAC II will be extended until the end of the FtF multi-year strategy to continue its work with local civil society and private sector associations on advocacy and policy dialogue.

C.3 Monitoring, Evaluation and Technical Support Services (Extension of Existing Mechanism)

The USDA PASA for Monitoring, Evaluation, and Technical Support Services (METSS) supports USAID/Ghana in the design and oversight of new FtF programs, provides direct technical support to the

implementation of METASIP, and provides monitoring and evaluation services for both FtF and METASIP. METSS also supports five senior long-term embedded advisors who provide technical and policy guidance to Ministers and other high-level policy-makers in the Ministries of Food and Agriculture (MoFA), Trade and Industry (MoTI), and Finance and Economic Planning (MoFEP). It is recommended that after one year of operations, METSS be evaluated for extension and expansion until the end of the FtF multi-year strategy with an emphasis on transferring tools and M&E capacity to the GoG and other local institutions. Additional embedded advisors will be considered, including support to Parliamentary Select Committees on agriculture and trade, MoFAs Women in Agriculture Development (WIAD), and the Ghana Statistical Services (GSS) starting in FY 2012.

C.4. Partnership for Agricultural Technology Transfer (New Activity)

Improving technology transfer policies and delivery systems is fundamental for increasing agricultural productivity and competitiveness in Ghana's staple food value chains. The seed and fertilizer policy are two discrete policies that have large implications for Ghana's agricultural production. There has been significant buy-in from the GoG and other donors to get both of these policies to the implementation phase to encourage PPPs and establish and strengthen agro-dealer networks in the country. The very recent approval by Parliament of Ghana's Biosafety Act offers another area of opportunity for accelerating the testing and delivery of promising new technologies and products that could significantly increase Ghana's food security. USAID/Ghana will explore opportunities for partnership arrangements with IFPRI/Program for Biosafety Systems (PBS), Ghanaian agricultural research institutions and other public and private organizations to help build an enabling environment that facilitates biotechnology development and transfer. Activities to be explored will include science-based public outreach, capacity-building of biosafety regulatory agencies, and support of targeted technology development and transfer activities for promising agricultural biotechnologies that can benefit smallholder farmers.

C.5. Training and Capacity Building of Public, Private Sector and Civil Society Organizations in Agriculture and Food Security (New Activity)

To sustainably build Ghanaian institutions' capacity to generate technologies and learning for agricultural transformation, USAID/Ghana could develop a scope of work and request proposals for leadership and management capacity training of the Ghanaian public, private and civil society sectors. The capacity building activities would include long- and short-term training, organizational capacity assessments, and a Ghanaian scholarship/grant fund directly channeled to African regional and local institutions and universities. The scholarship fund would provide opportunities for Ghanaian academics in Ghanaian and regional universities to pursue research and advanced degrees in agriculture policy. This scholarship fund would sit in a Ghanaian institution (e.g., university, think tank) and target Ghanaian scholars researching agricultural policy. This scholarship program and the affiliated institutions would be linked to Ghana's agriculture Strategic Analysis and Knowledge Support Systems (SAKSS) network so that scholarships and research funds would be tied to questions relevant for Ghana's agricultural transformation.

C.6 Ministry of Finance and Economic Planning's (MoFEP) Agriculture/Agribusiness Desk (New Activity)

USAID/Ghana will consider direct support to MoFEP under a Project Implementation Letter. This would provide funding to MoFEP's new Agriculture/Agribusiness desk in the Real Sector Unit. The Desk will have a communication and coordination function to inform inter-ministerial work as it relates to the agriculture sector and provide analytical support for agricultural investments in Ghana. This Desk will be key to achieving MoFEP's vision for the Economic Strategy Branch; provide effective management of Ghana's economic program; develop mechanisms for managing and guiding economic growth; assure orderly and efficient adoption of new economic initiatives; and develop, maintain, and make available current information on economic conditions. The Desk would also inform MoFEP's decisions on

agricultural sector budgeting. It could play a key role in the inter-ministerial team coordinating GCAP and serve as a platform for interaction with potential investors in agriculture.

C.7. Agriculture Sector, Sector-Wide Approach (AgSWAp) (New Activity)

USAID/Ghana is interested in coordinating with other development partners (DPs) and the GoG on an AgSWAp program. However, there is general consensus among the various DPs and GoG counterparts that it is useful to have USAID finance specific pieces of the METASIP that are not easily tackled by SWAp funds (e.g., ongoing technical assistance to support data collection and policy analysis). Through its leadership of the Agriculture Sector Working Group, USAID will take a proactive role in working with the GoG and DPs to advance planning for a METASIP sector-wide approach. This would enable USAID to provide funding for agreed-upon priority activities directly to MoFA to support decentralized (district level) operations in the north, either through an implementation letter or program-based support. This would eventually help transition activities currently undertaken by USAID through intermediaries (including monitoring and evaluation) to the GoG.

3.4. Feed the Future Staffing

Current USAID Feed the Future Staff

Position	Status	FTF Role
Economic Growth Office		
EG Office Director	USDH	Access to finance, trade and investment policy, forestry management, rural development
Senior Ag. Advisor	PASA	Policy advice, agri-business and value chain development
ENV/NRM Team Leader	USDH	NRM, environment and climate change
Agricultural Officer	USDH-DLI	Livestock, rural development, program management, monitoring, evaluation, reporting
Private Sector Specialist	FSN	Business linkages, agri-business and value chain development
Food Security Specialist	FSN	Program management and administration
Environmental Specialist	FSN	Environmental assessments, climate change
Health Office		
Health Office Director	USDH	
MCH Team leader	USPSC	Maternal, child health programming
Nutrition Specialist	FSN	Child and maternal nutrition
Support Services		
Legal Advisor	USDH	Legal advice and support
A&A Senior Specialist	TCN	Contracts and grant management
Financial Analyst	FSN	Financial management support

Planned recruitment of USAID Feed the Future Staff

Position	Status	FTF Role
Economic Growth Office		
GHFSI Senior Agric Advisor	PSC	Overall FTF coordination with GoG, DPs, ag. economics, marketing, policy, production, finance, trade
Trade and Investment Specialist	USDH-DLI	Trade and investment policy, private sector development
Monitoring and Evaluation Specialist	FSN	Performance monitoring, evaluation and reporting
Infrastructure Specialist	FSN	Feeder roads, irrigation
Health Office		
Deputy Director for Health Office	USDH	Management of intersectoral coordination

4. EVALUATION OF PROGRAM ISSUES WITH RESPECT TO ENVIRONMENTAL IMPACTS

USAID/Ghana will ensure FtF program activities will present no significant adverse environmental effects provided that mitigation and monitoring measures proposed in this IEE are satisfactorily implemented as described. The increase in agriculture productivity and the prospects of intensification as proposed will have major detrimental impacts on the nonagricultural ecosystems and services. Agricultural activities including but not limited to crop production, drip irrigation, horticulture, rice, maize, and small-scale poultry and livestock at the household level to improve protein sources within the subsistence diet. They can adversely affect the condition and function of ecosystems. These impacts may come from expanding the area used for crop or livestock production or from using environmentally unsound practices on existing farms.

4.1. Common potential environmental impacts of agriculture programs:

- **Cropland degradation.** This is a decrease in the ability of suitable land to support agricultural production, and has two primary elements - soil erosion and loss of soil fertility. As land degradation proceeds, farmers often are compelled to 'shift cultivation', often to more marginal cropland.
- **Soil Depletion/erosion.** Depletion may occur through a variety of other effects, including over tillage which damages soil structure, overuse of inputs such as synthetic fertilizers and herbicides, which leave residues and buildups that inhibit microorganisms, and salinization of soil. Improper and/or unsustainable agronomic practices such as poorly managed open-furrow agriculture, unsuitable crops, deforestation, or draining wetlands can cause soil erosion. Soil erosion is linked to losses of soil fertility and 'mass wastage'; *i.e.*, gully formation, landslides, siltation and sedimentation of water bodies, downstream flooding and damage to productive infrastructure. In sub-Saharan Africa, particularly in arid and semiarid areas, wind is an agent of soil erosion especially where groundcover is limited.

- **Reduction of soil fertility.** Soil fertility is dependent on three major nutrients (nitrogen, phosphorous and potassium), various trace elements and organic matter content. These elements can be removed by repeated cropping without fertilization, rainfall leaching, lack of a restorative fallow and removal or burning of crop residues.
- **Land degradation.** This process includes deterioration of vegetative cover due to overgrazing, wood cutting and burning; wind and water erosion resulting from improper land management; and salinization due to improper use of irrigation water. The result is a loss of soil depth and fertility, loss of biodiversity, reduced resilience of ecosystems and degradation to early successional environments. The impacts associated with agriculture development in the North should consider drought preparedness training in areas determined for development.
- **Deforestation.** Natural forests are often degraded by encroachment, by excessive or uncontrolled harvesting, by roads dividing them into smaller blocks or by being cleared for charcoal, crop and livestock production (ecosystem fragmentation).
- **Drainage and degradation of wetlands and riparian areas.** Wetlands provide numerous environmental services, including recharging groundwater supplies, acting as natural water-treatment plants and providing habitats for vulnerable and endangered species. However, wetlands and their edges are often used for agriculture, either in the dry season or after draining. The soils are often fertile at first, and water is available for irrigation. Unfortunately, as wetlands are drained for agriculture or development, the landscape loses its capacity to absorb and control runoff, increasing the potential for downstream flooding.
- **Threats and reduction in water quality.** Water resources are at risk because of inappropriate management (including lack of riparian management), high rates of logging, fuel wood extraction, poor agricultural practices, surface mining and desertification leading to increasing poverty in rural and urban areas leading as well as higher country sensitivity to human and natural disasters. Incorrectly applied agrochemicals, fertilizers or manures can migrate from a farmer's field to local water bodies, causing environmental harm and adversely affecting human health. Animal manures transported from fields into water bodies through rainfall, runoff or irrigation can pollute domestic 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 reductions in water quality can decrease their utility for other uses such as fishing, aquaculture, recreation and tourism. Support for training on watershed management and water conservation can help reduce the risks to Ghana's freshwater resources.
- **Pollution and disease from agro-vet waste.** Improper handling, storage and disposal of animal healthcare waste can spread human and animal disease. If waste is not treated in a way that destroys pathogenic organisms - viruses, bacteria, parasites or fungi – it remains a source of further infection. Disease may also spread via punctures and other breaks in the skin, mucous membranes in the mouth or by being inhaled, swallowed, or transmitted by a vector.
- **Climate Change.** Armah et al. (2010) in their study on food security and climate change in drought-sensitive savanna zones of Ghana predicted changes in climatic variability with respect to temperatures, rainfall and solar radiation. Since agriculture activities depend on local weather and climate conditions; a change in those conditions could directly impact productivity levels and diminish livelihoods. Anticipating climatic variability and change while designing resilience into development assistance can lead to more robust projects that serve their target populations better.

Support for training on drought and flood hazard preparedness and local communities on sustainable use of water and watershed management is important for climate change adaptation.

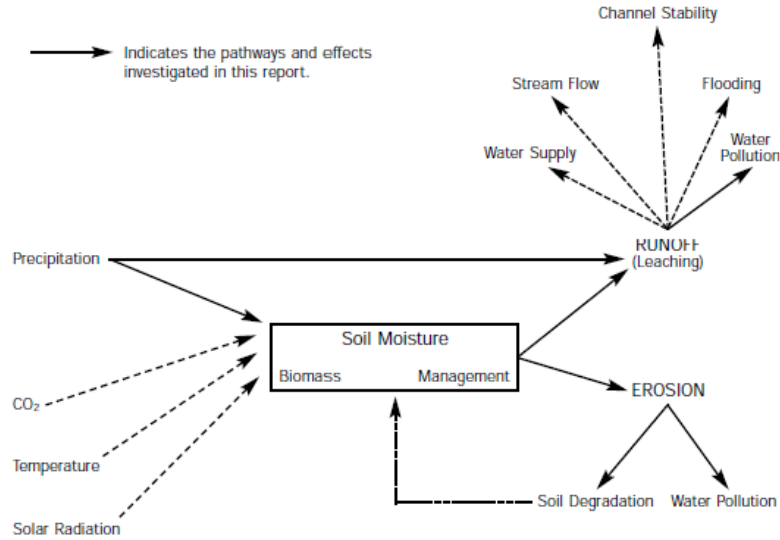


Figure 5. Effect of climate change on soil and water resources (adapted from a report from the soil and water conservation society, January 2003)

Table 4. Anticipated impacts of climate change and human threats on agriculture and food security

Sector	Climate Change Threats	Human Threats
Crop production	<ul style="list-style-type: none"> • Increased temperatures • Decreased/unpredictable rainfall • Periodic droughts • Plant stress • Low productivity of farms due to heat stress • Decrease water availability • More droughts causing water salinity • Reduced fresh ground water supply for agriculture • Slow growth and reduced yields from food crops • Increased soil salinity • Changes in soil quality and crop yields • Increased soil erosion, leaching and runoffs • Increased bushfires 	<ul style="list-style-type: none"> • Slash and burn agriculture • Deforestation • Excessive land tillage • Mono-cropping
Marine Fisheries Capture	<ul style="list-style-type: none"> • Overall decline in ocean productivity • Eutrophication and coral mortality leading to reduced fish catch • Loss or shifts in critical fish habitat • Temperature shifts causing migration of fishes • Extreme events, temperature increases and oxygen depletion reducing spawning areas in some regions • Temperature changes affecting the abundance and distribution of marine pathogens • Ocean acidification and increases in temperature damaging coral reefs 	<ul style="list-style-type: none"> • Over-harvesting • Destructive fishing practices (e.g., bottom trawling, dynamite fishing, beach seining) • Land-based sources of pollution (sewage, industrial waste, nutrient runoff, etc.) • Sedimentation of coastal systems from land-based sources
Freshwater Aquaculture Production	<ul style="list-style-type: none"> • Higher inland water temperatures (possible causes: changes in air, temperatures, intensity of solar radiation and wind speed) • Reduced water quality in terms of dissolve oxygen • Increase incidents of disease and parasites • Increase capital costs e.g. aeration, deeper ponds • Floods due to changes in precipitation leading to introduction of disease or predators 	
Coastal Wetlands Ecosystems	<ul style="list-style-type: none"> • Loss or migration of coastal wetland ecosystems, including salt marshes and mangroves • Runoff from more intense precipitation causing coastal erosion, and 	<ul style="list-style-type: none"> • Intense coastal development and habitat loss • Pollution and marine dead zones

	<p>sedimentation adversely affecting estuaries and coral reefs</p> <ul style="list-style-type: none"> • Nutrient rich runoff under conditions of higher sea surface temperature promoting coastal hypoxia and marine dead zones • Change in the distribution and abundance of commercially valuable marine species • Increased spread of exotic and invasive species • Loss of coral reefs from coral bleaching and ocean acidification 	<ul style="list-style-type: none"> • Conversion of mangroves and wetlands for mariculture • Disruption of the quantity, quality, and timing of freshwater inflows to estuaries • Damage to seagrass beds from sedimentation, fishing and tourism • Oil spills from shipping • Spread of invasive species • Coastal reinforcement disrupts natural shoreline processes • Sand and gravel mining of beaches
Freshwater Resources	<ul style="list-style-type: none"> • Saltwater intrusion of freshwater sources • Encroachment of saltwater into estuaries and coastal rivers • Waves and storm surges reaching further inland, increasing coastal inundation and flooding • Decreased precipitation, enhancing saltwater intrusion, and exacerbating water supply problems • Increase evapotranspiration 	<ul style="list-style-type: none"> • Discharge of untreated sewage and chemical contamination of coastal waters • Unregulated freshwater extraction and withdrawal of groundwater • Upstream dams • Enlargement and dredging of waterways
Food storage and distribution	<ul style="list-style-type: none"> • Climate fluctuations known to affect post-harvest losses and food safety during storage, for example by causing changes in populations of aflatoxin-producing fungi (Cotty and Jaime, 2007). • Extreme weather events under climate change will damage infrastructure, with detrimental impacts on food storage and distribution 	
Food accessibility and utilization	<ul style="list-style-type: none"> • Increase price of cereals due to climatic changes leading to fall in consumption and hence decreased calorie availability and increased child malnutrition (Nelson et. al., 2009) • Affect the ability of individuals to use food effectively by altering the conditions for food safety and changing the disease pressure from vector, water, and food-borne diseases (Schmidhuber and Tubiello, 2007) 	

4.2 Social and Environmental Safeguards in the Ghana Commercial Agriculture Program:

The GCAP has triggered the World Bank's five sets of social and environmental safeguard instruments that would be prepared by the GoG to ensure social and environmental impacts will be appropriately mitigated. GoG will prepare five stand alone safeguards documents, namely an *Environmental and Social Management Framework* (ESMF), a *Pest Management Plan* (PMP) and a *Resettlement Policy Framework* (RPF) which will apply to the entire project. A framework approach is being adopted for the entire Ghana Commercial Agriculture Project to mitigate against impacts for project activities that will not be identified prior to project appraisal. For Component 2, where a project area in the Accra Plains is known and well-defined, it was agreed that an *Environmental and Social Impact Assessment* (ESIA) and a *Resettlement Action Plan* (RAP) will be prepared.

Additionally, although a non-safeguards requirement, the GoG will be preparing a comprehensive *Diagnostic Review of Land Rights and Land Uses* (DRLRLU) for the Accra Plains area to shed some light on the past legacy issues of the 70s with regard to how these agricultural lands were acquired from local communities and the way settlements were dealt with then. The findings of this study are expected to feed into the RPF and RAP but also the ESMF and the ESIA; especially with regard to the pending burning issues that need to be clarified upfront to avoid/minimize any potential impact on the processing of GCAP operations.

USAID and WB discussed the approach to environmental and social safeguards and agreed that the Bank safeguard policies would be adopted. USAID/Ghana is preparing a comprehensive umbrella Initial Environmental Examination (IEE) for the Feed the Future (FtF) Program in Ghana, which encompasses the GCAP, in accordance with its statutory Environmental Procedures (22 CFR Part 216). The IEE will make specific reference to the Environmental and Social Management Framework and the Resettlement Policy Framework and the intention to bring USAID's support into concordance with these instruments and their application to the implementation of GCAP. An agreement between USAID and World Bank on Environmental and Social safeguards currently under preparation by both parties will detail the specifics of the concordance. Once finalized, the latter will need to be jointly approved officially by the USAID and the WB. Additional USAID requirements (such as a comprehensive Gender Assessment) and some elements of Land Tenure and Property Rights, will be integrated into project preparation. Also, USAID's Pesticide Procedures mandate a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) for the Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) Project, which is expected to be applicable to GCAP in the savannah North as well, and will provide input to the Pest Management Plan, so as to bring the latter in concordance with USAID's standards. (See draft discussion on USAID and WB environmental and social safeguards requirements.)

The Terms of Reference for all above mentioned five Safeguards instruments; the ESMF, PMP, RPF, ESIA and RAP have been prepared. GoG has already initiated the procurement process for hiring the appropriate consultants to undertake these field assignments as soon as possible. First drafts of the above five instruments are expected by mid-September, 2011. Training on Social and Environmental Safeguards will be organized for GoG, WB and USAID stakeholders in late November 2011 and FY 2012 and beyond.

5. RECOMMENDED THRESHOLD DETERMINATIONS AND MITIGATION MEASURES

This IEE draws on the *Environmental Guidelines for Small Scale Activities in Africa* (EGSSAA), 2nd Edition, which is USAID/Africa Bureau's principal source of sector-specific environmental guidance. It can be found on the web at <http://www.encafrica.org/egssaa.htm>. The Small Scale Guidelines recommend Environmentally Sound Design (ESD) to select the means by which development objectives are achieved. ESD is prevention-based across project lifecycles, such that the environmental harm associated with a desired development objective is kept to a practicable minimum by considering the environmental impacts associated with each alternative alongside technical, economic and social criteria.

USAID's mission is to advance "sustainable development", and ESD is vital to this outcome. USAID is also required by 22 CFR 216 to apply its environmental procedures to all projects, programs or activities receiving USAID funds. The application of these procedures should be integral to project design and implementation. They are not an afterthought, and compliance with 22 CFR 216 should not be treated as simply an administrative requirement.

Many of the USAID/Ghana's activities under the FIF program do not have direct adverse environmental impacts, as they entail information, education, communication, training, research, community mobilization, planning, management, and outreach activities. A **Categorical Exclusion** is therefore recommended for the implementation such activities; that have no physical interventions and no direct effects on the environment. All are excluded per the following citations from Title 22 of the Code of Federal Regulations 216 (22 CFR 216), subparagraph 2(c)(2):

- (i) Activities involving education, training, technical assistance or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);
- (ii) Activities involving controlled experimentation exclusively for the purpose of research and field evaluation and carefully monitored;
- (iii) Activities involving analyses, studies, academic or research workshops and meetings;
- (v) Activities involving document and information transfers;
- (vi) Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning.

An environmental screening process will be used as apt to confirm a Categorical Exclusion determination in the case of grant, subgrant or enterprise credit activities.

In the course of implementing Categorical Exclusion activities, partners should take advantage of opportunities to address environmental impacts (e.g., a training program in the use and application of fertilizers should also discuss procedures for minimizing their 'off-site' effects on water bodies and safe handling and storage to mitigate negative impacts on human health).

The following Categorical Exclusions *are not foreseen to be applicable* to the Ghana Feed the Future or Economic Growth Programs:

- (iv) Projects in which [USAID] is a minor donor to a multi-donor project and there is no potential for significant effects upon the environment of the United States, areas outside any nation's jurisdiction or endangered or threatened species or their critical habitat;
- (vi) Contributions to international, regional or national organizations by the United States which are not for the purpose of carrying out a specifically identifiable project or projects;
- (vii) Institution building grants to research and educational institutions in the United States such as those provided for under title XII (1979)
- (ix) Assistance provided under a Commodity Import Program when, prior to approval, [USAID] does not have knowledge of the specific commodities to be financed and when the objective in furnishing such

- assistance requires neither knowledge, at the time the assistance is authorized, nor control, during implementation, of the commodities or their use in the host country.
- (x) Support for intermediate credit institutions when the objective is to assist in the capitalization of the institution or part thereof and when such support does not involve reservation of the right to review and approve individual loans made by the institution;
 - (xii) Food for development programs conducted by food recipient countries under title III of Pub. L. 480, when achieving [USAID]'s objectives in such programs does not require knowledge of or control over the details of the specific activities conducted by the foreign country under such program;
 - (xiii) Matching, general support and institutional support grants provided to private voluntary organizations (PVOs) to assist in financing programs where [USAID]'s objective in providing such financing does not require knowledge of or control over the details of the specific activities conducted by the PVO.

Tables 5 to 8 indicate the Recommended Threshold Determination for the programs under the FtF initiative for RING and Improved Competitiveness of Major Food Value Chains.

Table 5. Recommended Threshold Determinations for Improve Resiliency in Northern Ghana (RING)

Illustrative Interventions	Recommended Threshold Determination and 22 CFR Part 216 citation
Increased consumption of diverse quality food, especially among women and young children	
Strengthen mechanism for households to manage money via increased access to financial services (e.g., savings and credit) to meet daily needs.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i), except to the extent designed to include activities directly affecting the environment.
Diversify household income sources through the promotion of alternative livelihood opportunities that have unsaturated market demands, require low investment, imply little financial risk, and yield revenue during the lean season	Negative determination with conditions recommended pursuant to 22 CFR 216.3 (a)(2)(iii). Institutionalize environmental review of alternative livelihood options. The Environmental Review must identify any potential adverse impacts.
Strengthen mechanisms for households to manage food assets, especially during the lean season, for those households that continue to prioritize home consumption, rather than commercialization of staple food production.	
Promote production of food sources that add diversity to prevailing diets in Northern Ghana, recognizing that some production will be consumed at home and some will be sold on local markets.	
Promote localized commercial markets for diverse food sources to provide monetary incentives for expanded local production as well as increased access for households who rely on food purchases.	

Illustrative Interventions	Recommended Threshold Determination and 22 CFR Part 216 citation
Improved behaviors related to nutrition for women and children	
Policy and advocacy efforts targeting local decisionmakers to elevate nutrition priorities on community action plans and increase awareness of impact of undernutrition on local development.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(v), except to the extent designed to include activities directly affecting the environment.
Promotion of Essential Nutrition Actions (ENA) through multiple contact points, including community health officers, agriculture extension agents, teachers, local traditional leaders, and other community members	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (viii) except to the extent designed to include activities directly affecting the environment.
Integration of Infant and Young Child Feeding (IYCF) messages into counseling activities at health facility and agricultural extension services with a strong focus on enhancing interpersonal communication skills of various service delivery providers.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(viii), except to the extent designed to include activities directly affecting the environment.
Training and promotion of Essential Hygiene Actions (EHA) which include handwashing, water treatment and storage and optimal sanitation practices.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (i) (vii), except to the extent designed to include activities directly affecting the environment.
Participatory approaches to develop dietary diversity messages based on local available foods and linked with activities under sub-purpose 1	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(v), except to the extent designed to include activities directly affecting the environment.
Technical assistance and capacity building for local NGOs to develop nutrition communication strategies to implement, monitor, and evaluate activities.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i), except to the extent designed to include activities directly affecting the environment.
Strengthen joint planning and outreach by community based actors (community health officers, agriculture extension agents, growth promoters) and ensure utilization of harmonized nutrition messaging.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i), except to the extent designed to include activities directly affecting the environment.
Strengthen referrals to necessary maternal and child health services, including Community Management of Acute Malnutrition.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(viii)

Illustrative Interventions	Recommended Threshold Determination and 22 CFR Part 216 citation
Care Groups to improve coverage and behavior change through building teams of women who each represent, serve and promote health and nutrition among women in 10-15 households in their community.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(viii), except to the extent designed to include activities directly affecting the environment.
Strengthen nutrition education through other support groups (mothers, grandmothers, other community affinity groups) where peers can learn from and support each other to practice optimal child care and feeding practices.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i), except to the extent designed to include activities directly affecting the environment.
Integrate nutrition education, especially messages regarding equitable allocation of household resources, into income generation activities, as well as savings and credit groups.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i).
Strengthened local support networks addressing the ongoing (nutrition and livelihoods) needs of vulnerable households	
Facilitate greater communication and networking between existing community support groups (i.e. farmers groups, churches, mosques, credit and savings groups, PTAs, etc.) and/or create new support systems where community gaps exist in order to help integrate the most vulnerable populations into existing supportive social networks.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (xiv), except to the extent designed to include activities directly affecting the environment.
Work with community support groups (CSOs), traditional leaders, local NGOs, and other community stakeholders in target communities, to identify the major issues impacting food security and nutritional status in the community and better articulate these issues to local government and partner agencies in the Northern Region.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2), except to the extent designed to include activities directly affecting the environment.
Incorporate identified nutrition and livelihood priorities into the existing community action plan (CAP), placing special emphasis on identifying local solutions to nutrition and livelihood issues.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(xiv).
Implement a community-wide survey that measures household nutritional needs and attitudes, perceptions about local government's ability to respond to community needs and community resources.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(xiv).
Provide intensive financial management training for key DAA personnel in order to strengthen their ability to manage direct USAID funding.	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2)(i).

Table 6. Recommended Threshold Determinations for existing programs under the Improved Competitiveness of Major Food Value Chains

Existing programs	
Programs	Recommended Threshold Determination and 22 CFR Part 216 citation
Peace Corps FtF Partnership Ghana Strategy Support Program Monitoring, Evaluation and Technical Support Services Integrated Coastal and Fisheries Governance (ICFG) Initiative	These activities are covered under the SO6 Umbrella IEE title “Competitiveness of Ghanaian Private Sector in World Markets Increased/Budget Support to the Government of Ghana approved by the Africa Bureau Environmental Officer on June 25, 2010. In accordance with 22 CFR 216.2(c)(2), a categorical exclusions was recommended for technical assistance programs
Agricultural Development and Value Chain Enhancement (ADVANCE)	<p>An IEE for ADVANCE was approved by the Africa Bureau Environmental Officer in June 2010. A categorical exclusion was recommended for ADVANCE activities that will have no effect on the natural or physical environment or for research activities that will have no significant effects due to limited scope pursuant to 22 CFR 216.2(c)(1)(i), 216.2(c)(1)(iii) and 216.2(c)(2)(i), (ii), (iii).</p> <p>A negative determinations with conditions (22 CFR 216.3(a)(2)(iii)) was recommended for ADVANCE activities that are not expected to present significant adverse environmental effects provided that the mitigation and monitoring measures are satisfactorily implemented.</p> <p>A deferral was recommended for ADVANCE activities involving assistance for the procurement or use of pesticides. A PERSUAP developed for activities under ADVANCE has been submitted and under review.</p> <p>If there are activities outside the scope of the approved IEE and PERSUAP following the program alignment to FtF , these activities may not be implemented until the Environmental Threshold determination has been reached for the activity, documented through an amended IEE and duly signed by the Africa Bureau Environmental Officer.</p>
Business Sector Advocacy Challenge Fund (BUSAC)	A Categorical Exclusion with condition was recommended for the BUSAC. The activities under BUSAC are of the sorts that generally qualify for categorical exclusion. However warrants a conditioned exclusion since BUSAC’s activities are excluded on condition that the program’s grants are screened to assure they do not impact processes that provide for environmental protections. The IEE was approved by the Africa Bureau Environmental Officer on April 6, 2011.

Table 7. Recommended Threshold Determinations for planned programs under the Improved Competitiveness of Major Food Value Chains

New programs	
Programs	Recommended Threshold Determination and 22 CFR Part 216 citation
Ghana Commercial Agriculture Program (GCAP)	GCAP will be co-financed with the World Bank (WB), using WB systems and structures. A process has commenced to determine to which extent the WB safeguards meet USAID Reg. 216 requirements. At the time of preparing this IEE, the WB is supporting the GoG to conduct an ESMF, PMP, RPF, ESIA and RAP.
Private Sector Engagement	Negative determination with conditions recommended pursuant to 22 CFR 216.3 (a)(2)(iii). Institutionalize environmental review. The Environmental Review must identify any potential adverse impacts.
Marine Fisheries Governance	Categorical exclusion with conditions recommended pursuant to 22 CFR 216.2(c)(2) (i).
Partnership for Agricultural Technology Transfer	Negative determination with conditions recommended pursuant to 22 CFR 216.3 (a)(2)(iii). Institutionalize environmental review. The Environmental Review must identify any potential adverse impacts.
Training and Capacity Building of Public, Private Sector and Civil Society Organizations in Agriculture and Food Security	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (i), except to the extent designed to include activities directly affecting the environment.
Ministry of Finance and Economic Planning's (MoFEP) Agriculture/Agribusiness Desk	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (i)
Agriculture Sector, Sector-Wide Approach (AgSWAp)	Categorical exclusion recommended pursuant to 22 CFR 216.2(c)(2) (i) except to the extent designed to include activities directly affecting the environment.

Interventions supported by the FtF program particularly under USAID/Ghana support to GCAP that will directly or indirectly affect the environment or will have the potential to do so are clustered in the following four categories:

- Micro-credit, loans, micro-finance institutions (MFIs) and micro-enterprises, loan guarantees, and development credit authority (DCA) activities;
- Agricultural productivity technologies and inputs (e.g., hybrid seeds, fertilizers, pesticides, land and water management practices, livestock and fisheries development, irrigation, new crop commodity sub-sectors and construction);
- Infrastructure (e.g. rural roads building and rehabilitation); and
- Sub-grants

Table 8 presents USAID/Ghana FtF program Threshold Determination for each activity group calling for a Negative and/or Positive Determinations, with applicable World Bank Operational Policies (OP) for Environmental and Social Safeguarding (<http://go.worldbank.org/WTA1ODE7T0>). These are equivalent to those of the Millennium Challenge Corporation, as applied by the Ghana Millennium Development Authority (MiDA) in Northern Ghana. Likewise, the Government of Ghana adheres to a close equivalent of the same safeguards, as determined in recent World Bank review. Following, the IEE presents detailed descriptions of mitigating measures or ‘Conditions’ for activities under Negative Determinations with Conditions.

Table 8. Threshold Determinations for each activity group under USAID/Ghana support to GCAP: Negative and Positive Determinations

Activity Group	Recommended Threshold Determination and 22 CFR Part 216 citation
Micro credit, loans, MFIs and micro enterprises; loan guarantees, DCAs	A Negative Determination with Conditions recommended pursuant to 22 CFR 216.3(a)(2)(iii) for support to micro-finance institutions and MSEs; loan guarantees, DCAs
Agricultural productivity technologies and inputs (e.g. fertilizers, pesticides, land and water management practices, , irrigation, new crop commodity, sub sectors and construction),	Agricultural Production. A Negative Determination with Conditions is recommended pursuant to 22 CFR 216.3(a)(3)(iii) for activities associated with agricultural productivity technologies and inputs (e.g., hybrid seeds, fertilizers , land and water management practices, , irrigation, new crop commodity sub-sectors and construction) .
	Irrigation Infrastructure. Pursuant to 22 CFR216.2(d)(2) and 216.6, a Positive Determination is recommended for irrigation infrastructure activities (e.g., irrigation works rehabilitation and new development); construction of dams and other major agriculture infrastructure. They can have a major negative impact on the physical environment. Any USAID support for these activities under this program, an Environmental Impact Assessment (EIA) shall be developed before program can begin.
	Pest Management. A Negative Determination with Conditions is recommended pursuant to 22 CFR 216.3(a)(2)(iii) for programs involving pesticides, pest management products or technologies. This will need preparation of PERSUAPs in accordance with Agency guidance, and fulfilling all analytical elements required by 22CFR216.3(b), USAID’s Pesticide Procedures. The USAID/West Africa environmental staff will assist the Ghana MEO and Activity Managers in establishing the need. At the time of preparation of this IEE, a PERSUAP developed for activities under ADVANCE that had implication for pesticide use has been completed and when approved will be adopted and applied to similar activities to be accomplished under the FtF. New PERSUAPS will be commissioned as necessary, by the respective implementing partners, or collectively FtF PERSUAP.

Activity Group	Recommended Threshold Determination and 22 CFR Part 216 citation
Rural roads construction and rehabilitation	<p>Pursuant to 22 CFR 216.3 (a)(2)(iii) a Negative Determination with condition is recommended for activities involving rural road construction and rehabilitation of old roads. Negative impacts on the environment may occur.</p> <p>For major road and related infrastructure construction, a Positive Determination is recommended, pursuant to 22 CFR 216.2(d)(2) and 216.6. Any USAID support for the construction of roads under this program, an Environmental Impact Assessment shall be developed before program can begin.</p>
Sub-grants	<p>Negative Determination with Conditions, Pursuant to 22 CFR 216.3 (a)(2)(iii), a Negative Determination with condition is recommended for activities Sub-grants to business Associations, CS and private sector partners</p>

5.1 Mitigating Measures and Monitoring

Detailed Description of Mitigating Measures for Activities under Negative Determination with Conditions.

Micro credit, loans, MFIs and micro enterprises; loan guarantees, DCAs

Conditions: The FtF Team shall assist MFI and MSE credit and service providers to institutionalize environmental reviews of credit and service projects and individual activities. MSEs and MFIs shall receive training in the use of environment guidelines. The guidelines will illustrate how environmentally sound practices can be used to improve the effectiveness and efficiency of doing business.

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

Approval of loans to finance activities will be contingent upon the submission by the *Guaranteed Party of evidence sufficient to demonstrate compliance with Ghana environmental regulations and procedures and to enable USAID to make an assessment of the environmental impact of such activities.* This includes the guaranteed party submitting to USAID its proposed policies and procedures to ensure that projects financed are environmentally sound and comply with applicable laws and procedures.

The Loan must not be used to finance any of the following:

- Goods or services which are to be used primarily to meet military requirements or to support police or other law enforcement activities,
- Surveillance equipment,
- Equipment, research and/or services related to involuntary sterilization or the performance of abortion as a method of family planning, or

Activities which significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas,

- b) The Loan must not be used to finance any of the following without the prior written approval of USAID:
- 1) Pharmaceuticals,
 - 2) Pesticides
 - 3) Logging equipment
 - 4) 'Improved' fishing gear such as nets, boats/motors, traps, diving equipment or spear guns
 - 5) Luxury goods (including alcoholic beverages and jewelry)
 - 6) Establishing or expanding any enterprise that will export raw materials that are likely to be in surplus in world markets at the time such production becomes effective and that are likely to cause substantial injury to U.S. producers.
 - 7) Activities which would result in the loss of forest lands due to livestock rearing, road construction or maintenance, colonization of forest lands or construction of dams or other water control structures,
 - 8) Activities which are likely to have a significant adverse effect on the environment, including any of the following (to the extent such activities are likely to have a significant adverse impact on the environment):
 - a. Programs of river basin development,
 - b. Significant irrigation or water management projects (including dams and impoundments),
 - c. Agricultural land leveling,
 - d. Major drainage projects,
 - e. Large scale agricultural mechanization,
 - f. New lands development,
 - g. Resettlement projects,
 - h. Penetration road building or road improvement projects,
 - i. Construction of power plants or industrial plants, or
 - j. Large scale potable water and sewerage projects,
 - 9) Activities which are likely to involve the loss of jobs in the United States due to the relocation or expansion outside of the United States of an enterprise located in the United States, or
 - 10) Activities which the Guaranteed Party is aware are reasonably likely to contribute to the violation of internationally recognized rights of workers.

Agricultural productivity technologies and inputs (e.g., seeds, fertilizers, pesticides, land and water management practices, staples value chain development irrigation, new crop commodity sub-sectors and construction)

Provision and use of fertilizers

For introduction and dissemination of agricultural chemicals such as fertilizers training should be provided in product knowledge. Program activities will use ***best management practices for soil fertility and health, as described below (and fertilizer information sheet: attached to this IEE as Annex 3):***

- a) Integrated Soil Fertility Management (ISFM) – the use of both organic and inorganic sources of nutrients rather than either alone;
- b) The use of legume cover crops (plus phosphorous) and green manures by fallow rotation or intercropping;
- c) Agroforestry practices – in addition to soil conservation and production benefits, agroforestry transfers/cycles nutrients from within the soil profile (deeper levels to surface);
- d) The use of conservation tillage rather than deep plowing (although conservation tillage can be harmful for production systems in certain regions);
- e) Use farm site manures and household wastes, with or without composting; and
- f) Choose crops and associated plants that have high nutrient use efficiency.

Conditions: Only fertilizers that are approved by both the local regulatory authority and the USEPA shall be introduced and utilized. Further, because of the environmental risks inherent in improper handling, storage, use and application, implementing partners must assure that potential users are trained in proper fertilizer handling, storage, use and application techniques.

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.

Provision and use of pesticides

Conditions: USAID Activity Managers and COTRs/AOTRs and implementing partners must ensure the provisions in the PERSUAPs are being implemented and monitored and that the mitigation and reporting requirements are being met. Any new activities under these programs that involve pesticide use will require re-examination and amendments to the respective PERSUAPs covering their programs.

Any new activity involving pesticides, or new pest management products or technologies will necessitate the preparation of additional or amendment of the PERSUAPs in accordance with Agency guidance, and fulfilling all analytical elements required by 22CFR216.3(b), USAID's Pesticide Procedures. The AFR BEO and USAID/WA Regional environmental staff will assist the Ghana MEO and FtF Activity Managers in establishing the need.

Another resource for proposed agricultural use of pesticides is EGSSAA Chapter 12– *Integrated Pest Management* (http://www.encapfrica.org/EGSSAA/Word_English/ipm.doc)

Seed supply and planting materials

Conditions:

Suppliers shall:

- 1) Ensure appropriateness for the agroclimatic zone to which they are being introduced;
- 2) Avoid introducing exotic invasive species; and
- 3) Avoid providing or promoting GMOs.

This requires identifying and mitigating any potential direct adverse impacts on the physical environment and human health and safety (such as due to aflatoxin contamination) arising from distribution of free seeds.

In addition, the Foreign Assistance Act, Part I, Section 119 - Endangered Species - Sect. 119 (g) states “The USAID Administrator shall deny any direct or indirect assistance under this chapter for actions which significantly degrade national parks or similar protected areas or introduce *exotic plants or animals* into such areas”.

Small-scale construction

Potential negative environmental impacts are possible with these interventions, and will depend on local circumstances, including:

- Damage to sensitive or valuable ecosystems from construction of infrastructure, associated temporary worker dwelling, or construction storage units for personnel or equipment
- Removal of vegetation and/or compaction of the soil and grading of the site, altering drainage patterns and water tables, changing access to water by animals, people and vegetation, or degrading water

resources

- Sedimentation of surface waters through removal of natural land cover, excavation, extraction of construction materials and other construction-related activities that result in soil erosion
- Contamination of groundwater and surface water supplies through improper disposal of human and other biological wastes during the construction period
- Contamination of ground and surface water supplies through improper disposal or handling of toxic materials used in construction (e.g., solvents, paints, vehicle maintenance fluids (oil, coolant), and diesel fuel)
- Adverse social impacts due to displacement of local inhabitants, influx of outside workers, inequitable distribution of economic benefits of construction, etc.
- Spread of disease through migration of construction workers from other regions or construction of a new road, especially sexually transmitted diseases such as HIV/AIDS
- Damage to aesthetics of site/area
- Improper extraction of construction materials such as wood, stone, gravel, or clay that damages terrestrial ecosystems (e.g., wood may come from relatively intact or natural forests)
- Use of toxic materials during construction.

Conditions:

For the rehabilitation of existing facilities, and for construction of facilities in which the total surface area disturbed is less than 10,000 square feet (1,000 sq meters), and no protected or other sensitive environmental areas could be affected, the condition is that these activities shall be conducted following principles for environmentally sound construction, as provided in the Small Scale Construction chapter of USAID EGSSAA http://www.encapafrika.org/EGSSAA/Word_English/construction.doc.

For the construction of any facilities in which the total surface area disturbed exceeds 10,000 square feet (1,000 square meters), the program shall conduct a supplemental environmental review according to guidance in Annex 2 of the Africa Bureau Environmental Procedures Training Manual (EPTM) (<http://www.encapafrika.org/eptm.htm>). Construction will not begin until such a review is completed and approved by the Mission Environmental Officer.

An illustrative list of environmentally sound construction principles includes:

- The majority of materials used will be of local origin and will not contain any hazardous materials (e.g., asbestos or lead).
- Investigate and use less toxic alternative products.
- Excess construction material will be recycled wherever possible and disposal of unusable material will be done in an environmentally sound manner.
- Construction will not require the use of heavy equipment, or in the unlikely event it does, proper safeguards will be taken to prevent destruction of vegetation and soil erosion (e.g., runoff from the construction site which may be high in suspended solids or which may cause disruption to local drainage patterns).
- No lead-based paint will be used. When (lead-free) paint is used, it will be stored properly so as to avoid accidental spills or consumption by children; empty cans will be disposed of in an environmentally safe manner away from areas where contamination of water sources might occur; and the empty cans will be broken or punctured so that they cannot be reused as drinking or food containers.

If the construction or rehabilitation of the facility includes road construction or rehabilitation, the conditions of *roads construction and rehabilitation* (see below) will apply to the project.

If construction or rehabilitation requires use of fungicides or pesticides for termite control or any other reason, see *Provision and Use of Pesticides*, above.

Land and water management, improvement in crops value chain development

Conditions:

Improvements in land and water management techniques need to be reviewed to ensure they do not cause destruction or degradation of natural habitat, including deforestation, desertification and drainage of wetlands; lead to loss of biodiversity; do not lead to the introduction of exotic and non-native animals and plants; lead to erosion and loss of soil fertility, siltation of water bodies or reduction in water quality; or spread disease.

Rural roads construction and rehabilitation

Conditions: Rural roads development and improvement should be conducted in a manner consistent with the good planning, design and implementation practices described in *EGSSAA Chapter 14: Rural roads* (http://www.encapafrika.org/EGSSAA/Word_English/roads.doc).

An illustrative list of environmentally sound principles for rural roads development and improvement activities shall be adopted, they include:

- Roads that cross hilly or steep terrain should follow contours and have enough side drainage to minimize soil erosion.
 - Plant vegetation (non-invasive) to stabilize slopes
 - Maintain good road maintenance practices such as clearing drainage structures and restoring camber to minimize damage that the road might cause.
 - Abandoned roads should be blocked to prevent their continued and development of gully erosion. or “ripped” to encourage re-vegetation.
 - Practice proper management of fuels (petrol and diesel) and lubricants (oil and grease) from equipment to avoid contamination of water (particularly at depots and fueling areas).
 - Avoid routing roads through wetlands and in sensitive ecosystems and biodiversity areas (with threatened/and or endangered species).
- Minimize the amount of clearing, clear small areas for active work one at a time.
- training of maintenance personnel to maintain the roadway in a manner that prevents erosion and damage to water and natural resources

For major road and related infrastructure construction, a **Positive Determination** is recommended, pursuant to 22 CFR 216.2(d)(2) and 216.6. Any USAID support for the construction of roads under this program, an **Environmental Impact Assessment** shall be developed and approved before program can begin.

Irrigation construction and rehabilitation

“Minor” rehabilitation activities are recommended for a Negative Determination with Conditions stipulating that optimal environmental design and engineering practices be applied in accordance with USAID/AFR’s EGSSAA, Chapter II.2, Agriculture and Irrigation: http://www.encapafrika.org/EGSSAA/Word_English/agriculture.doc

Major irrigation infrastructure activities -- e.g. irrigation works rehabilitation and new development, dam construction -- can have seriously negative impacts on the physical and social environment. The FtF team and activity implementing partners shall ensure that any USAID support for the construction irrigation system and of roads construction under this program, an Environmental Impact Assessment (EIA) shall be developed before program can begin.

Sub-grants

Conditions: Any sub-grants to support this program’s activities must incorporate provisions that the activities to be undertaken will comply with the environmental determinations and recommendations of this IEE. This includes assurance that the activities conducted with USAID funds fit within those described in the approved IEE or IEE amendment and that any mitigating measures required for those activities be followed. In addition, environmental screening will be required.

Private Sector CESR.

Given the public/private partnership modalities expected to be emphasized, esp. under GCAP, it is expected that private sector Corporate Environmental and Social Responsibility (CESR), and Responsible Agricultural Investment will be promoted proactively, and investor expected to support appropriate measures.

Banks - The Equator Principles (EPs) are a voluntary set of standards for determining, assessing and managing social and environmental risk in project financing (http://www.equator-principles.com/documents/Equator_Principles.pdf).

Environmental Screening Process

Implementing partners will take into consideration potential environmental impacts during the design and implementation process to achieve an environmentally-sound project design and to promote program sustainability. They will screen proposed activities according to the *Africa Bureau Environmental Report Form Review Process*, which is described in the *Environmental Procedures Training Manual, “Annex G: Umbrella IEEs and Subgrant Environmental Screening,”* as well as in the *Africa Bureau Environmental Guidelines, Part III*. Both can be found at <http://www.encapafrika.org/resources.htm> (Attached to this IEE as Annex 1). As described there, the screening categories include the following: *Very low risk* - activities that would normally qualify for a categorical exclusion under Reg. 216; *Moderate risk or unknown risk* - activities that would normally qualify for a negative determination under Reg. 216; *High risk* - activities that have a clear potential for undesirable environmental impacts and typically under Reg. 216 require an Environmental Assessment; and *High risk – typically not funded* - activities that either USAID cannot fund or for which specific findings must be made in an Environmental Assessment prior to funding.

The USAID/Ghana FtF Team shall be responsible for, first, clearing the implementing partner’s category determination of sub-grant activities. Classifications of *Moderate or unknown risk or higher* will be referred to the Mission Environmental Officer along with any required Environmental Review Reports (ERRs). Use the latest revised version, presently as of December 2010². All classifications of *High risk* and their ERRs must be approved by the Bureau Environmental Officer (BEO).

When ERRs are necessary, implementing partners will observe recommendations in the *Africa Bureau- EGSSAA* for relevant sectors when developing mitigation actions and monitoring plans. Once the ERRs are approved, project implementers should ensure mitigation measures and monitoring procedures described therein are in place as they will be considered requirements.

Below, Table 9 presents across-the board guidelines for all Agriculture and Food Security program activities that have Negative Determinations with Conditions.

² <http://www.encapafrika.org/documents/AFR-EnvReviewForm-20Dec2010.doc>

Table 9. General Requirements that apply to all activities falling under the threshold determination of “Negative Determination with Conditions”

1	<p>Environmental Compliance Language in Procurements/Solicitations. The responsibility for implementing activities in accordance with the findings and conditions of this IEE must be incorporated into all contracts and grants that serve to implement activities covered under this IEE. Refer to the fact sheet “Environmental Compliance: Language for Use in Solicitations and Awards” for help in assembling appropriate, ADS-mandated environmental compliance language for all solicitations and awards³, which links to the appropriate ADS 204 Helpfile. The solicitation language will draw upon the determinations in this IEE.</p>
2	<p>Budget provisions will be made within USAID/Ghana and/or the partners to allow for the environmental reviews and EIAs to be accomplished appropriately.</p>
3	<p>Oversight and Field Monitoring. Contracting and Agreement Officer Technical Representatives (COTR/AOTRs) and Activity Managers in USAID/Ghana’s Food Security program, working with the MEO, will undertake field visits and consultations with implementing partners to jointly assess the environmental impacts of ongoing activities, and the effectiveness of associated mitigation and monitoring plans.</p> <p>AOTRs/COTRs and Activity Managers will undertake a review of the existing PERSUAPs and determine their continued applicability and, with the USAID/WA REA and AFR BEO, establish the need for amendment or preparation of new PERSUAPs. In the event new PERSUAPs are required for new sectoral programs, then no pesticides shall be procured or used until the PERSUAP is approved by the BEO.</p> <p>Organizations receiving USAID/Ghana funds and transferring them through grants or other mechanisms to other organizations must incorporate provisions stipulating:</p> <ul style="list-style-type: none"> • the completion of annual EMMRs, and • that activities to be undertaken will be within the scope of the environmental determinations and recommendations of this IEE. <p>USAID/Ghana will ensure that implementing organizations have sufficient capacity to complete the environmental screening process and to implement monitoring and mitigation measures.</p> <p>For activities that are not funded or fully funded by USAID/Ghana, but are an identifiable part of an Agriculture and Food Security program activity (for example if another source of funding is supporting agricultural activities), the implementing partner must assure that, at a minimum, the equivalent USAID standards for mitigation, as presented in Section 4, are followed.</p>
4	<p>Adherence to applicable GoG environmental laws and policies. USAID has from the beginning always intended to work within, complement and reinforce the host government’s environmental compliance policies and regulations. Within the 22 CFR Part 216 framework, it is A.I.D. policy to: (1) Ensure that the environmental consequences of A.I.D.-financed activities are identified and considered by A.I.D. and the host country prior to a final decision to proceed and that appropriate environmental safeguards are adopted; (2) Assist developing countries to strengthen their capabilities to appreciate and effectively evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental programs.</p>

³ [http://www.encapafrika.org/meo_resources/ECL_Factsheet%20\(final\).pdf](http://www.encapafrika.org/meo_resources/ECL_Factsheet%20(final).pdf).

5.2. Deferral

A **Deferral** is recommended for technology development and dissemination involving genetically modified organisms (GMOs), pending further details on if, how and which transgenic materials may be addressed by the SO, and more details on the biotechnology component. Prior to irreversible commitment of funds to activities potentially involving GMOs in research, field trials or dissemination, the appropriate USAID Biosafety Procedures will be addressed (ADS 201.3.6.3b and draft ADS 211). Likewise, approval will be sought as appropriate from the cognizant national biosafety authority.

All USAID-funded interventions involving biotechnologies must be subjected to a biosafety review prior to implementation.

6. MONITORING, COMPLIANCE ASSURANCE AND REPORTING

This IEE is prepared and approved at the Strategic Objective level, and all USAID/Ghana programs funded under the Feed the Future program fall under its environmental threshold determinations. ADS 204.5.4 requires USAID/Ghana and implementing partners to actively monitor activities based on the conditions in the IEE, and to modify or terminate activities that are not in compliance.

The USAID/Ghana FtF Team will use an annual Environmental Mitigation and Monitoring Report (EMMR) to ensure programmatic compliance with 22 CFR 216 and ADS 204.5.4 by documenting that the conditions specified in this IEE have been met for all activities carried out under each bi-lateral award. If the Agriculture and Food Security Team or the program's implementing partners propose that new activities, not described in this IEE, should be added to any award, an Environmental Screening Form (and possibly an Environmental Review Report) must be prepared to examine potential environmental impacts the new activity. Annex 1 presents templates of these forms. If environmental screening and review reveal inconsistencies with the determinations of this IEE and/or if additional conditions are necessary to mitigate environmental impact during implementation of new, proposed activities, this IEE must be amended.

The EMMR must be completed by each organization carrying out activities under a USAID/Ghana FtF program. It will include the organization's own report plus the EMMRs of any sub-awardees, to capture the entire range of activities funded by USAID/Ghana under the bi-lateral award. The prime USAID/Ghana bi-lateral implementing partners are responsible for ensuring that each sub-awardee completes and submits the EMMR to the prime in a timely fashion. The EMMRs are reviewed and approved by the CO/AOTR and the Mission Environmental Officer. The EMMR consists of 3 parts:

1. The Environmental Verification Form
2. The Mitigation Plan for specific environmental threats carried out by the implementer,
3. The Reporting Form

The EMMR Environmental Verification Form

Because of the integrated nature of the USAID/Ghana Agriculture and Food Security portfolio, a single bi-lateral award (along with any sub-awards) often contains activities having different conditions required for prevention or mitigation of environmental impact. This form indicates the categories of activities carried out by implementing partners (or their sub-awardees) and serves to 'trigger' USAID expectations of mitigation measures.

The EMMR Mitigation Plan

Implementing partners will use the Mitigation Plan to describe the specific actions they will undertake under each category of activity when screening reveals potential environmental threats. In these cases, compliance with

'Conditions' and mitigation will be undertaken as described in Section 4.1 of this IEE. The Mitigation Plan also identifies the person responsible for monitoring compliance with mitigation and the indicator, method and frequency of monitoring.

The EMMR Reporting Form

This form reports on the results of applying the mitigation measures described in the Mitigation Plan and identifies outstanding issues with respect to required conditions. In some cases, digital photos will be the best way to document mitigation and should be included in the report.

7.0 CLIMATE-SMART AGRICULTURE

The FtF team has identified "Climate-Smart" Agriculture measures to ensure program resilience and maximize the potential for realizing food security, by integrating natural resources management, water use efficient, rainfall effectiveness, soil fertility management, and the like, into agricultural production investments. Agriculture also presents untapped opportunities for mitigation, given the large land area under crops and rangeland, and the additional mitigation potential of aquaculture. Table 10 below provides illustrative options for integrating NRM/CC/water consideration into the FtF program.

Table 10. Recommended "Climate-Smart" Agriculture measures relevant to USAID/Ghana FtF program

Recommended adaptation measures	Illustrative potentials	Relevance to Climate Change
Improved crop varieties, drought resistant crops/seeds	Ensure the use of crop varieties that can withstand extreme weather conditions and require fewer inputs. Research into the development of heat-tolerant and flood-tolerant rice varieties in northern Ghana.	Resilience: to help poor and vulnerable communities prepare for, withstand, and recover from the negative effects of climate change.
Extending crop rotations	Incorporate perennial crops in crop rotations to build up soil organic matter.	Resilience
Precision agriculture	Promote the use and application of nutrients where and when crops need them.	Reduce chemical and fertilizer waste and runoff through more efficient application
Use organic fertilizer	Encourage the use of organic fertilizers made specifically from animal or vegetable matter for delivering nutrients to the soil.	Reduce fossil fuel emissions from fertilizer manufacture, uncertain for N ₂ O.
Reduced/no tillage	Promote reduce or no tillage to ensure water and organic matter (nutrients) retention in the soil and decreases erosion. With better weed control, it is now feasible to reduce or abandon tillage altogether.	Increased soil Carbon (C).
Retain crop residues on soil	Promote conservation agriculture which involves leaving crop residues on the soil surface to protect against erosion following	Increased soil C, reduced burning emissions,

Recommended adaptation measures	Illustrative potentials	Relevance to Climate Change
	cultivation.	
Improved water management/retention on farm	<p>Promote on-farm and small-scale rainwater harvesting, coupled with improved soil fertility management and indigenous knowledge of farmers, could help sustain higher productivity in rain-fed agriculture. Reduce inefficiency in water use.</p> <p>Help develop resilient, sustainable, appropriate irrigation infrastructure taking into account climate vulnerability, environment conservation and health.</p> <p>Rice paddies can be drained once or several times over the course of the growing season.</p>	Resilience
Better residue management	Improved residue management can be achieved through improving the quality (e.g. composting) and timing (e.g. apply straw off season) of residues applied to soils.	Reduces emissions of CH ₄ , ozone precursors, and aerosols.
Fire management	Ensure reduction of fire frequency and extent of fires.	
Rehabilitation of degraded land	Support the rehabilitation of degraded lands. Generally degraded lands have low carbon stocks. Re-vegetation and improving soil fertility on these lands can restore productivity.	C sequestration, but greater emissions of N ₂ O.
Agroforestry	Promote agroforestry systems and practices which involve the integration of trees into agricultural lands. These practices include shelter belts and border plantings, alley cropping, multistrata systems (e.g. shade coffee), riparian management, etc.	Agroforestry systems have higher carbon stocks aboveground than most agricultural systems. Effects on N ₂ O depend on presence of N fixing trees.
Improved soil productivity (Integrated Soil Fertility Management)	Support a range of soil fertility enhancing methods, such as improved crop management practices, integration of livestock, measures to control erosion and leaching, and measures to improve soil organic matter maintenance. ISFM strategies include the combined use of soil amendments, organic materials, and mineral fertilizers to replenish soil nutrient pools and improve the efficiency of external inputs.	
Fisheries sector good practices	Support adapting fisheries management and strengthening capacity to deal with long-term	Contributes to the protection of rural

Recommended adaptation measures	Illustrative potentials	Relevance to Climate Change
	climate-related effects on relevant habitats and ecosystems. Can apply to production, infrastructure, operations and/or ecosystem protection.	livelihoods, food security and marine biodiversity against the impacts of extreme climate events, precipitation change, ocean acidification, sea level rise and sea surface warming.
Coastal wetlands protection and restoration	Assist in the protection and restoration of coastal wetlands since they provide nursery habitats for fisheries, ecosystems services for communities and their livelihoods; serves as a natural water filter, buffer against coastal ecosystems.	Acts as buffer against extreme weather events, storm surge, erosion, and floods; limits salt water intrusion.
Marine conservation agreements	Promote formal or informal agreements between parties to exchange benefits, take or refrain from certain actions, transfer certain rights and responsibilities in order to restore and protect fragile coastal and marine ecosystems.	Improves the resilience of coastal ecosystems to climate change and improves the economic and social conditions of coastal communities.
Marine protected areas	Support the establishment of marine protected areas. This will ensure that intertidal or subtidal terrain area, their waters, flora, fauna, and cultural and historical features, of which part or all is protected.	Maintains healthy and resilient coastal habitats and fisheries productivity; acts as “refugia” and critical sources of new larval recruits.

8. REFERENCES

Armah, F.A., Odoi, J.O., Yengoh, G.T., Obiri, S., Yawson, D.O., Afrifa, E.K.A. (2011). Food security and climate change in drought-sensitive savannah zones of Ghana. *Mitigation and Adaptation Strategies for Global Change* 16(3):291-306. Springer

Cotty, P.J., Jaime-Garcia, R. (2007). Influences of climate on aflatoxin producing fungi and aflatoxin contamination. *International Journal of Food Microbiology*. 119:109-115.

Environmental Protection Agency (2000) National action programme to combat drought and desertification, Accra, Ghana

Stanturf, J. A., Warren, M. L., Charnley, S., Polasky, S. C., Goodrick, S. L., Armah, F., Nyako, Y. A. (2011) Ghana: Climate Change Vulnerability and Adaptation Assessment. A report submitted to USAID/Ghana.

Brady, S., Krueger, J., Polasky, S., Nyako, Y. A., Armah, F., Charnley, S., Stanturf, J. A., Warren, M. L. (2001) Ghana: Biodiversity and Tropical Forests Environmental Threats and Opportunities Assessment. A report submitted to USAID/Ghana.

Menczer, K., Quaye, Eric. (2006) Ghana: Biodiversity and Tropical Forests Environmental Threats and Opportunities Assessment. 2006. A report submitted to USAID/Ghana.
http://www.encapfrica.org/documents/biofor/Ghana_2006_ETOA.doc

Nelson, G.C., M.W. Rosegrant, J. Koo, R. Robertson, T. Sulser, T. Zhu, C. Ringler, S. Msangi, A. Palazzo, M. Batka, M. Magalhaes, R. Valmonte-Santos, M. Ewing and D. Lee (2009). Climate change: Impact on agriculture and costs of adaptation. Food Policy Report #19. IFPRI, Washington, DC.

U.S. Soil and Water Conservation Society (2003). Conservation implications of climate change: soil erosion and runoff from cropland (Available:
http://www.swcs.org/en/publications/conservation_implications_of_climate_change/)

Schmidhuber, J., and F.N. Tubiello, 2007: Global food security under climate change. *Proc. Natl. Acad. Sci.*, 104, 19703-19708, doi:10.1073/pnas.0701976104.

Annex 1.

ENVIRONMENTAL MONITORING AND MITIGATION REPORT (EMMR)

EMMR Part 1 of 3: Environmental Verification Form

USAID/Ghana Award Name: _____

Name of Prime Implementing Organization: _____

Name of Sub-awardee Organization (if this EMMR is for a sub): _____

Geographic location of USAID-funded activities (Province, District): _____

Date of Screening: _____

Funding Period for this award: FY ____ - FY ____

Current FY Resource Levels: FY _____

This report prepared by:
Name: _____ Date: _____

Date of Previous EMMR for this organization: _____ (if any)

Indicate which activities your organization is implementing under Feed the Future funding.

Key Elements of Program/Activities Implemented

Activity Group	Group Description	Yes	No
1	Technical assistance, training, training modules development, capacity building, workshops, media events, radio programs, creating awareness, organizational strengthening, civic education, policy reforms, legal and social services, and development of business plans and strategies		
2	Micro credit, loans, MFIs and micro enterprises; loan guarantees, DCAs		
3	Biotechnology		
4	Fertilizers, pesticides, new agricultural productivity technologies, planting materials, seeds and construction		
5	Water, Sanitation and Hygiene Activities		
6	Sub-grants		
7	Other activities that are not covered by the above categories		

EMMR Part 2 of 3: Mitigation Plan

Category of Activity	Describe specific environmental threats of your organization's activities	Description of Mitigation Measures for these activities	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring
1. Education, technical assistance, training, etc.	No environmental impacts anticipated as a result of these activities.	Education, technical assistance and training about activities that inherently affect the environment includes discussion of prevention and mitigation of potential negative environmental effects.		Discussion of environmental impact included in education, technical assistance, training and other materials	Review of materials	
Micro credit, loans, MFIs and micro enterprises; loan guarantee for maize, rice, soybean and marine fisheries value chains		The Mission shall ensure the Guaranteed Party or Parties have environmental screening system <i>sufficient to demonstrate compliance with local environmental laws and to enable USAID to make an assessment of the environmental impact of such activities and shall</i> submit to USAID their proposed policies and procedures to assure that the projects financed are environmentally sound and comply with applicable laws and procedures.				
3. New agricultural productivity technologies, materials improvement, construction activities to be designed.		For Pesticides (incl. "natural" or botanical products such as rotenone), USAID Pesticide Procedures must be adhered to, and a PERSUAP or Pesticide IEE prepared <i>and approved</i> prior to any purchase, handling or use, and the Safer Use Action Plan should be implemented.				

Category of Activity	Describe specific environmental threats of your organization's activities	Description of Mitigation Measures for these activities	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring
		<p>The "legacy" PERSUAPs in Horticulture, Rice and Maize will be reviewed, amended and updated as required, within the calendar year 2010,</p> <p>If fertilizers are subject to approval by local regulatory authorities, then only those fertilizer products that are approved by the appropriate local authority may be used. (USEPA does not register or otherwise approve fertilizers as it does pesticides.) Further, because of the environmental risks inherent in improper handling, storage, use and application, implementing partners must assure that potential users are trained in proper handling, storage, use and application techniques.</p> <p>Introductory of non-native seeds carries a potential risk of introducing invasive species. Suppliers shall: 1) ensure appropriateness for the agroclimatic zone to which they are being introduced; 2) avoid introducing exotic invasive species; and 3) avoid</p>				

Category of Activity	Describe specific environmental threats of your organization's activities	Description of Mitigation Measures for these activities	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring
		<p>providing or promoting genetically modified organisms (GMOs). This requires identifying and mitigating any potential direct adverse impacts on the physical environment and human health and safety (such as due to aflatoxin contamination) arising from distribution of free seeds.</p> <p>Non-native plants will not be introduced into protected areas.</p> <p>For small-scale construction (10,000 sq ft / 1,000 sq meters), follow guidance in (http://www.encapafrica.org/EGSSA/Word_English/construction.doc)</p> <p>For larger facilities follow guidance for supplemental environmental review in Annex G (www.encapafrica.org/EPTM/Annex G EPTM_Mar2005.pdf) Construction will not begin until such a review is completed and approved the Mission Environmental Officer.</p> <p>Any activities dealing with land and water management improvements</p>				

Category of Activity	Describe specific environmental threats of your organization's activities	Description of Mitigation Measures for these activities	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring
		must ensure that best practices are followed, such as those presented in Chapters 1, 6,11,12 available at - USAID Africa Bureau's Environmental Guidelines for Small-Scale Activities in Africa.				
4. Road construction and rehabilitation		Environmental Assessment shall be developed and scoping process initiated which would lead to a scoping statement All road construction and rehabilitation should be conducted in a manner consistent with the good design and implementation practices described in EGSSAA, Chapter 14: Rural roads (http://www.encapafrika.org/EGSSAA/Word_English/roads.doc). For example i) construction of roads along contours and with enough side drainage will minimize soil erosion. ii) Blocking abandoned roads will prevent development of gully erosion and ripping will encourage vegetation growth. Any USAID supported activity dealing with road construction and rehabilitation must ensure the best practices are followed such as those presented in Chapter 14 Rural roads	Program Area Team Grantee/ Contractor	Environmental Assessment and Scoping Statement	Amended IEE approved	

Category of Activity	Describe specific environmental threats of your organization's activities	Description of Mitigation Measures for these activities	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring
		http://www.encapafrica.org/EGSSA/A/Word_English/roads.doc				
5. Sub-grants		A Negative Determination with Conditions is recommended for all sub-grant programs because sub-grantees may use funds for activities that have a direct effect on the environment or human health. All sub-grant programs will include use of the USAID/ Africa Bureau Environmental Screening Form in their sub-grant procedures.				

EMMR part 3 of 3: Reporting form

List each Mitigation Measure from column 3 in the EMMR Mitigation Plan (EMMR Part 2 of 3)	Status of Mitigative Measures	List any outstanding issues relating to required conditions	Remarks

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 FtF IEE:

Signature

Date

Print Name

Organization

BELOW THIS LINE FOR USAID USE ONLY

USAID/Ghana Clearance of EMMR:

Contracting Officer's / Agreement Officer's Technical Representative:

_____ 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 2.

Environmental Review Form for New Activities Proposed under USAID/Ghana Feed the Future Program

Environmental Screening Form for New Activities Proposed under USAID/Ghana Feed the Future Initiative

Any bi-lateral Implementing Partner proposing an activity which is not covered by the existing USAID/Ghana Economic Growth and Improved Health Status IEE must complete the “Environmental Screening Form” UNLESS the project or activity is carried out to address an emergency (*e.g.*, international disaster assistance). Emergencies are determined by the USAID Administrator after, not by the applicant. Per CFR §216.2(b)(1), most activities carried out under emergency circumstances are considered EXEMPT from environmental procedures, except for the procurement or use of pesticides.

The proposed activity cannot be approved and no funds may be committed until the environmental documentation, including mitigation measures, is cleared by the Economic Growth or Health CO/AOTR and approved by the USAID/Ghana Mission Environmental Officer (MEO). USAID may request modifications, or reject the documentation. If the activities are found to have significant adverse impacts, a full Environmental Assessment must be conducted.

The instructions for completing the Environmental Screening Form follow:



Download at <http://www.encapafrika.org/documents/AFR-EnvReviewForm-20Dec2010.doc>
version 20 Dec 2010

Note to USAID Staff, Consultants & Partners Regarding the: Africa Bureau ENVIRONMENTAL REVIEW FORM & INSTRUCTIONS

Appropriate use

1. The Environmental Review Form (ERF) can only be used when and as specifically authorized by the IEE or EA governing the project or program in question. For IEEs, this authorization is made in the form of a negative determination with conditions. *Authorized use of the ERF is limited to the specific class of activities enumerated in the determination.*
2. The BEO will not clear an IEE or EA that authorizes use of the ERF unless ALL of the following are true:
 - a. **the general nature or potential scope of the activities for which the ERF will be used are known at the time the IEE is written** (e.g. small infrastructure rehabilitation, training and outreach for a specified purpose, etc.).
 - b. **these activities will be executed under a grant or subproject component of a parent project/program.** The ERF cannot be used in lieu of a request for categorical exclusion, IEE or IEE amendment when new activities/components are to be added to existing projects, programs or sector portfolios.
 - c. of their general nature, **foreseeable adverse environmental impacts are small or easily controllable with BASIC MITIGATION TECHNIQUES that can BE SUCCESSFULLY IMPLEMENTED BY FIELD STAFF.**
 - d. of their general nature, **the activities are NOT large-scale.**
 There is no formal AFR standard for “small-scale activities.” Over time, AFR has developed some “rules of thumb” for activities that are BOTH small-scale AND pose very low risks of significant adverse impacts. These are used in the ERF itself: e.g. construction involving less than 10,000 sq ft total disturbed area and less than \$200,000 total cost; road rehabilitation of less than 10km total length without change to alignment or right-of-way. Activities moderately larger than these “rules of thumb” are also small-scale, but are treated by the ERF as being of moderate/unknown risk, thus requiring an environmental review report.
 What does “moderately larger” mean? What about activities for which there is no “rule of thumb” built into the ERF? Absolute physical scale and funding level, physical scale relative to the surrounding built environment, population affected, and number of locations affected are among the factors relevant to determining whether a class of activities is “small scale.” The IEE must provide enough information for the BEO to assess whether the activities proposed for subproject review will be indeed be small scale within their implementation context.

Adaptation of the form

1. Text in **UNDERLINE & BLUE HIGHLIGHT** MUST be customized to the particular project/mission.
2. **Yellow** highlighted text must be reviewed and then modified, deleted or retained, as appropriate.
3. Both the form AND instructions should be generally reviewed and modified to reflect the specific project/program and implementation context.
4. The adapted form and instructions must be appended to the Initial Environmental Examination for the overall project.
5. For NRM-oriented programs (especially those involving CBNRM, ecotourism, enterprises exploiting non-timber forest products, etc.) consider adaptation and use of the Supplemental Environmental Review Form for NRM sector activities.

Questions and Guidance

General guidance on subproject review is available on the MEO Resource Center at www.encapafrika.org/meoEntry.htm. For specific questions, contact the Mission Environmental Officer or Regional Environmental Advisor. Good-practice examples of completed forms, environmental review reports and environmental management plans are available from USAID/AFR’s ENCAP project: encapinfo@cadmusgroup.com; www.encapafrika.org. Revision history:

Major update on 24 June 2010 to clarify appropriate use, revise Env Review Report structure, and update clearance requirements. Formatting and presentation revised 17 Jan 2005. Revised April 13, 2004, to include biosafety considerations and better reflect the Supplemental Environmental Review Form for NRM sector activities.



AFR Environmental Review Form Instructions
20 Dec 2010

Instructions for environmental review of Feed the Future Program Subprojects/Sub-grants

*Note: These instructions accompany the attached "Environmental Review Form for **USAID/XXX Program/Project** Activities" (ERF). Follow, but **DO NOT SUBMIT**, these instructions.*

Who must submit the Environmental Review Form (ERF)?

ALL Implementing Partners seeking to implement **[describe qualifying activities]** under the **XXX Program/Project** must complete, sign and submit the ERF to **[insert name & email of C/AOTR]**.

Authority: Use of the ERF for these activities is mandated by the governing Initial Environmental Examination (IEE) for the **XXX Project/Program**. The IEE can be downloaded at: **[insert URL]**.

No implementation without an approved ERF

The proposed activities cannot be implemented and no "irreversible commitment of resources" for these activities can be made until the ERF (including Environmental Review Report, if required, see Step 4, below) is cleared by the **C/AOTR**, the Mission Environmental Officer (MEO) and the Regional Environmental Advisor (REA).

NOTE: USAID may deny clearance to the ERF, or may require modification and re-submission for clearance.

Environmental management requirements resulting from the ERF

If the ERF requires preparation of an Environmental Review Report (see Step 4, below), any environmental management measures specified in the approved Environmental Review Report **MUST** be implemented.

Situations in which additional environmental review is required.

If the ERF finds that one of more of the proposed activities has the potential to cause significant adverse environmental impacts, the activities must be redesigned or an IEE or full Environmental Assessment must be conducted and approved prior to implementation.

If USAID determines that the proposed activities are outside the scope of activities for which use of this form is authorized, the activities must be redesigned or an IEE or IEE Amendment will be required.

In either situation, USAID will confer with the partner to determine next steps. Note: If an IEE or EA is required, all environmental management measures specified in the IEE or EA must then be implemented.

Step 1. Provide requested "Applicant information" (Section A of the ERF)

Step 2. List all proposed activities

In Section B of the form, list all proposed activities.

Activities are a desired accomplishment or output: e.g. seedling production, road rehabilitation, school construction. Each activities has entailed *actions*—for example, road rehabilitation includes survey, grading, culvert construction, compaction, etc. *Be aware of these entailed actions, but do NOT list them.*

List activities DESCRIPTIVELY. For example, “training” is not a sufficient activity listing. The listing must specify WHO is being trained, and in WHAT.

Step 3a. Screening: Identify low-risk and high-risk activities

For *each* activity you have listed in Section B of the form, refer to the list below to determine whether it is a listed low-risk or high-risk activity.

If an activity is specifically identified as “very low risk” or “high risk” in the list below, indicate this in the “screening result” column in Section B of the form.

<p style="text-align: center;">Very low-risk activities (Activities with low potential for adverse biophysical or health impacts; including §216.2(c)(2))</p>	<p style="text-align: center;">High-risk activities (Activities with high potential for adverse biophysical or health impacts; including §216.2(d)(1))</p>
<p>Provision of education, technical assistance, or training. (Note that activities directly affecting the environment. do not qualify.)</p> <p>Community awareness initiatives.</p> <p>Controlled agricultural experimentation exclusively for the purpose of research and field evaluation confined to small areas (normally under 4 ha./10 acres). This must be carefully monitored and no protected or other sensitive environmental areas may be affected).</p> <p>Technical studies and analyses and other information generation activities not involving intrusive sampling of endangered species or critical habitats.</p> <p>Document or information transfers.</p> <p>Nutrition, health care or family planning. EXCEPT when (a) some included activities could directly affect the environment (construction, water supply systems, etc.) or (b) biohazardous (esp. HIV/AIDS) waste is handled or blood is tested.</p> <p>Small-scale construction. Construction or repair of facilities if total surface area to be disturbed is under 10,000 sq. ft. (approx. 1,000 sq. m.) (and when no protected or other sensitive environmental areas could be affected).</p> <p>Intermediate credit. Support for intermediate credit arrangements (when no significant biophysical environmental impact can reasonably be expected).</p> <p>Maternal and child feeding conducted under Title II of Public Law 480.</p> <p>Title II Activities. Food for development programs under Title III of P.L. 480, when no on-the-ground biophysical interventions are likely.</p> <p>Capacity for development. Studies or programs intended to develop the capability of recipients to engage in development planning. (Does NOT include activities directly affecting the environment)</p> <p>Small-scale Natural Resource Management activities for which the answer to ALL SUPPLEMENTAL SCREENING QUESTIONS (see <i>Natural Resources supplement</i>) is “NO.”</p>	<p>River basin development</p> <p>New lands development</p> <p>Planned resettlement of human populations.</p> <p>Penetration road building, or rehabilitation of roads (primary, secondary, some tertiary) over 10 km length, and any roads which may pass through or near relatively undegraded forest lands or other sensitive ecological areas</p> <p>Substantial piped water supply and sewerage construction.</p> <p>Major bore hole or water point construction.</p> <p>Large-scale irrigation; Water management structures such as dams and impoundments</p> <p>Drainage of wetlands or other permanently flooded areas.</p> <p>Large-scale agricultural mechanization.</p> <p>Agricultural land leveling.</p> <p>Procurement or use of <u>restricted use</u> pesticides, or wide-area application in non-emergency conditions under non-supervised conditions. (Consult MEO.)</p> <p>Light industrial plant production or processing (e.g., sawmill operation, agro-industrial processing of forestry products, tanneries, cloth-dyeing operations).</p> <hr/> <p style="text-align: center;">High-risk and typically not funded by USAID:</p> <p>Actions affecting protected areas and species. Actions determined likely to significantly degrade protected areas, such as introduction of exotic plants or animals.</p> <p>Actions determined likely to jeopardize threatened & endangered species or adversely modify their habitat (esp. wetlands, tropical forests)</p> <p>Activities in forests, including:</p> <ul style="list-style-type: none"> ▪ Conversion of forest lands to rearing of livestock ▪ Planned colonization of forest lands ▪ Procurement or use of timber harvesting equipment ▪ Commercial extraction of timber ▪ Construction of dams or other water control structures that flood relatively undegraded forest lands ▪ Construction, upgrading or maintenance of roads that pass through relatively non-degraded forest lands. (Includes temporary haul roads for logging or other extractive industries)

(This list of activities is taken from the text of 22 CFR 216 and other applicable laws, regulations and directives)

Step 3b: Identifying activities of unknown or moderate risk.

All activities NOT identified as “very low risk” or “very high risk” are considered to be of “unknown or moderate risk.” Common examples of moderate-risk activities are given in the table below.

Check “moderate or unknown risk” under screening results in Section B of the form for ALL such activities.

Common examples of moderate-risk activities	
CAUTION: If ANY of the activities listed in this table may adversely impact (1) protected areas, (2) other sensitive environmental areas, or (3) threatened and endangered species and their habitat, THEY ARE NOT MODERATE RISK. All such activities are HIGH RISK ACTIVITIES.	
<p>Small-scale agriculture, NRM, sanitation, etc. (You may wish to define what “small scale” means for each activity)</p> <p>Agricultural experimentation. Controlled and carefully monitored agricultural experimentation exclusively for the purpose of research and field evaluation of MORE than 4 ha.</p> <p>NOTE Biotechnology/GMOs: No <i>biotechnology testing or release</i> of any kind are to take place within an assisted country until the host countries involved have drafted and approved a regulatory framework governing biotechnology and biosafety.</p> <p>All USAID-funded interventions which involve biotechnologies are to be informed by the ADS 211 series governing “Biosafety Procedures for Genetic Engineering Research”. In particular this guidance details the required written approval procedures needed before transferring or releasing GE products to the field.</p> <p>Medium-scale construction. Construction or rehabilitation of facilities or structures in which the surface area to be disturbed exceeds 10,000 sq. ft. (1000 sq meters) but funding level is \$200,000 or less. (E.g. small warehouses, farm packing sheds, agricultural trading posts, produce market centers, and community training centers.)</p> <p>Rural roads. Construction or rehabilitation of rural roads meeting the following criteria:</p> <ul style="list-style-type: none"> ▪ Length of road work is less than ~10 km ▪ No change in alignment or right of way ▪ Ecologically sensitive areas are at least 100 m away from the road and not affected by construction or changes in drainage. ▪ No protected areas or relatively undegraded forest are within 5 km of the road. <p>Title II & III Small-Scale Infrastructure. Food for Development programs under Title II or III, involving small-scale infrastructure with the known potential to cause environmental harm (e.g., roads, bore holes).</p> <p>Quantity imports of commodities such as fertilizers</p>	<p>Sampling. Technical studies and analyses or similar activities that could involve intrusive sampling, of endangered species or critical habitats. (Includes aerial sampling.)</p> <p>Water provision/storage. Construction or rehabilitation of small-scale water points or water storage devices for domestic or non-domestic use. Water points must be located where no protected or other sensitive environmental areas could be affected.</p> <p>NOTE: USAID guidance on water quality requires testing for arsenic, nitrates, nitrites and coliform bacteria.</p> <p>Support for intermediate credit institutions when indirect environmental harm conceivably could result.</p> <p>Institutional support grants to NGOs/PVOs when the activities of the organizations are known and may reasonably have adverse environmental impact.</p> <p>Pesticides. Small-scale use of USEPA-registered, least-toxic general-use pesticides. Use must be limited to NGO-supervised use by farmers, demonstration, training and education, or emergency assistance.</p> <p>NOTE: Environmental review (see step 5) must be carried out consistent with USAID Pesticide Procedures as required in Reg. 16 [22 CFR 216.3(b)(1)].</p> <p>Nutrition, health care or family planning, if (a) some included activities could directly affect the environment (e.g., construction, supply systems, etc.) or (b) biohazardous healthcare waste (esp. HIV/AIDS) is produced, syringes are used, or blood is tested.</p>

Step 4. Determine if you must write an Environmental Review Report

Examine the “screening results” as you have entered them in Table 1 of the form.

- i. If ALL the activities are “very low risk,” then no further review is necessary. In Section C of the form, check the box labeled “very low risk activities.” Skip to Step 8 of these instructions.
- ii. If ANY activities are “unknown or moderate risk,” you MUST complete an ENVIRONMENTAL REVIEW REPORT addressing these activities. Proceed to Step 5.

- iii. If ANY activities are “high risk,” note that USAID’s regulations usually require a full environmental assessment study (EA). Because these activities are assumed to have a high probability of causing significant, adverse environmental impacts, they are closely scrutinized. *Any* proposed high-risk activity should be discussed in advance with USAID. Activity re-design is often indicated.

In some cases, it is possible that reasonable, achievable mitigation and monitoring can reduce or eliminate likely impacts so that a full EA will not be required. If the applicant believes this to be the case, the Environmental Review Report must argue this case clearly and thoroughly. Proceed to Step 5.

Step 5. Write the Environmental Review Report, if required

The Environmental Review Report presents the environmental issues associated with the proposed activities. It also documents mitigation and monitoring commitments. Its purpose is to allow the applicant and USAID to evaluate the likely environmental impacts of the project.

For a single, moderate risk activity, the Environmental Review Report is typically a SHORT 4–5 page document. The Report will typically be longer for (1) multiple activities; (2) activities of high or unknown risk; and/or (3) when a number of impacts and mitigation measures are being identified and discussed.

The Environmental Review Report follows the outline below. Alternate outlines are acceptable, so long as all required information is covered.

- A. **Summary of Proposal.** Very briefly summarize background, rationale and outputs/results expected. (Reference proposal, if appropriate).
- B. **Description of Activities.** For all moderate and high-risk activities listed in Section B of the ERF, succinctly describe location, siting, surroundings (include a map, even a sketch map). Provide both quantitative and qualitative information about actions needed during all project phases and who will undertake them. (All of this information can be provided in a table). If various alternatives have been considered and rejected because the proposed activity is considered more environmentally sound, explain these.
- C. **Site-specific Environmental Situation & Host Country Requirements.** Describe the environmental characteristics of the site(s) where the proposed activities will take place. Focus on site characteristics of concern—e.g., water supplies, animal habitat, steep slopes, etc. With regard to these critical characteristics, is the environmental situation at the site degrading, improving, or stable?
Also note applicable host country environmental regulations and/or policies. (For example, does the project require host country environmental review or permitting? Building approval? Etc.)
NOTE: provide site-specific information in this section, NOT country-level information. General information about country level conditions should already be contained in the IEE governing the **XXX project/program**.
- D. **Environmental Issues, Mitigation Actions, and Findings.** For ALL proposed activities
- i. Briefly note the potential environmental impacts or concerns presented by the proposed activities (if any). *For guidance, refer to Africa Bureau’s Environmental Guidelines for Small-Scale Activities; available at www.encapafrika.org/egssaa.htm.*

As per the *Small-Scale Guidelines*, consider direct, indirect and cumulative impacts across the activity lifecycle (i.e. impacts of site selection, construction, and operation, as well as any problems that might arise with abandoning, restoring or reusing the site at the end of the anticipated life of the facility or activity). Note that “environment” includes air, water, geology, soils, vegetation, wildlife, aquatic resources, historic, archaeological or other cultural resources, people and their communities, land use, traffic, waste disposal, water supply, energy, etc.)

ii. Assess the extent to which these *potential impacts* and concerns are significant in the context of the specific activity design and site.

iii. Set out the mitigation actions to be employed to address these issues.

Mitigation actions are means taken to avoid, reduce or compensate for impacts. Mitigation measures must be reasonable and implementable by field staff. They should be consistent with the good practice guidance provided in Africa Bureau's Environmental Guidelines for Small-Scale Activities; (www.encapafrica.org/egssaa.htm.) Cite this or other guidance used for mitigation design.

iv. Reach one of three findings regarding the potential impacts:

a. Significant adverse impacts are very unlikely. Of its nature, the activity in question is very unlikely to result in significant, adverse environmental impacts. Special mitigation or monitoring is not required.

Note: this conclusion is rarely appropriate for high-risk activities.

b. With implementation of the specified mitigation and monitoring, significant adverse impacts are very unlikely.

c. Significant adverse impacts are possible. That is, it is not possible to rule out significant adverse environmental impacts even given reasonable, attainable mitigation and monitoring.

In this case, USAID and the partner will consult regarding next steps. If the activity is to go forward in its current form, additional analysis in the form of an IEE or EA will be required.

Format and structure of this section. Choose a format and structure that presents the necessary information clearly and succinctly.

Table formats can be used. In the example below, the proposed activity was construction of an institutional facility on a 7500m³ plot bisected by a seasonal stream providing drainage to the local area. One potential impact of the activity was reduction of or alteration to the drainage eco-service provided by the seasonal stream.

Issue or cause for concern	Analysis	Finding and conditions/mitigation actions
The seasonal stream running through the plot drains an area of at least 2 km ² to the WNW. Diminution or alteration to this drainage "service" could result in increased upstream pooling & flooding during the rainy season, with associated property damage and increased breeding habitat for disease vectors.	As indicated at left, this impact only arises if the drainage "service" provided by the seasonal stream is diminished or altered in some adverse manner. So long as compound design maintains the existing service level and construction is managed without disruption to stream flow, actual adverse impact will be negligible or zero.	Per analysis at left, this potential impact is not significant, so long as the following mitigations are implemented: 1. Total stream capacity cannot be diminished by the development of the compound. (Stream channel on average is 3m x 1m.) 2. The stream must remain substantially in the same channel and cannot, e.g., be re-routed around the property. 3. If construction will result in an interruption to stream flow, provision must be made to provide a temporary bypass. Temporary damming of stream flow is not permissible. 4. Post-construction, the stream bed within the property, including point-of-entry (e.g. via culvert under perimeter wall) must be maintained free of obstructions to flow.

E. Environmental Mitigation and Monitoring Plan (EMMP). Set out how compliance with mitigation actions will be monitored/verified. This includes specifying WHO will be responsible for the various mitigation actions, and HOW implementation of the mitigation actions will be tracked/verified.

Also specify how you will report to USAID on the implementation of mitigation actions. (You are REQUIRED to provide your C/AOTR with sufficient information on the status of mitigation implementation for USAID to effectively fulfill its oversight and performance monitoring role.) Again, choose a format and structure that presents the necessary information clearly and succinctly. EMMPs are typically in table format, and often include a compliance log or “monitoring record” section that records implementation status of the various mitigation actions. The EMMP with current monitoring log can then simply be submitted to the C/AOTR with the quarterly or 6-month project report, satisfying the environmental compliance reporting requirement. .

The most basic EMMP format is

Mitigation action	Responsible Party	Monitoring/Verification Method	Monitoring Record (date, result, corrective actions taken, if any)

For additional EMMP formats and examples, see the ENCAP EMMP factsheet, available via www.encapfrica.org/meoEntry.htm

- F. **Other Information.** Where possible and as appropriate, include photos of the site and surroundings; maps; and list the names of any reference materials or individuals consulted. (Pictures and maps of the site can substantially reduce the written description required in parts B & C)

Step 6. Transcribe findings from the Environmental Review Report to the ERF

For each high-risk or unknown/moderate-risk activity, transcribe your finding from the environmental review report to the last column of Section B of the ERF.

Step 7. Sign certifications (Section C of former.)

Step 8. Submit form to USAID C/AOTR. Be sure to attach the Environmental Review Report, if any.



**Environmental Review Form for
Feed the Future subprojects/subgrants**

Follow, but do not submit, the attached instructions.

A. Applicant information

Organization	Parent grant or project
Individual contact and title	Address, phone & email (if available)
Proposed subproject/subgrant (brief description)	Amount of funding requested
	Period of performance
	Location(s) of proposed activities

B. Activities, screening results, and findings

Proposed activities (Provide DESCRIPTIVE listing. Continue on additional page if necessary)	Screening result (Step 3 of instructions)			Findings (Step 6 of instructions. Complete for all moderate/unknown and high-risk activities ONLY)		
	Very Low Risk	High-Risk*	Moderate or unknown risk*	significant adverse impacts are very unlikely	With specified mitigation, significant adverse impacts are very unlikely	Significant Adverse impacts are possible
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

*These screening results require completion of an Environmental Review Report

C. Certification:

I, the undersigned, certify that:

1. The information on this form and accompanying environmental review report (if any) is correct and complete.
2. Implementation of these activities will not go forward until specific approval is received from the C/AOTR.
3. All mitigation and monitoring measures specified in the Environmental Review Report will be implemented in their entirety, and that staff charged with this implementation will have the authority, capacity and knowledge for successful implementation.

(Signature) _____ (Date) _____

(Print name) _____ (Title) _____

Note: if screening results for any activity are "high risk" or "moderate or unknown risk," this form is not complete unless accompanied by an environmental review report.

BELOW THIS LINE FOR USAID USE ONLY

Notes:

1. For clearance to be granted, the activity MUST be within the scope of the activities for which use of the ERF is authorized in the governing IEE. **Review IEE before signature.** If activities are outside this scope, deny clearance and provide explanation in comments section. The Partner, C/AOTR, MEO and REA must then confer regarding next steps: activity re-design, an IEE or EA.
2. Clearing an ERF containing one or more findings that **significant adverse impacts are possible** indicates agreement with the analysis and findings. It does NOT authorize activities for which "significant adverse impacts are possible" to go forward. It DOES authorize other activities to go forward. The Partner, C/AOTR, MEO and REA must then confer regarding next steps: activity re-design, an IEE or EA.

Clearance record

C/AOTR <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
USAID/Ghana MEO <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
Regional Env. Advisor (REA) <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
Bureau Env. Officer (BEO)* <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)

C/AOTR, MEO and REA clearance is required. BEO clearance is required for all "high risk" screening results and for findings of "significant adverse impacts possible. The BEO may review "

Note: if clearance is denied, comments must be provided to applicant (use space below & attach sheets if necessary)

Note to individuals adapting the:

*** Supplemental Environmental Review Form for NRM Activities
for use on a particular program/activity:**

- This supplement is oriented around major resource/issue clusters and asks “leading questions” about the actual potential for unintended harmful impacts, especially of CBNRM/ ecotourism activities.
- Underlined & blue highlighted text MUST be modified to reflect project and mission name
- Questions should be modified to respond to the needs of individual projects. This is intended to be a “living” document subject to adaptation.



**Supplement to the Environmental Review
Form for Natural Resources Activities**
Additional Screening Criteria for
Natural Resource Activities under Feed the Future Program

Purpose

This is a supplement to the “Instructions for environmental review of XXX Program/Project activities.” It is to be used for natural *resources-based activities*, including:

- Community-Based Natural Resource Management (CBNRM)
- Ecotourism
- Natural resources-based enterprise development with micro- and small enterprises

This supplement provides additional questions to ascertain whether these proposed activities should be categorized as “very low risk:”

- If the answers to ALL the questions that follow are “NO,” then the proposed natural resource-based activity is considered “very low risk.”
- If the answer to ANY question is “YES,” the activity CANNOT be considered “very low risk.”

Screening criteria

Will the activities...	YES	NO
Natural Resources		
Accelerate erosion by water or wind?		
Reduce soil fertility and/or permeability?		
Alter existing stream flow, reduce seasonal availability of water resources?		
Potentially contaminate surface water and groundwater supplies?		
Involve the extraction of renewable natural resources?		
Lead to unsustainable use of renewable natural resources such as forest products?		
Involve the extraction of non-renewable natural resources?		
Restrict customary access to natural resources?		
Reduce local air quality through generating dust, burning of wastes or using fossil fuels and other materials in improperly ventilated areas?		
Affect dry-season grazing areas and/or lead to restricted access to a common resource?		
Lead to unsustainable or unnecessarily high water extraction and/or wasteful use?		
Ecosystems and Biodiversity		
Drain wetlands, or be sited on floodplains?		

Will the activities...	YES	NO
Harvest wetland plant materials or utilize sediments of bodies of water?		
Lead to the clearing of forestlands for agriculture, the over-harvesting of valuable forest species?		
Promote in-forest bee keeping?		
Lead to increased hunting, or the collection of animals or plant materials?		
Increase the risks to endangered or threatened species?		
Introduce new exotic species of plants or animals to the area?		
Lead to road construction or rehabilitation, or otherwise facilitate access to fragile areas (natural woodlands, wetlands, erosion-prone areas)?		
Cause disruption of wildlife migratory routes?		
Agricultural and Forestry Production		
Have an impact on existing or traditional agricultural production systems by reducing seed availability or reallocating land for other purposes?		
Lead to forest plantation harvesting without replanting, the burning of pastureland, or a reduction in fallow periods?		
Affect existing food storage capacities by reducing food inventories or encouraging the incidence of pests?		
Affect domestic livestock by reducing grazing areas, or creating conditions where livestock disease problems could be exacerbated?		
Involve the use of insecticides, herbicides and/or other pesticides?		
Community and Social Issues		
Have a negative impact on potable water supplies?		
Encourage domestic animal migration through natural areas?		
Change the existing land tenure system?		
Have a negative impact on culturally important sites in the community?		
Increase in-migration to the area?		
Create conditions that lead to a reduction in community health standards?		
Lead to the generation of non-biodegradable waste?		
Involve the relocation of the local community?		
Potentially cause or aggravate land-use conflicts?		

Annex 3.

FERTILIZER INFORMATION SHEET

http://www.encapafrica.org/egssaa/AFR_Fertilizer_Factsheet_Jun04.pdf .

USAID Bureau for Africa

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 are fundamental for sustainable agricultural and economic development.

Fertilizers and USAID Environmental Procedures (22 CFR 216) –

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, and an approval process to promote safer use and integrated pest management, such procedures do not apply to fertilizers (procurement procedures do apply to 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.

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.

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.

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.

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.

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, phosphorus functions as a growth limiting factor because it is usually present in very low concentrations. Algae only require small amounts of phosphorus to live. Excessive phosphorus 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. Increases in cadmium are 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 represented 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, micro arthropods 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.

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 agro forestry practices – in addition to soil conservation and production benefits, agro forestry 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 regions);

Use farm site manures and household wastes, with or without composting;

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

Annex 4.

Illustrative Options for Integrating NRM/CC/Water Considerations into Bilateral Mission Feed The Future Programs

The guidance in this document uses the Feed the Future (FtF) framework as the point of reference so that recommendations can be more easily considered by Mission staff responsible for FtF strategies and programs. Guidance is given to: 1) help maximize the potential for realizing food security and environmental co-benefits by proactively integrating natural resources management (NRM), climate change(CC) and water into proposed FtF activities, and 2) in recognition that FtF activities should be designed so that they “do no harm” to the natural, social and economic systems within which they are designed. This matrix is *not* meant to be an exhaustive list of everything that could come up related to NRM/Climate/Water in an FtF program, but rather a tool that allows the Missions to identify early opportunities or concerns that can then be further followed up with conversations, phone calls, and TDYs by NRM/Climate/Water technical staff from Washington or the regions. Some redundancy is built into the matrix in recognition that some proposed actions contribute to more than one of the FtF framework categories. Note: Additionally, the matrix will be revised periodically to adjust to new information.

FtF Results Framework Category and Definition	Specific Aspects of FtF Results Framework Addressed	Cross-Cutting Category Addressed	Options for Integrating NRM/CC/Water Considerations
Availability (Programs and policies to support agricultural sector growth)	Access to knowledge	Capacity building	Improve availability of and access to critical data for use by decision makers, local institutions, and farmers and build capacity to integrate such scientific information into decision-making processes (e.g. weather patterns, climate change impact predictions, local knowledge and observations of climate and seasonality, hydrological data, ground cover change, etc.)
	Strengthening of agricultural producer organizations		Strengthen the capacity of local institutions (e.g. producer groups, water user groups, fishing associations, civil society organizations) to manage natural resources, link to markets, and advocate for constituents.
			Strengthen the capacity of farmers and fishers through extension services and farmer/fisher field schools to provide training in soil fertility management, conservation agriculture, safe and proper use of inputs, integrated pest management, water efficiency measures, and sustainable fisheries management.
	Improved agricultural productivity	Vulnerable populations	Capitalize upon the required Regulation 216 process and documentation using the IEE and Environmental Assessment process to enhance stakeholder input, ensure that FtF interventions “do no harm”. Promote strategic decisions and use of best practices regarding land and water use in targeted geographies that enhance long-term agriculture productivity, maintain ecosystem functions, and minimize environmental damage: <ul style="list-style-type: none"> - Evaluate cultivars and agricultural value chains based on likely weather and climate trends to inform crop and variety selection. - Support policy reforms that convey land/fisheries/forest access and rights to local populations. - Assess various land use options for cropland, forests, rangeland, wetlands, hillsides, and wildlife habitat that maximize

FTF Results Framework Category and Definition	Specific Aspects of FTF Results Framework Addressed	Cross-Cutting Category Addressed	Options for Integrating NRM/CC/Water Considerations
	Enhanced sustainability & resilience of production		<p>food availability, economic productivity, and ecosystem productivity.</p> <ul style="list-style-type: none"> - Utilize best practices in forestry, agroforestry, wild and captive fisheries, and watershed management to reduce erosion, salinization, pollution, flooding, and vulnerability to drought. - Improve livestock grazing practices and utilize best management practices to enhance rangeland quality and ecosystem function. - Employ modern approaches to fisheries management to restore and enhance the productivity of wild/captive fisheries, maintain ecosystem goods (i.e. fish), and ecosystem services (i.e. coastal protection from storms and climate impacts). <p>Employ Conservation Agriculture (e.g. crop rotation, minimal soil disturbance, and permanent soil cover) and foster soil conservation practices (e.g. integrated soil fertility management, cover crops, mulching, anti-erosion barriers, storing efficient storage and use of manures) to improve soil productivity, reduce erosion, improve the efficiency of fertilizer and water inputs, increase drought resilience. Enhance adoption of these practices through policy reforms.</p> <p>Increase water quality and quantity through water conservation and efficiency measures and watershed rehabilitation and/or protection to sustain sufficient freshwater for agricultural production, domestic use and to sustain ecosystem functions.</p> <p>Consider the impact of irrigation schemes on water availability and sustainability outside the target area in watersheds, wetlands, and downstream areas to ensure that water for other human uses and native fisheries (critical to the economy and food security of local communities) are not affected. Conduct necessary water balance and cost/benefit analyses before investing.</p> <p>Utilize best management practices regarding pesticide and fertilizer use (e.g. integrated pest management, micro-dosing, precision application of fertilizers, safe storage, use & disposal of pesticides) to maximize agricultural productivity while minimizing negative environmental and human health impacts.</p>
Access (Programs and policies to increase access to markets and facilitate trade)	Strengthen property rights Strengthen agricultural producer organizations	Vulnerable populations	<p>Support policy reforms that convey land/fisheries/forest access and rights to local populations (secure tenure and access; transparent process for resolution of competing claims over resources).</p> <p>Promote a clean production approach which maximizes value chain efficiency, increases productivity per unit of raw materials used (e.g. water, energy), minimizes waste and emissions, and increases income.</p> <p>Ensure that construction of road/transportation corridors follow necessary environmental regulation and take into account climate change impacts to minimize potential for landslides, road collapses, and watershed degradation.</p> <p>Reduce market barriers to local and regional agricultural and natural product markets while improving quality and increasing diversity of food sources.</p>
Programs to reduce inequities) *Utilization (programs and policies to	Strengthened in-country capacity to manage risk Increased resilience of	Vulnerable populations	<p>Analyze proposed agricultural projects to ensure they are suited to current/projected climate, soil type, and surrounding land uses (e.g. cultivated land may be more lucrative as rangeland; rangeland might be more profitable if managed for wildlife; productivity in a watershed maybe higher if water is used for fisheries rather than irrigation):</p> <ul style="list-style-type: none"> - Conduct vulnerability assessments to identify the economic and social costs of climate change on food security and cost/benefit analyses for adaptation investments. - Promote adaptation measures (e.g. increase water availability through rainwater harvest; enhanced drought resilience through improved soil management and adoption of resilient crops/varieties).

FTF Results Framework Category and Definition	Specific Aspects of FTF Results Framework Addressed	Cross-Cutting Category Addressed	Options for Integrating NRM/CC/Water Considerations
	vulnerable communities and households Prevent under nutrition Improve diet quality and diversity	Capacity Building	<ul style="list-style-type: none"> - Develop methodologies to manage risk, such as crop insurance based on weather. - Analyze the impact of expansion of agriculture onto protected areas, forested, semi-forested, grassland or degraded lands and plan for environmental, social, and economic impact to those who may be displaced from those lands. - Analyze the impact of the expansion of aquaculture into fishing grounds or productive mangroves and wetlands; manage and mitigate impacts at both the fish farm/pond and larger landscape level; plan for environmental, social, and economic impacts to those who may be displaced from those waters or areas. <p>Encourage diversification of food sources that increase resilience of vulnerable populations and maintain ecosystem function:</p> <ul style="list-style-type: none"> - Encourage crop rotation and diversification to diversify incomes, improve soil fertility, and protect agricultural biodiversity. - Capitalize on integration of protein-rich, nitrogen-fixing crops for livestock and human consumption. - Analyze the use of wild animals, fish, fruits and plants as a primary, secondary, or failed harvest (hunger) source of food and put in place activities to ensure the protection and management of such resources. - Consider the potential negative impact of wildlife on crops and livestock and include plans to mitigate/prevent human-wildlife conflict (e.g. cultivate crops which are not eaten by wildlife, protect livestock from large carnivores). - Adopt sustainable management practices for fisheries, aquaculture, and livestock to enhance production while reducing degradation of rangeland and fisheries habitat. <p>Support sustainable management of forests, watersheds, rangeland, fisheries, and farmland that sustain ecosystem functions important to food security including water provision, soil fertility, natural pest protection, pollination and biodiversity.</p> <p>Assist in the development of national plans and strategies (e.g. an adaptation strategy) to address climate change and its nexus with agriculture and water resources management.</p> <p>Help develop resilient, sustainable, and appropriate national irrigation infrastructure taking into account climate vulnerability assessments, the availability of arable land, and the reliability of water resources to design and operate irrigation systems that maintain environmental services, preserve biodiversity, and support additional productive uses of water.</p>

* Stability and Utilization were combined because there was significant overlap in their NRM/CC/Water components