



## USAID DCHA<sup>1</sup> ENVIRONMENTAL THRESHOLD DECISION USAID/DCHA Grant Activities

**Sponsoring U.S. Organization:** ACDI/VOCA

**Program Name/Award Number:** Sustainable Nutrition and Agriculture Promotion (SNAP) Program AID-FFP-A-00-10-00014

**Host Country/Region:** Sierra Leone

**Life of Grant:** FY10-FY14

**Amount of Federal Grant:** \$46,333,271

<b><u>ENVIRONMENTAL ACTION RECOMMENDED:</u></b>	(Place X where applicable)
<b>Categorical Exclusion:</b> X	<b>Negative Determination w/ Conditions:</b> X
Positive Determination:	Deferral:
Bureau Environmental Threshold Decision (ETD):	Approved w/ conditions and no response or revisions are required

This Environmental Threshold Decision (ETD) is to inform ACDI/VOCA that the subject Initial Environmental Examination (IEE) has received **approval w/ conditions**, but no response or revisions are required, by the DCHA Bureau Environmental Officer (BEO).

Conditions for IEE deficiencies:

**Condition 1:** ACDI/VOCA will ensure all necessary protective measures are being used by fumigation service providers, following international standards and best practices achieved by ACDI/VOCA regionally (e.g., Title II program in Burkina Faso).

**Condition 2:** USAID environmental compliance procedure 22 CFR 216.2(c)(2) cites “programs of maternal or child feeding conducted under Title II PL 480” as a class of action subject to a Categorical Exclusion classification. However, while this distribution of Title II commodity does not have a *direct* environmental impact, this activity may likely have *indirect* impacts that should be considered by ACDI/VOCA.

*Detailed Description of Issues:*

**Issue 1. Ensure the safety in the use of fumigation pesticides.**



**Discussion:** Please note that USAID has now completed the development of the Programmatic Environmental Assessment (PEA) for the fumigation of food aid commodity for Title II programs. The PEA is undergoing USAID internal review. The Fumigation PEA will 1) bring the Title II program into overall compliance under USAID's environmental regulations (22 CFR 216); 2) identify potential adverse human health risk and environmental impacts; 3) develop mitigation measures and guidance that will lead to safer fumigation procedures, thus safeguarding food aid quality and human health while reducing environmental impact.

**Condition 1: ACDI/VOCA must ensure international standards and best practices are followed by fumigation service providers.**

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**Issue 2. Consider the environment during direct distribution.**

**Discussion:** Direct distribution can have indirect impacts on the environment. For example, in communities relying on biomass for energy, a Maternal and Child Health/Nutrition food security program assisting 70,000 beneficiaries has an indirect impact of using 30,000 MT of fuel wood per year to prepare commodity. This estimate is based upon a conservative fuel wood consumption rate of 1 kg of fuelwood per person per day.

**Condition 2: In response to both rising fuel costs and natural resource degradation, it is important that ACDI/VOCA considers the 1) role that food basket items (particularly their type and age) play in affecting fuel requirements and natural energy resource; 2) promotion of efficient fuel use (i.e., using lids, etc.) and/or fuel-efficient cooking devices, and 3) potential social impacts, such as competition, inequitable distribution, or conflict over scarce energy resources when doing direct distribution.**

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**BEO Updates:**

**GEMS Support Contract:** The BEO is pleased to announce the Global Environmental Management Support (GEMS) contract providing institutional capacity support to the BEO for DCHA, as well as for other Bureaus and Missions in USAID. GEMS, through funding by FFP will be utilized by FFP to 1) facilitate improved oversight and review of environmental management in FFP programs, 2) provide technical assistance and develop operational guidances in environmental budgeting and M&E, 3) develop a Programmatic Environmental Assessment for the use of the pesticide Aluminum Phosphide in the protection of food aid commodity, 4) offer environmental compliance training for Title II implementing partner field programs (e.g, Ethiopia, November 2012).



**Annual Reporting Requirements:** As part of the reporting requirements by the DCHA BEO, an Environmental Status Report (ESR) must be submitted for the FY13 activities with the Annual Pipeline Resource Estimate Proposal (PREP), and each year after for the preceding activity year. The ESR reports on the status of compliance for the IEE conditions. At a minimum, the partner must review their program IEE and determine if the activities and conditions within the IEE still reflect their program's status. A copy of the EMMP must also be included. The BEO expects to receive relevant reports on related environmental performance issues, (e.g., relevant environmental indicators, monitoring visits, trainings provided and budget allocated). Implementing partners are encouraged to maintain high standards for Section B2 of the ESR, i.e., the status of meeting the IEE mitigation conditions, to meet USAID requirements. Annual data populating the EMMP for reporting on the effectiveness of mitigation measures over the course of the implementation year can be supplemented by compressed photos, quantitative indicator data, and/or succinct narratives.

Note: The EMMP format has changed since ACDI/VOCA's last submission. The latest format can be found at: [http://transition.usaid.gov/our\\_work/humanitarian\\_assistance/ffp/prog2010.html](http://transition.usaid.gov/our_work/humanitarian_assistance/ffp/prog2010.html).

END: Environmental Threshold Decision (ETD) from the [DCHA Bureau Environmental Officer \(BEO\)](#)

*This Environmental Threshold Decision (ETD) is an official communication from the DCHA Bureau Environmental Officer (BEO) outlining the actions required of the FFP grantee to ensure the subject program's compliance with the environmental regulatory requirements under 22 CFR 216.*

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<sup>1</sup> The Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA), which houses the ASHA and FFP offices of USAID.

## **Annex G**

### **Initial Environmental Examination (IEE)**

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ANNEXES

1. HOST COUNTRY AND INTERVENTION AREA MAP

## LIST OF ACRONYMS

AED	Academy for Educational Development
BEO	Bureau Environmental Officer
CFR	Code of Federal Regulations
CO2	Carbon Dioxide
EA	Environmental Assessment
EHA	Essential Hygiene Action
ENA	Essential Nutrition Action
EO	Regional Environmental Officer
ERF	Environmental Review Form
FaaFB	Farming as a Family Business
FFS	Farmer Field School
GIK	Gifts in Kind
IEE	Initial Environmental Examination
IPM	Integrated Pest Management
ITSH	Internal Transport Shipping and Handling
M&E	Monitoring and Evaluation
MAFFS	Ministry of Agriculture, Forestry and Food Security
MCG	Mother Care Group
MEO	Mission Environmental officer
MT	Metric Ton
MYAP	Multi-Year Assistance Program
PHU	Peripheral Health and Sanitation
PERSUAP	Pesticide Evaluation Report and a Safer Use Action Plan
PPE	Personal Protective Equipment
SL EPA	Sierra Leone Environmental Protection Agency
SNAP	Sustainable Nutrition and Agriculture Production
SO	Strategic Objective
USAID	United States Agency for International Development
USAID/AFR	United States Agency for International Development/Africa
VSLA	Village Savings Loan Association
WHO	World Health Organization

**Annex G. Initial Environmental Examination (IEE)**

**TITLE II ENVIRONMENTAL COMPLIANCE FACESHEET**

**Title of Potential MYAP:** Sustainable Nutrition and Agriculture Promotion (SNAP) Program  
**Potential Awardee:** ACDI/VOCA  
**Host Country/Region:** Sierra Leone  
**Funding Period:** FY 2010 – FY 2014  
**Resource Levels:** Commodities (dollar equivalent, incl. monetization): \$ 46,691,695  
Total metric tonnage request: MT 64,350  
202(e) grant: \$7,817,996  
ITSH: \$ 5,490,309

**Statement Prepared By:** Jeremy Davis, ACDI/VOCA Senior Environmental Advisor

**IEE Amendment?** No **Date of Original IEE:** December 30, 2009

**Environmental Media and/or Human Health Potentially Impacted:**  
air\_\_\_ water X land X biodiversity X human health X social\_\_\_ none\_\_\_

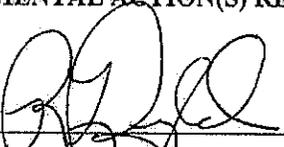
**Environmental Action(s) Recommended:**

- X **1. Request for Categorical Exclusion(s):** activities have no adverse effect (i.e., training, technical assistance; not to include any infrastructure rehabilitation.)
- X **2. Initial Environmental Examination:**
  - X **Negative Determination:** no significant adverse effects expected regarding the proposed activities, which are well defined over life of the MYAP. IEE prepared:
    - \_\_\_X without conditions (no special mitigation measures needed; normal good practices and engineering will be used).
    - \_\_\_ with conditions (special mitigation measures specified to prevent unintended impact)
  - \_\_\_ **Negative Determination:** no significant adverse effects expected, but multiple sites and sub-activities are involved that are not yet fully defined or designed. "Umbrella IEE" prepared.
    - \_\_\_ conditions agreed to regarding an appropriate process of environmental capacity building and screening, mitigation and monitoring.
  - \_\_\_ **Positive Determination:** IEE confirms potential for significant adverse effect of one or more activities. Appropriate environmental review needed/conducted.
    - \_\_\_ Environmental Assessment (EA) to be/being/has been conducted. Note that the activities affected cannot go forward until the EA is approved.
  - \_\_\_ **Deferral:** one or more elements not yet sufficiently defined to perform environmental analysis; activities will not be implemented until amended IEE is approved.

**USAID APPROVAL OF ENVIRONMENTAL ACTION(S) RECOMMENDED:**

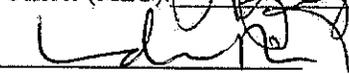
Clearance:

Mission Environmental Officer (MEO):



Date: 7/1/10

Food for Peace Officer:



Date: 6-9-10

Concurrence:

Bureau Environmental Officer (BHR):

Date: \_\_\_\_\_

Approved: \_\_\_\_\_

Disapproved: \_\_\_\_\_

Optional Clearances:

Regional Environmental Officer (REO)

\_\_\_\_\_

Date: \_\_\_\_\_

**USAID APPROVAL OF ENVIRONMENTAL ACTION(S) RECOMMENDED:**

Clearance:

Mission Director: \_\_\_\_\_ Date: \_\_\_\_\_

Food For Peace Director: *[Signature]* Date: 6/11/10  
Brooke Isham

Concurrence:

Bureau Environmental Officer : \_\_\_\_\_ Date: \_\_\_\_\_  
Erika Clesceri

Approved:                   X, Delays in clearance                  

Disapproved: \_\_\_\_\_

**SUMMARY OF FINDINGS**

The overall objective of the Sustainable Nutrition and Agricultural Promotion (SNAP) Program is to reduce food insecurity and increase resiliency among vulnerable rural populations in Koinadugu, Bombali, Kailahun and Tonkolili districts of Sierra Leone, with a focus on addressing malnutrition and its causes. The program has two Strategic Objectives (SOs):

- (1) Reduce chronic malnutrition among children under five;
- (2) Enhance livelihood opportunities.

ACDI/VOCA anticipates that the proposed SNAP Program activities will have no significant adverse environmental effects provided that the mitigation and monitoring measures proposed in this IEE are satisfactorily implemented. All program activities are recommended as either categorical exclusions or as negative determinations. No activities received a recommendation for a positive determination or for deferral.

<b>Categorical Exclusion is Recommended for</b>	
All health and nutrition activities including facilitating access to pre- and post-natal services, formative research and planning, organizing and training, monitoring and referral of malnourished children, community capacity building, food rationing and monitoring its effects	216.2(c)(2)(i) 216.2(c)(2)(viii)
Training provided to farmer groups, input suppliers, and producers / marketing associations. Including Farmer Field Schools (FFS), Farming as a Family Business (FaaFB) and postharvest handling, storage, processing and marketing	216.2(c)(2)(i)
Organizing and training youth groups including literacy/numeracy, vocational skills, entrepreneurship skills, basic business skills	216.2(c)(2)(i)
Provide institutional strengthening, training, and grants to existing and newly-created Village Savings and Loans Associations (VSLAs)	216.2(c)(2)(i)
<b>Negative Determination is Recommended for</b>	
Facilitate Gifts-In-Kind from medical organizations in the form of multi-vitamins, antibiotics, anti-malarial drugs, and other needed medications and supplies	216.3(a)(2)(iii)
Sanitation activities such as establish hand-washing stations, tippy-taps, and covered water containers in households and Peripheral Health Units	216.3(a)(2)(iii)
Fumigation of commodities warehoused for distribution	216.3(a)(2)(iii)
Promote crop diversification. Improve yields, storage, processing and sale of diversified crops. Purchase of seeds, and tools.	216.3(a)(2)(iii)
Purchase and establish mobile rice mills, cassava graters and fruit/vegetable driers in selected regional market centers	216.3(a)(2)(iii)
Implement "Labor for Learning" program, where youth provide labor for rehabilitation of storage facilities and healthcare and infrastructure or for maintenance of rural road infrastructure.	216.3(a)(2)(iii)

**USAID APPROVAL OF ENVIRONMENTAL ACTION(S) RECOMMENDED:**

Clearance:

Mission Environmental Officer (MEO): \_\_\_\_\_ Date: \_\_\_\_\_

Food for Peace Officer: \_\_\_\_\_ Date: \_\_\_\_\_

Concurrence:

Bureau Environmental Officer (BEO): \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_

Disapproved: \_\_\_\_\_

Optional Clearances:

Regional Environmental Officer (REO) \_\_\_\_\_

Date: \_\_\_\_\_

## Annex G. Initial Environmental Examination

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### BACKGROUND

Sierra Leone has emerged from ten years of civil war with a majority of the population being food insecure. This is a result of high levels of poverty, unemployment and malnutrition along with low crop yields and destroyed infrastructure. As a result, 70 percent of Sierra Leone's population is living in poverty, 26 percent of whom live in extreme poverty.<sup>1</sup> Over one third of children under five suffer from chronic malnutrition.

Food insecurity in Sierra Leone is influenced by improper children feeding practices, low dietary diversity, poor access to health services, and hygiene and sanitation practices that facilitate disease transmission. Food availability is constrained by lack of access to key inputs including seeds, fertilizer, tools, labor and significant post-harvest losses due to pest infestations and lack of storage facilities and processing technologies. Limited household income, access to markets and market information, access to savings and credit and poor infrastructure all hinder access to food and are important elements of food security in Sierra Leone.

### ACTIVITY DESCRIPTION

The overall objective of the SNAP Program is to reduce food insecurity and increase resiliency among vulnerable rural with a focus on addressing malnutrition and its causes.

In Koinadugu, Bombali, Kailahun and Tonkolili districts of Sierra Leone, SNAP will implement a holistic, multi-pronged approach addressing the root causes of malnutrition and food insecurity with interventions targeting health care services delivery, household health, hygiene and nutrition practices, agricultural production, agro-enterprise development, skills building for employment, and access to savings and credit.

SNAP has two Strategic Objectives (SOs) and will address five crosscutting themes:

**SO 1. Reduce chronic malnutrition among children under five**

**SO 2. Enhance livelihood opportunities**

**Crosscutting themes:** Gender, Youth, Environment, Resilience, and Governance.

**SO 1: REDUCE CHRONIC MALNUTRITION AMONG CHILDREN UNDER FIVE**

**IR 1.1: Improved access to quality nutrition and health services for women and children aged 0-59 months**

**IR 1.2: Improved health and nutrition practices at the household level**

**IR 1.3: Increased nutritional diversity among women and children**

*Increasing service uptake.* The program will conduct formative research to develop a plan of action for increasing uptake of pre- and antenatal services. Since many clinics lack most

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<sup>1</sup> Woldt, Monica, Marie Cadrin and Abdulai Jalloh. USAID Office of Food for Peace Sierra Leone Food Security Country Framework FY 2010 – FY 2014. Washington, D.C.: Food and Nutrition Technical Assistance II Project (FANTA-2), Academy for Educational Development (AED), 2009.

basic services the program will work with clinic personnel and community members to rehabilitate clinic latrines and provide access to hand washing stations.

***Building capacity of health professionals and community health workers.*** The program will assess obstacles to quality service provision by Peripheral Health Units (PHUs) and design training curriculum for the Ministry of Health and Sanitation (MOHS) staff and Community Health Workers. The program will provide Gifts in Kind (GIK) in the form of antibiotics, anti-malaria drugs and other needed medications and supplies.

***Monitoring growth and promoting detection and referral of malnourished children.*** The program will encourage regular growth monitoring as a tool to protect children's health and will develop community-based capacity to detect and refer malnourished children.

***Implementing the Mother Care Group (MCG) approach.*** The program will conduct community mapping to identify clusters of households with pregnant women. Each cluster will choose a Lead Mother (LM). LMs will be trained to counsel and support households in program area on issues of health and nutrition.

***Promoting Essential Nutrition and Hygiene Actions (ENA and EHA).*** The program will promote ENAs, which comprise a set of nutritional interventions to control and reduce infant and child mortality. Based on observations, the program will also promote EHAs and provide training and messages on appropriate hygiene behavior.

***Building household capacity for prevention and management of maternal and childhood illnesses.*** The program will conduct formative research and a participatory mapping exercise of existing resources that can be accessed by households to prevent or manage illness. Based on mapping and results of the research the program will develop training and messaging.

***Providing Food for Peace rations.*** Participating mother-child units will be supplied with food rations from the second trimester of her pregnancy through the child's 2<sup>nd</sup> birthday.

## SO2: ENHANCE LIVELIHOOD OPPORTUNITIES

**IR 2.1: Increased agricultural production and crop diversification through improved inputs and agricultural practices**

**IR 2.2: Enhanced integration into agricultural value chains**

**IR 2.3: Increased human capacity and community assets**

**IR 2.4: Increased access to financial resources**

***Improve agricultural practices.*** SNAP will introduce Farmer Field Schools (FFS), a widely practiced training model that integrates farmers into each step of the technology and knowledge transfer process of adopting good agricultural practices. The FFS curriculum will be developed in the initial stages of the program. Through the training the farmers come to understand and adopt improved sustainable agricultural practices, such as how to optimize seed variety selection, improve weeding, optimal spacing, improved water management and enhanced plant nutrition. The program will train Training Facilitators to provide training at FFSs. Principle staple crops rice and cassava will figure prominently in

the FFS training program, as well as other diverse and complementary crops. There is also a nutrition module that focuses on proper consumption of diverse foods.

**Improve inputs.** The program will provide or leverage seeds and tools for the participants of the FFSs. The program will encourage using environmentally sustainable inputs such as organic manure and natural pesticides. An analysis of input supply market will be conducted to determine constraints to the development of rural input suppliers. Starter packages of seeds and tools will be provided to farmers purchased from local input suppliers. Direct technical assistance will be provided to input suppliers to support improvements and expansion of their services. Interested FFS groups will be trained in setting up seed and tuber cuttings multiplication sites. Through FFS, farmers will be trained how to harvest, transport, thresh, dry and store the seed and apply fertilizer.

**Provide Farming-as-a-Family Business (FaaFB) and Youth Agribusiness and Entrepreneurship training.** To overcome weaknesses in agricultural value chains, two major training approaches will be used. FaaFB will be delivered through FFSs and will equip farmers with basic business and planning skills. Literate youth will be trained to identify and start agriculturally oriented micro-enterprises and will be provided with basic business skills.

**Improve storage.** SNAP will focus on improving storage facilities at the household, community and regional market levels. Program interventions may include construction or rehabilitation of storage facilities and training people to start storage operation as a micro-enterprise.

**Improve post-harvest processing.** Rice and cassava are principle crops targeted for processing with some consideration given to drying of fruits/vegetables. The program will establish a stationary rice mill and a cassava grating machine in each chiefdom regional market as well as mobile rice mills to more remote areas and will train qualified youth or farmer groups to operate them as sustainable business. The processing machinery will be available as an in-kind grant to groups that completed the necessary training and who have prepared a viable business plan. The groups will receive training on operating and promoting food processing business. Training on the benefits of food processing will be included in the FFS curriculum. Because dried fruit and vegetables are not commonly consumed, only limited activity will be undertaken at the initial stage. The program will provide a small number of experimental drying machines as an in-kind grant to youth or farmers or women's groups.

**Improve marketing.** The program will improve marketing of agricultural products by identifying bottlenecks in current marketing arrangements, providing training to improve knowledge and skills and improving access to information.

**Develop basic human capacity.** SNAP will build basic skills and knowledge of youth to engage them in productive non-farm employment and income generation. The program will pilot 'Labor for Learning' exchange under which youth will receive literacy and skills training in exchange for unskilled labor need to repair or build infrastructure or for agricultural work needed by female headed households in nearby villages. Communities

will identify set of priorities for infrastructural renewal. The assets likely to be targeted by communities for improvement include regional market centers, building and repair of storage facilities, sheds for drying and processing, latrines and sanitation and hygiene related facilities, refurbishment of health facilities refurbishment and minor roads repairs. Vocational training provided to youth will include learning skills such as construction of homes and latrines, agribusiness services including input supply, masonry and roads repair.

***Increase access to financial resources.*** The program will work with existing Village Savings and Loan Associations (VSLA) as well as establish new VSLAs. Assistance provided to the associations will include encouraging savings through matching grants and institutional strengthening. Training in literacy, numeracy, basic financial and business management skills will be offered to groups that may be ready to invest in promising business opportunities.

### **PURPOSE AND SCOPE OF THE IEE**

Compliance with 22 CFR 216 (USAID Regulation 216) is required of all Title II multi-year development activities. The purpose of this IEE, in accordance with USAID Reg 216, is to provide the first review of the reasonably foreseeable effects on the environment of the proposed development interventions and activities for the 2010-2014 Sierra Leone SNAP Program. This is the first IEE prepared for the activities described in Section 1.2. The IEE examines potential environmental impacts of each program intervention and activity and recommends Threshold Decisions, including mitigation and monitoring measures when required.

## **HOST COUNTRY AND ENVIRONMENTAL INFORMATION**

### **BASELINE ENVIRONMENTAL INFORMATION**

Sierra Leone is situated on the West Coast of Africa. It is bounded on the north and north east by Guinea, on the east and southeast by Liberia and on the west and south by the Atlantic Ocean with a coastline stretching 560 km. The country has four distinct geographical regions. Eastern Sierra Leone consists of plateaus interspersed with high mountains, including Mount Bintumani (1,948 m), the highest point in the country. The centre of the country is a region of lowland plains, containing forests, bush and farmland. The south is flat rainforest and farmland. Several rivers, including the Great Scarcies (which makes up a section of the boundary with Guinea) and the Mano (which forms part of the border with Liberia) flow through the country from north to south to the Atlantic.

The country experiences a hot, humid climate with wet and dry seasons. The mean annual temperature is 26°C ranging from a minimum of 22°C in August to a maximum of 35°C in February. Mean annual rainfall ranges from a high of approximately 5,000 mm in the Freetown peninsular to 1800 mm in the north east. The dry season is from approximately November to April, but varies to a small degree in different regions of the country.

Water pollution is a significant problem in Sierra Leone due to mining by-products and sewage. Population pressure, leading to an intensification of agriculture, has resulted in soil depletion, while lumbering, cattle grazing, and slash-and-burn farming have caused

massive deforestation of primary forest. Agricultural lands are gradually replacing forestlands due to the need for food by a rapidly increasing population. Hunting for food has reduced the stock of wild mammals. In 2001, nine of Sierra Leone's mammal species and 12 bird species were endangered. Eight of the nation's plant species were also threatened.<sup>2</sup>

Approximately 80 percent of the total land area in Sierra Leone is arable (5.4 million out of the 7.4 million hectares). The uplands account for about 4.3 million hectares of land area (80 percent of total arable land), while swamps account for 1.06 million hectares (20 percent).<sup>3</sup> Upland agricultural areas make up the vast majority of arable land in Sierra Leone and are extremely important for rural farmers, but declining fallow periods are contributing to low soil fertility and poor productivity, placing further strain on smallholder farmers. In most areas the dominant soils are of the weathered and leached lateritic type. Red to yellow-brown in color, they contain oxides of iron and aluminum and are acid. Kaolin (china) clays are important in some areas; when cultivated, they are light, readily workable, and free-draining. Swamp soils occur over large areas on the coastal plains where drainage is a problem.

As in most other countries in West Africa, loss of biodiversity in Sierra Leone has been a major concern. The greatest threat to the native flora and fauna is environmental degradation through uncontrolled forest clearance and agricultural expansion. Most of the forested land in the country now is in forest reserves. However these have been, and continue to be, used for timber production. Outamba Kilimi National Park, Lake Sonfon National Park, Outamba Kilimi National Park, the Gola Forest Reserve and the Mamunta Mayosso Wildlife Sanctuary are located or extent to the program targeted districts.

### **LOCATIONS AFFECTED**

Rural poverty rates in the targeted chiefdoms of Bombali, Koinadugu, Kailahun and Tonkolili are worse than country average of 79 percent. The MYAP will work in a total of 18 chiefdoms in four districts. These 18 chiefdoms are the most malnourished in their respective districts with the highest rates of poverty overlaid.

- Bombali is a district with 14 chiefdoms in the Northern Province. The two largest and most dominant ethnic groups in the district are the Temne and Limba. Main economic activities in the district include small scale mining, production of agricultural food crops and small ruminants. SNAP will work in three chiefdoms in Bombali.
- Koinadugu is a district in the Northern Province. It is by far the largest district in the country in geographical area, but is one of the least most populous districts by population. The district is predominantly Muslim and the largest ethnic group is the Temne. Diamond mining is a major economic activity in the district, as well as agricultural production of rice, mango, cacao, and coconut. SNAP will work in seven chiefdoms in Koinadugu.

<sup>2</sup> <http://www.nationsencyclopedia.com/Africa/Sierra-LeoneENVIRONMENT.html#ixzz0XgIL13bB>

<sup>3</sup> Sierra Leone Agricultural and Food Situation 2004/2005- presented at the Regional Conference on Agricultural and Food Situation in the Sahel and West Africa - Bamako, Mali (March 14 -18, 2005)

- Kailahun is a district in the Eastern Province. The Mende make up 60 percent of the population. Kailahun has a mixed economy, made up of small-scale mining as well as agricultural production of coffee, cacao and rice. SNAP will work in five chiefdoms in Kailahun.
- Tonkolili is a district in the Northern Province and borders Bombali District to the northwest. It is comprised of eleven chiefdoms. Smallholders grow mostly rice, cassava and potatoes. SNAP will work in three chiefdoms in Tonkolili.

### **HOST COUNTRY NATIONAL ENVIRONMENTAL POLICIES AND PROCEDURES**

In Sierra Leone, the Environment Protection Division within the Ministry of Lands, Country Planning, and the Environment (MLCPE) has the responsibility for coordinating and monitoring the implementation of all national environmental policies, programs and projects. The Environmental Protection Agency Act of 2008 establishes the Sierra Leone Environmental Protection Agency (SL EPA) and also establishes procedures for the preparation of Environmental Impact Assessments and the issuance of environmental licenses. The governing body of the SL EPA is a Board of Directors consisting of representatives from nine SL ministries including Ministry of the Environment, Ministry of Local Government, Ministry of Mineral Resources, Ministry of Agriculture and Forestry and Ministry of Health. The SL EPA is headed by an Executive Director who reports to the Board.

The Ministry of Agriculture, Forestry and Food Security (MAFFS) is charged with achieving sustainable food security and reducing poverty through agricultural intensification, diversification and the efficient management of the natural resource base. The MAFFS has the mandate to support the production of all crops and livestock in an environmentally sustainable manner and to ensure the achievement of Food Security. More specifically, the functions of The Land and Water Development Division within the MAFFS include improving the conservation and effective use of land and water resources and providing agro-climatic data for sustained agricultural production; carrying out land evaluation for classification of inland valley swamps and other ecologies for suitability in irrigated rice production; developing a national irrigation and drainage program to reduce the dependency on rain fed agriculture and collecting data on surface and groundwater resources.

The First Schedule of the Sierra Leone Environmental Protection Agency Act of 2008 requires an environmental license for programs whose activities involve or include:

- (a) substantial changes in renewable resource use (e.g. conversion of land to agricultural production, forestry or to pasture land, rural development, timber production);
- (b) substantial changes in farming and fisheries practices (e.g. introduction of new crops, large scale mechanization or use of chemicals in agriculture);
- (c) exploitation of hydraulic resources (e.g. dams, drainage and irrigation projects, water basin development, water supply);
- (d) infrastructure (e.g. roads, bridges, airports, harbors, transmission lines, pipelines, railways);

Additional activities that may also require an environmental license are described in the First Schedule of the 2008 Act.

Some of the activities proposed under the Sierra Leone Title II MYAP could fall under the above categories and therefore, the program may require an environmental license. SNAP Program staff will consult with SL EPA as part of startup activities to determine if a license will be required. As part of the licensing process, project implementers must submit an application to SL EPA that includes a detailed program description. The Agency then determines if a formal environmental impact assessment (EIA) is required, taking into account a series of factors. These factors, as well as, the content and approval process for EIAs is described in the 2008 Act.

### **EVALUATION OF PROPOSED ACTIVITY AND/OR PROGRAM ISSUES WITH RESPECT TO ENVIRONMENTAL IMPACT POTENTIAL**

In general, ACIDI/VOCA anticipates that the proposed SNAP Program activities will present no significant adverse environmental effects provided that the mitigation and monitoring measures proposed in this IEE are satisfactorily implemented as described. An evaluation of the more relevant potential environmental impacts and their proposed mitigation measures is provided below. Identified potential negative environmental impacts, as well as proposed mitigation measures, are presented in **Table 1**.

#### **IMPROPER HANDLING AND DISPOSAL OF HEALTHCARE WASTE**

The program will significantly increase the number of women accessing healthcare and will facilitate Gifts-in-Kind from other medical organizations in the form of antibiotics, anti-malarial drugs, and other needed medications and supplies. Additionally, SNAP plans to rehabilitate latrines within health facilities. These three activities will likely create an increase in demand for health and medical services in peripheral health units and, subsequently, may lead to increased generation of healthcare and medical waste. Currently, little or no management of healthcare wastes occurs in small-scale facilities in Africa. Training and supplies are minimal. Common practice is to dispose of healthcare waste by burying it, without treatment, in an unlined pit.<sup>4</sup>

The primary indirect potential health impact is the transmission of disease through contact with infectious waste, such as needles, that is not properly treated prior to disposal. The contamination of local water supplies from untreated healthcare waste can create and extend epidemics. To mitigate potential impacts, SNAP will assess existing healthcare waste management system at each facility affected by program activities. If systems are found to be deficient, program staff will work with the facility to design and implement corrective measures for handling and disposal in accordance with USAID and WHO guidelines.

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<sup>4</sup> *Environmental Guidelines for Small-Scale Activities in Africa. Part II, Chapter 8 –Healthcare waste: Generation, handling, treatment and disposal.* USAID Africa Bureau. January 2009

### **CREATION OF INSECT VECTOR BREEDING AREAS (HUMAN HEALTH RISKS FROM DISEASE SPREAD)**

As part of efforts to improve household health and nutrition behaviors, the program will be helping mothers to establish hand-washing stations, tippy-taps, and covered water containers in their homes. Lead Mothers trained by the program will also work with PHU (Peripheral Health Unit) staff and Community Health Workers to establish the same sanitation measures in PHUs.

While providing facilities for hand washing with soap is an overwhelmingly positive impact with proven health benefits, residual grey-water generated from the hand washing activity can create small areas of stagnant water if not properly disposed of. Stagnant water in turn creates convenient breeding grounds for insect vectors, such as mosquitoes, that can transmit disease. To avoid this potential impact, the SNAP Program will train beneficiaries on the importance of preventing the creation of areas of stagnant water, and will show users how to construct simple drains or soakaways as an integral part of the hand-washing facilities.

### **HEALTH RISKS RESULTING FROM FUMIGATION OF WAREHOUSED COMMODITIES**

Distribution of monthly rations to malnourished children and mothers will require warehousing commodities. Upon arrival or at the regional warehouses some commodities to be distributed may be deemed to require fumigation by application of a carrier gas. Required fumigation will be based on the type of commodity and the type of infestation. Fumigation requires use of hazardous chemicals and carries potential risks to human health, worker exposure during fumigation, accumulation of chemical residues in the ecosystems and air pollution.

The project will enforce the legal requirement that the operator, carrying out the fumigation operation, holds official certification to perform the fumigation, uses fumigants according to the directions on the label, and follows all listed directions, precautions, and restrictions. Fumigants will be used only for commodities and sites specified by the label. When handling fumigant protective equipment including gloves and masks will always be used, warning signs indicating presence of poison gas will be placed. No access will be allowed until the storage space has been ventilated and gas levels drop to safe levels. To minimize the need for fumigation all warehouses will be kept clean and food stacks on pallets will be kept at least 3.5 feet away from the walls. Stacks will be checked on a weekly basis and action taken immediately if any infestation is detected. Warehouse staff will be trained to minimize pest infestations, and stock levels will be minimized such that if infestation occurs, then the magnitude of the problem is reduced.

### **AIR POLLUTION, DEFORESTATION, DECREASED SOIL FERTILITY AND EROSION FROM SLASH-AND-BURN LAND CLEARING**

Detrimental environmental impacts as a result of intensification of agricultural production are possible if farmers' adoption of technologies introduced by the program is poor or inappropriate. Significant damage from agricultural production in Sierra Leone results from farmers' practice of slash-and-burn, where the land is cleared by burning ground cover. Slash-and-burn, a common practice within the planned program area, is faster and less labor intensive than other clearing methods and is thus the preferred method of smallholder

farmers. In the short-term, slash-and-burn methods pollute air with smoke and release CO<sub>2</sub> and other greenhouse gases into the atmosphere. Although ash resulting from burning enriches the soil in the short term, burned areas rapidly lose the initial fertility and the deforested area becomes increasingly fragile, thus contributing to longer-term environmental impacts associated with soil erosion and the need to clear new land for subsistence.

The program's agricultural extension team will work through FFSs to increase agricultural productivity thus minimizing the need for clearing new land. Slash-and-burn methods will be strongly discouraged through promoting awareness of detrimental effects of slash-and-burn and providing alternatives. Methods such as agro-forestry and intercropping will be promoted and their use will be facilitated through access to improved knowledge and technologies. Moreover, the teaching of Good Agricultural Practices focuses on transferring knowledge about environmentally sustainable agricultural practices.

#### **DEPLETION OF SOILS, WATER POLLUTION FROM FERTILIZERS AND EROSION OF TOPSOIL FROM AGRICULTURAL ACTIVITIES**

The SNAP Program will focus on improving the yields, and storage, processing and sale of micronutrient rich diversified crops, which will both generate income and stabilize household food security. However, agricultural production inevitably uses natural resources on which it depends.

Intensifying agricultural production may lead to increased depletion and erosion of soil, and surface and ground water pollution as a result of use of fertilizers or pesticides if adoption of environmentally sustainable technologies introduced by the program is inappropriate.

Currently, agro-chemical use by Sierra Leone smallholders is limited particularly due to high cost and lack of access. Improper use of fertilizers can result in nutrient pollution from the release of excess nutrients into the local watershed. While organic fertilizers are more environmentally friendly, runoffs from organic fertilizers can contribute to release of effluents into local water sources.

SNAP will address these concerns through increasing farmers' knowledge about sustainable agricultural practices and encourage use of soil conservation practices including crop rotation and intercropping with nutrient-enriching species such as nitrogen-fixing beans and legumes. Where hillside cultivation predominates, soil erosion will be minimized through the construction and use of appropriate conservation practices such as bund contours and the use of progressive terraces, alley cropping, plowing contour lines, planting a mix of trees to increase soil retention, (hedgerows, vetiver, etc.). Additionally, no program assistance will be provided for plots with slopes exceeding 47 percent.

#### **PESTICIDE USE**

The program will promote Integrated Pest Management (IPM) that emphasized natural pest control and therefore does not anticipate providing assistance for either the procurement or use of pesticides. However, if the program team determines during implementation that demonstrations or assistance in the procurement or use of any pesticide is necessary, the

pesticide procedures outlined in USAID Environmental Procedures 22 CFR §216.3(b)(i) through (iv) will be followed, including preparation of a Pesticide Evaluation Report and a Safer Use Action Plan (PERSUAP) and an IEE amendment will be prepared and submitted to USAID Sierra Leone.

#### **BIODIVERSITY LOSS AND DEFORESTATION AS RESULT OF AGRICULTURAL INTENSIFICATION, DEGRADATION OF PROTECTED AND SENSITIVE HABITATS**

The program will seek to increase agricultural production through improved inputs, agricultural practices and technology. This will include the provision of seeds, tools and technologies supporting storage, processing and marketing of diversified crops. While no significant biodiversity loss is anticipated, these activities may contribute to land clearing. To mitigate this impact, the program will seek to limit land clearing by beneficiaries to currently-farmed or previously-farmed fallow land and areas already designated for agricultural use. The program will particularly discourage clearing or destroying any forest habitat, primary or secondary for program-related activities.

Program activities resulting in increased productivity, minimized post-harvest losses, and improved utilization through improved storage, processing and marketing will help avoid unnecessary agricultural expansion and resulting deforestation and loss of natural habitat. The program will strongly discourage beneficiaries from clearing land or establishing crops in protected areas using program assistance as incentives for compliance.

#### **AIR POLLUTION FROM BURNING OF RICE HUSKS AND OTHER ORGANIC WASTE AND WATER POLLUTION FROM FOOD PROCESSING ACTIVITIES**

The SNAP Program will purchase and establish stationary rice mills, mobile rice mills, cassava graters and fruit driers in selected regional market centers as part of efforts to improve post harvest practices in target chiefdoms. While the use and operation of these items will create significant income-generating opportunities for beneficiaries, rice milling process can create airborne pollution and the disposal of rice husks and other organic by-products by burning will release CO<sub>2</sub> and other greenhouse gases into the atmosphere. Water pollution may result from improper disposal of organic wastes.

While the overall anticipated impact on the environment from current level of food processing activities is relatively insignificant, a number of mitigation measures will be implemented. These measures will include training equipment operators in proper cleaning and maintenance of equipment and use of protective clothing. Other measures will include proper treatment of solid waste, such as composting waste material for use as mulch/fertilizer and reduction of wastewater to avoid creation of stagnant pools and point source pollution.

The program will also evaluate potential for production of rice husk charcoal briquettes as a measure that may set a standard for potential future replication by farmer groups and entrepreneurs. Production of rice husk charcoal briquettes can have the additional benefit of providing an alternate source of charcoal for cooking while reducing demand for charcoal produced from local forests and providing an environmentally beneficial micro-enterprising opportunity. Transforming agricultural waste into charcoal, biochar is a promising alternative that is beginning to garner attention as a way to sequester carbon

(biosequestration) and reduce greenhouse gas emissions on a large scale. In addition to its potential for carbon sequestration, biochar has numerous possible co-benefits when added to soil. It can prevent the leaching of nutrients out of the soil, partly because it absorbs and immobilizes large amounts of nutrients.

#### ENVIRONMENTAL IMPACTS FROM MICRO-ENTERPRISES

The program will provide assistance to youth residing in targeted chiefdoms in identifying and starting micro-enterprises. While micro-enterprises such as those contemplated by the program typically do not present significant environmental impacts in comparison to large enterprises, in some cases they may cause environmental difficulties which require solutions. For example, a micro-enterprise that builds poorly-designed or poorly-sited latrines can cause increased human health risks and contaminate groundwater. Small enterprises can also be more pollution-intensive than larger enterprises (per unit of production)<sup>5</sup>. When small enterprises are numerous and concentrated in a particular area, they can cause cumulative environmental impacts of significant proportions.

Since the enterprises that will receive assistance under SNAP have yet to be selected, the specific environmental impacts from their activities cannot yet be evaluated. For microenterprises where the program provides assistance beyond initial organization and training (such as co-financing of equipment, for example), the Environmental Review Form (ERF) in Attachment 1 will be used to screen proposals to ensure they cause no significant adverse environmental impacts.

After completion of environmental screening, technical staff will assist beneficiaries in developing an Environmental Management Plan with a focus on “cleaner production”<sup>6</sup> (where applicable) and a Health and Safety Plan (again, where applicable) for each microenterprise receiving program assistance. After start-up, the program will provide limited technical assistance, monitoring and evaluation in the implementation of environmental mitigation and health and safety measures.

#### IMPACTS FROM CONSTRUCTION OR REHABILITATION OF SMALL-SCALE INFRASTRUCTURE AND ROADS

The program will pilot a ‘Labor for Learning’ exchange – where youth receive the vocational training in exchange for providing labor needed for community infrastructure rehabilitation programs such as road maintenance, storage or health facilities.

#### **Small-scale infrastructure (storage, health facilities and other)**

Potential environmental impacts from rehabilitation or improvements to small-scale infrastructure are relatively minor and include impacts from dust, noise pollution and improper disposal of construction debris, as well as possible on-the-job accidents and injuries. Mitigation measures include following construction best practices, training on how

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<sup>5</sup> *Environmental Guidelines for Small-Scale Activities in Africa. Part III, Micro- and Small Enterprises.* USAID Africa Bureau. August 2006.

<sup>6</sup> Cleaner Production is an approach that examines and improves production processes to reduce pollution problems before they happen, as opposed to pollution control which deals with pollution after it is created.

and where to properly dispose of construction debris, training on how to recognize situations that require professional expertise such as major structural renovations or improvements to multi-story structures; and finally training in appropriate health and safety practices for construction and use of Personal Protective Equipment (PPE).

### **Roads**

Poorly planned and executed road improvement programs can lead to significant and long-lasting environmental damage including soil erosion, degradation of water quality, altered surface water flows and opening up access to new areas that are subsequently cleared for agriculture. For this reason, the program will limit vocational training to road maintenance activities that can be accomplished using manual labor and hand tools. These include repairing potholes, minor surface reshaping to facilitate drainage and improve traffic flow, clearing/maintaining roadside ditches and culverts, and clearing brush along roadways. All maintenance activities should be conducted as part of a road management plan developed and implemented with participating communities. Activities that require the use of heavy equipment (such as surface grading and major cut and fill), accessing fill material from borrow sources, installation of culverts and drainages and general road reconstruction should be designed by a qualified engineer and be carried out only by experienced road construction crews with authorization from the corresponding local government authority. Program laborers will not attempt opening new roads, or widening or changing the course of existing ones.

## **RECOMMENDED ENVIRONMENTAL DETERMINATIONS AND MITIGATION ACTIONS (INCLUDING MONITORING AND EVALUATION)**

Recommended threshold determination for all SNAP Program activities, regulation 216 citation and the proposed mitigation monitoring and evaluation measures are summarized in Table 1. A trained monitoring and evaluation specialist will actively monitor ongoing activities for compliance with approved IEE mitigation recommended. The specialist will utilize USAID/AFR Environmental Guidelines for Small Scale Activities in Africa (EGSSA) and ENCAP recommended review procedures. Environmental review forms and checklists will be adopted if necessary to contain specific questions to be answered by monitoring and appropriate activity specific indicators. The M&E specialist will use Environmental Review Forms (ERF) or ER checklist for evaluating impact of all grants to be funded by the and make informed decisions about their potential environmental impacts and necessary mitigation and monitoring and evaluation measures. A set of illustrative environmental indicators is included in Table 1 below. During the implementation stage, the specialist will verify their usefulness and add indicators as needed.

The program, in collaboration with the USAID AOTR and the mission environmental advisor or bureau environmental officer, will conduct periodic environmental reviews (annually at a minimum) of all ongoing and planned activities to determine if they are within the scope of this IEE. Any new activities outside of the original program scope will be evaluated using the USAID/AFR ENCAP environmental review form (ERF). An Environmental Review Report, as described in the ERF, will be completed and submitted to USAID Sierra Leone for any new activities that are identified during the environmental screening process as moderate or high risk, and an IEE amendment will be prepared as

required. No new activities will be initiated prior to receiving written USAID approval of the IEE amendment.

### **SUMMARY OF FINDINGS**

ACDI/VOCA and its partners anticipate that the proposed SNAP Program activities will have no significant adverse environmental effects provided that the mitigation and monitoring measures proposed in this IEE are satisfactorily implemented. All program activities are recommended as either categorical exclusions or as negative determinations. No activities received a recommendation for a positive determination or for deferral. Categorical exclusion is recommended for all health and nutrition activities excluding sanitation activities and provision of medicine and medical supplies. Negative determination and mitigation measures such as training and following of appropriate practices and procedure are recommended for these activities. Categorical exclusion is recommended for all livelihood enhancement activities that include training, technical assistance, assessments, capacity building and institutional strengthening. Negative determination is recommended for all livelihood activities that may result in detrimental impact on the environment such as intensification of agricultural production, introduction of new technologies and repair of infrastructure. To mitigate potential environmental impacts of these activities, the program will utilize best practices and follow Africa Bureau EGSSA.

### **CONDITIONS**

ACDI/VOCA is integrating environmental sustainability and compliance with Sierra Leone environmental laws and 22 CFR 216 into the program design and its implementation decision-making process. This pro-active approach is necessary in order to avoid any potential adverse environmental effects. Best industry practices and procedures will be followed in implementation of all program activities. The program will provide training to staff and increase awareness among partners, beneficiaries, grantees and input suppliers on methods of recognizing and mitigating adverse impacts of their activities on the environment. The program will promote environmentally sustainable practices and technologies through practical hands on training and will mitigate and carefully monitor any activities that have potential adverse impact on the environment. In the event of procurement, use, transport, storage or disposal of pesticides, PERSUAP will be prepared and submitted for approval pursuant to regulation 22 CFR 216.3(b)(1)(i). The program will not introduce invasive species into the ecosystem and will not introduce non-native plants into protected areas. Any monetary transfers of USAID funds (i.e. sub-grants) to support this program's activities will incorporate provision that the activities to be undertaken will comply with environmental determination, mitigation and monitoring measures of this IEE.

**TABLE 1. RECOMMENDED THRESHOLD DETERMINATION, MITIGATION, MONITORING AND EVALUATION**

Activity	Regulation 216 Citation	Potential Environmental Impact	Mitigation Measures	Monitoring and Evaluation
<b>Categorical exclusion is recommended for:</b>				
All health and nutrition activities including facilitating access to pre- and post-natal services, formative research and planning, organizing and training, monitoring and referral of malnourished children, community capacity building, food rationing and monitoring its effects	216.2(c)(2)(i) 216.2(c)(2)(viii)	N/A	N/A	N/A
Training provided to farmer groups, input suppliers, and producers / marketing associations. Including Farmer Field Schools (FFS), Farming as a Family Business (FaaFB) and postharvest handling, storage, processing, and marketing.	216.2(c)(2)(i)	N/A	N/A	N/A
Organizing and training youth groups including literacy/numeracy, vocational skills, entrepreneurship skills, basic business skills.	216.2(c)(2)(i)	N/A	N/A	N/A
Provide institutional strengthening, training, and grants to existing and newly-created Village Savings and Loans (VSLAs)	216.2(c)(2)(i)	N/A	N/A	N/A
<b>Negative determination is recommended for:</b>				
Sanitation activities such as establish hand-washing stations, tippy-taps, and covered water containers in households and Peripheral Health Units	216.3(a)(2)(iii)	Proliferation of insect vectors in standing water created around hand-washing stations and water containers	<ul style="list-style-type: none"> <li>Train users on the importance of avoiding standing water (creation of insect vector breeding areas)</li> <li>Construct simple drains or soakaways</li> </ul>	Monitoring and evaluation will be done by the Community Health Workers who will monitor effectiveness of the newly established sanitation devices. Documented spot-check site visits by the M&E

Activity	Regulation 216 Citation	Potential Environmental Impact	Mitigation Measures	Monitoring and Evaluation
Facilitate Gifts-In-Kind from medical organizations in the form of multi-vitamins, antibiotics, anti-malarial drugs, and other needed medications and supplies		Transmission of disease and contamination of water supply due to improper handling and disposal of healthcare waste generated from use of donated medications	<ul style="list-style-type: none"> <li>• Train Community Health Workers in proper administration of medicines and medical waste treatment.</li> <li>• Assess existing healthcare waste management system at each affected facility and if found deficient, implement corrective measures for handling and disposal in accordance with USAID and WHO guidelines</li> </ul>	specialist will track environmentally appropriate implementation of sanitation measures.  Monitoring and Evaluation will be done by program health specialist working with Peripheral Health Units. Health specialists will track: <ul style="list-style-type: none"> <li>• distribution and use of medications</li> <li>• # of beneficiaries trained in proper administering of medicines and disposal of medical waste</li> </ul>
Fumigation of commodities warehoused for distribution	216.3(a)(2)(iii)	Fumigation of warehoused commodities requires use of hazardous chemicals and carries potential risks to human health, worker exposure during fumigation, accumulation of chemical residues in the ecosystems and air pollution.	<ul style="list-style-type: none"> <li>• Fumigation conducted only by holder of official certification</li> <li>• Using fumigants only according to the directions on the label and follow all precautions, and restrictions.</li> <li>• Use only for commodities and sites specified by the label.</li> <li>• Use of protective equipment is mandatory</li> <li>• Place warning signs</li> <li>• Do not allow access until the storage space has been ventilated and gas levels drop to safe levels.</li> <li>• Minimize the need for fumigation through</li> </ul>	Documented on site monitoring and evaluation by a designated project staff expert.

Activity	Regulation 216 Citation	Potential Environmental Impact	Mitigation Measures	Monitoring and Evaluation
<p>Promote crop diversification. Improve yields, storage, processing and sale of diversified crops. Purchase of seeds and tools.</p>	<p>216.3(a)(2)(iii)</p>	<p>If adaptation of production intensification and crop integration practices by farmers is inappropriate, introduction of new technologies to farmers can have negative impact on soil, water, air and ecosystems:</p> <ul style="list-style-type: none"> <li>• Increased conversion of sensitive lands to agriculture including slash-and-burn</li> <li>• Soil erosion</li> <li>• Decreased soil fertility</li> <li>• Deforestation, habitat change and biodiversity loss</li> <li>• Surface and ground water pollution/degradation</li> <li>• Runoff from fertilizer</li> <li>• Introduction of invasive species that replace indigenous germplasm</li> </ul>	<p>training staff in proper warehousing</p> <ul style="list-style-type: none"> <li>• Follow Africa Bureau EGSSA for agricultural practices</li> <li>• Promote good agricultural practices and sound nutrient management through training and technical assistance</li> <li>• Use Environmental Review screening process to determine the nature and scope of environmental impacts arising from introducing each new activity or technology;</li> <li>• Discourage conversion of new land for agriculture through demonstrating how increased productivity and decreased postharvest losses can minimize the need for clearing new land.</li> <li>• Where land clearing is necessary, promote and encourage other methods for land clearing that do not require burning</li> <li>• Follow all USAID and host country biosafety regulations and protocols, no introduction of seeds restricted by Sierra Leone law, use seeds only from reputable sources.</li> </ul>	<p>Monitoring and Evaluation will be done by extension agents and through semi-annual or spot-check site visits by the M&amp;E specialist. The M&amp;E will track:</p> <ul style="list-style-type: none"> <li>• # of new environmentally sustainable technologies introduced and adopted</li> <li>• # and % of beneficiaries trained in improved environmentally sustainable practices</li> <li>• # and % of beneficiaries adopting improved environmentally sustainable practices</li> </ul>

Activity	Regulation 216 Citation	Potential Environmental Impact	Mitigation Measures	Monitoring and Evaluation
<p>Purchasing and establishing stationary rice mills, mobile rice mills, cassava graters and fruit/vegetable driers and motorbikes in selected regional market centers</p>	<p>216.3(a)(2)(iii)</p>	<ul style="list-style-type: none"> <li>Point source water pollution and stagnant water pools from processing and cleaning</li> <li>Dust and air pollution from processing and burning of rice husks and other organic by-products.</li> <li>On-the-job accidents and injuries to mill and machinery operators and workers</li> <li>Leaks and improperly discarded machinery parts</li> </ul>	<ul style="list-style-type: none"> <li>ensure any seeds are appropriate for the agroclimatic zone to which they are being introduced; and avoid introducing exotic invasive species;</li> <li>If pesticides are demonstrated or assistance is provided in procurement or transfer of pesticides, the project will develop a PERSUAP</li> <li>No activities will be implemented in parks, reserves and other protected areas</li> </ul>	<p>Monitoring and Evaluation will be done by the trained M&amp;E specialist through the documented spot-check site visits and annual reviews, and utilize a checklist to ensure that recommended environmental, and health and safety mitigation measures are adopted.. M&amp;E will track:</p> <ul style="list-style-type: none"> <li># of beneficiaries trained in safe operation and care of new equipment</li> </ul>
		<ul style="list-style-type: none"> <li>Follow Africa Bureau EGSSA for food processing practices</li> <li>Provide training in equipment operation and cleaning</li> <li>Follow manufacturer's recommendations for safe use</li> <li>Develop a simple Health and Safety Plan with beneficiaries</li> <li>Ensure operators are provided with and use appropriate Personal Protective Equipment (PPE) such as gloves, safety glasses, masks and protective clothing</li> <li>Minimize burning and pollution from liquid waste through alternative uses and disposal methods</li> </ul>		

Activity	Regulation 216 Citation	Potential Environmental Impact	Mitigation Measures	Monitoring and Evaluation
<p>Implement "Labor for Learning" program, where youth provide labor for rehabilitation of storage facilities and healthcare and infrastructure or for maintenance of rural road infrastructure.</p>	<p>216.3(a)(2)(iii)</p>	<ul style="list-style-type: none"> <li>• Environmental impacts are activity- and site-specific.</li> <li>• No significant environmental impacts are anticipated as construction activities will be limited to minor infrastructure and road maintenance activities that can be accomplished using manual labor and hand tools. This includes repairing potholes, minor surface reshaping to facilitate drainage and improve traffic flow, cleaning/ maintaining roadside ditches and culverts, and clearing brush along roadways</li> <li>• Common features and potential adverse environmental impacts of construction work include:             <ul style="list-style-type: none"> <li>○ sedimentation of streams and surface water</li> <li>○ increased soil erosion</li> <li>○ contamination of surface and groundwater supplies</li> <li>○ altered surface water flow and drainage capacity damage to ecosystems</li> <li>○ Potential adverse impacts from health and sanitation activities</li> <li>○ contamination of surface water, groundwater, soil, and food by excreta, chemicals and pathogens</li> <li>○ ecological harm from degradation of stream, lake, estuarine and marine water quality and degradation of land habitats</li> <li>○ On-the-job accidents and injuries</li> <li>○ Minor impacts from dust, noise</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Use Environmental Review screening process to determine the nature and scope of environmental impacts arising from introducing each new activity</li> <li>• Follow best practices described in Environmental Guidelines for Small-Scale Activities in Africa, Part II – Chapter 3 Small-scale Construction</li> <li>• Train youth to follow best practices including proper disposal, health and safety practices for construction and use of Personal Protective Equipment (PPE)</li> <li>• Conduct activities as part of the overall plan developed and implemented with participating communities</li> <li>• No new road construction or expansion will be implemented under this activity</li> </ul>	<p>Monitoring and Evaluation will be done by the trained M&amp;E specialist through the documented spot-check site visits and annual reviews and will use a checklist to ensure that recommended environmental and health and safety mitigation measures are adopted. The M&amp;E will track:</p> <ul style="list-style-type: none"> <li>• # of beneficiaries trained in safe operation and care of new equipment</li> </ul>

## **Annex 1**

# **Host Country and Intervention Area Map**

