



Bureau for Resilience and Food Security

SUPPLEMENTAL INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY DATA

Project/Activity Name:	Strengthening the horticulture sector in Guinea-Bissau
Geographic Location:	Guinea-Bissau
Amendment (Yes/No), if Yes indicate # (1, 2...):	Yes
Implementation Start/End Dates (FY or M/D/Y):	FY 2023-FY 2026
Solicitation/Contract/Award Number:	TBA
Implementing Partner(s):	TBA
RFS Tracking ID:	RFS-23-07-002
Tracking ID of related IEEs:	Feed the Future Innovation Lab for Horticulture 2 (BFS-20-03-002 , 8/25/2021)
Tracking ID of Other, Related Analyses:	Feed the Future Innovation Lab for Horticulture, 9/29/2014 RFS COVID-19 PIEE: RFS-20-04-004

ORGANIZATIONAL/ADMINISTRATIVE DATA

RFS Implementing Office:	Center for Agriculture-Led Growth
Field Implementation Operating Unit:	USAID/Senegal Sahel Regional Office (SRO)
Prepared by:	Brittany Thomas
Date Prepared:	06/21/2023

ENVIRONMENTAL COMPLIANCE REVIEW DATA

Analysis Type:	Supplemental Initial Environmental Examination (IEE)
Environmental Determination:	Categorical Exclusion Negative Determination with Conditions
IEE Expiration Date:	09/30/2026
Climate Risk Management Analysis:	
Climate Risks Identified (put # of each):	Low <u> 5 </u> Moderate <u> 2 </u> High <u> 0 </u>
Climate Risks Addressed (put # of each):	Low <u> 5 </u> Moderate <u> 2 </u> High <u> 0 </u>

PROJECT/ACTIVITY SUMMARY

The purpose of this SIEE is to update the IEE for the Feed the Future Innovation Lab for Horticulture 2 activity to enable programming in Guinea-Bissau. This SIEE resolves the Deferral listed in the original IEE (BFS-20-03-002) by providing location specific information and information on the specific activities to take place under the buy-in. The USAID "Strengthening the horticulture sector in Guinea-Bissau" activity will be managed by the USAID/Senegal Sahel Regional Office (SRO).

The "Strengthening the horticulture sector in Guinea-Bissau" activity aims to support the implementation of Guinea-Bissau's National Agricultural Investment Plan (2017) (NAIP) with an initial budget of \$1 million and an estimated period of performance of 2.5 years (30 months). SRO will contribute to two main objectives of the NAIP, including reducing the importation of onions and potatoes by 75 percent by 2030 and being self-sufficient on improved seed production for onions, peppers, chilis, and tomatoes.

The main objective of this activity is to contribute to the country's NAIP by investing in the advancement of Guinea-Bissau's horticultural sector. The specific objectives include promoting the production of local, high-quality seeds; increasing the production of onions, potatoes and tomatoes; and building the capacities of state and non-state actors involved in the sector. This activity is also linked to Regional Development Objective 4 "Vulnerability of target populations reduced" of USAID/WA and USAID/SRO's RDCS (2020-2025).

This pilot phase of the "Strengthening the horticulture sector in Guinea-Bissau" activity will focus on the horticulture belt in peri-urban areas of Bissau city, and the Cacheu region especially in Bula, Co, São Domingos, Suzana, and Varela, which were prioritized in Guinea-Bissau's NAIP. Target geographies will be finalized in consultation with relevant Bissau-Guinean authorities and USAID.

Any pesticide use under this activity will be covered under the RISE II PERSUAP and the forthcoming regional PERSUAP which is currently being prepared.

The activity's theory of change proposes that if USAID invests in the diversification of the Bissau-Guinean agricultural sector by supporting the development of the horticulture sector through the improvement of the country's seeds system, strengthening onion, potato, and tomato production, and building the capacities of state and non-state actors (including women and youth), then socioeconomic well-being and food security will be enhanced in Guinea-Bissau.

This objective will be achieved by three activities:

Strengthening the seed system. Improving the ability of smallholder farmers to access high-quality seeds of improved varieties of horticultural crops is fundamental to increasing farmer productivity and incomes. The Horticulture Innovation Lab's research on seed systems aims to increase access to higher quality seed and improved crop varieties, including technologies and practices that improve local seed saving practices. The Horticulture Innovation Lab will provide technical assistance to the National Institute for Agricultural Research (Instituto Nacional de Pesquisa Agrícola – INPA) for the production of foundation seeds for onions, potatoes ("batata inglesa"), and tomatoes and technical support to private companies for improving seed production and marketing.

Improving the onion, potato, and tomato production system. For this activity, the Horticulture Innovation Lab will work closely with the Horticulture Directory of Guinea-Bissau's Ministry of Agriculture and farmers' associations on field practices to improve yields, decrease drudgery, and make farming more profitable for smallholder farmers within the onion, potato, and tomato value chains. The activity also intends to support small-scale water storage and irrigation approaches (e.g. through solar-powered pumping), domestic processing of the tomato (e.g. into sauce and juice), and adequate fencing to prevent the theft of produce and disturbance from animals, needs highlighted by MARD, INPA, and AMAE, as funding permits.

Strengthening the technical capacities of public and private horticultural sector actors. The Horticulture Innovation Lab will provide training and agricultural extension services to farmers on topics such as cultivation techniques, postharvest practices, scaling technologies, youth opportunities in horticulture, and gender-sensitive horticulture training. This activity's goal is to introduce novel technologies that will improve production practices and reduce postharvest losses in Guinea-Bissau.

ENVIRONMENTAL DETERMINATIONS

It is recommended that this activity follow the guidance described in the [RFS COVID-19 Programmatic IEE](#) as appropriate to prevent the spread of this disease amongst project implementers and beneficiaries. Upon approval of this document, the determinations become affirmed, per Agency regulations (22CFR216).

Table 1: Environmental Determinations

Projects/Activities	Categorical Exclusion Citation	Negative Determination with Conditions
Activity 1: Strengthening the seed system	X	X
Sub-activity 1.1: Research on seed systems	(iii) Analyses, studies, academic or research workshops and meetings;	
Sub-activity 1.2: Providing technical assistance for the production of foundation seeds for onions, potatoes, and tomatoes		<p>Negative determination subject to the following conditions:</p> <ol style="list-style-type: none"> 1. Use of environmental best management practices (BMPs) for agriculture and irrigation, available from USAID in the Sector Environmental Guidelines. 2. The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pest Management Plan (PMP) and Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b), USAID Pesticide Procedures, and duly approved. 3. Appropriate fertilizer use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed fertilizers. Such safeguards will address storage, handling and application, including the use of Personal Protective Equipment (PPE), cleanup and disposal. 4. With SRO/REA and RFS/BEO concurrence, if an activity decides to use §216.3 (b)(2)(iii), Exception to Pesticide Procedure, then pesticide-treated crops will not be used for human or animal consumption. However, if crops are to be used for consumption, and pesticides are used, then this activity will be subject to the guidance of a PERSUAP and concurrence of the SRO/REA and RFS/BEO.
Activity 2: Improving the onion, potato, and tomato production system	X	X

Projects/Activities	Categorical Exclusion Citation	Negative Determination with Conditions
Sub-activity 2.1: Conducting assessments of the production system for targeted value chains	(iii) Analyses, studies, academic or research workshops and meetings;	
Sub-activity 2.2: Identifying technologies/practices that could be disseminated and develop training courses and materials based on this information	<p>Categorical Exclusion:</p> <p>(iii) Analyses, studies, academic or research workshops and meetings;</p> <p>(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);</p>	
Sub-activity 2.3: Support for water storage and irrigation		<p>Negative Determination with Conditions:</p> <ol style="list-style-type: none"> 1. Use of environmental best management practices (BMPs) for agriculture and irrigation, available from USAID in the Sector Environmental Guidelines. 2. The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pest Management Plan (PMP) and Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b), USAID Pesticide Procedures, and duly approved. 3. Appropriate fertilizer use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed fertilizers. Such safeguards will address storage, handling and application, including the use of Personal Protective Equipment (PPE), cleanup and disposal. 4. With SRO/REA and RFS/BEO concurrence, if an activity decides to use §216.3 (b)(2)(iii), Exception to Pesticide Procedure, then pesticide-treated crops will not be used for human or animal consumption. However, if crops are to be used for consumption, and pesticides are used, then this activity will be subject to the guidance of a PERSUAP and concurrence of the SRO/REA and RFS/BEO.
Activity 3: Strengthening the technical capacities of public and private horticultural sector actors	X	X

Projects/Activities	Categorical Exclusion Citation	Negative Determination with Conditions
<p>Sub-activity 3.1: Providing training and agricultural extension services to farmers</p>	<p>(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);</p>	<p>Negative determination with conditions if the training involve use of chemicals and/or pesticides: subject to the following conditions:</p> <ol style="list-style-type: none"> 1. Use of environmental best management practices (BMPs) for agriculture and irrigation, available from USAID in the Sector Environmental Guidelines. 2. The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pest Management Plan (PMP) and Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b), USAID Pesticide Procedures, and duly approved. 3. Appropriate fertilizer use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed fertilizers. Such safeguards will address storage, handling and application, including the use of Personal Protective Equipment (PPE), cleanup and disposal. 4. With SRO/REA and RFS/BEO concurrence, if an activity decides to use §216.3 (b)(2)(iii), Exception to Pesticide Procedure, then pesticide-treated crops will not be used for human or animal consumption. However, if crops are to be used for consumption, and pesticides are used, then this activity will be subject to the guidance of a PERSUAP and concurrence of the SRO/REA and RFS/BEO.

Projects/Activities	Categorical Exclusion Citation	Negative Determination with Conditions
Sub-activity 3.2: Establishing a Horticulture Development Hub to demonstrate and train farmers on technologies and production approaches		<p>Negative determination subject to the following conditions:</p> <ol style="list-style-type: none"> 1. Use of environmental best management practices (BMPs) for agriculture and irrigation, available from USAID in the Sector Environmental Guidelines. 2. The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pest Management Plan (PMP) and Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b), USAID Pesticide Procedures, and duly approved. 3. Appropriate fertilizer use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed fertilizers. Such safeguards will address storage, handling and application, including the use of Personal Protective Equipment (PPE), cleanup and disposal. 4. With SRO/REA and RFS/BEO concurrence, if an activity decides to use §216.3 (b)(2)(iii), Exception to Pesticide Procedure, then pesticide-treated crops will not be used for human or animal consumption. However, if crops are to be used for consumption, and pesticides are used, then this activity will be subject to the guidance of a PERSUAP and concurrence of the SRO/REA and RFS/BEO.

CLIMATE RISK MANAGEMENT

TABLE. ACTIVITY CLIMATE RISK MANAGEMENT SUMMARY TABLE

Tasks / Defined or Illustrative Interventions	Climate Risks ¹	Risk Rating Low / Moderate / High	How Risks are Addressed at Activity Level ²	Opportunities to Strengthen Climate Resilience ³
Activity 1: Strengthening the seed system				
Sub-activity 1.1: Research on seed systems	Climate variability will impact seed productivity in Guinea-Bissau and adaptability to increased	Low	This sub-activity will prepare the activity to establish interventions to improve seed	Insight on current seed challenges and opportunities to expand access to

¹ List key risks related to the project elements identified through either the strategy- or project-level climate risk assessment.

² Describe how risks have been addressed in activity design and/or additional steps that will be taken in implementation. If you chose to accept the risk, briefly explain why.

³ Describe opportunities to achieve development objectives by integrating climate resilience or mitigation measures.

Tasks / Defined or Illustrative Interventions	Climate Risks¹	Risk Rating Low / Moderate / High	How Risks are Addressed at Activity Level²	Opportunities to Strengthen Climate Resilience³
	temperatures, precipitation changes, and soil salinization. Severe flooding events have increased in Guinea-Bissau, which could interfere with seed viability.		production and the identification of climate-tolerant seeds.	climate-tolerant seeds could be expected to facilitate more reliable horticultural production requiring less inputs and water.
Sub-activity 1.2: Providing technical assistance for the production of foundation seeds for onions, potatoes, and tomatoes	Climate variation and extreme weather events could impede the activity's production and promotion of foundational seeds. Increased soil salinization may reduce the viability of seeds for increased production of onions, potatoes, and tomatoes.	Moderate	This sub-activity will be supported by an assessment of available high-quality seeds. The activity will collaborate with Bissau-Guinean counterparts and researchers from the University of Ghana, the University of California, Davis, and the World Vegetable Center, expanding the potential to identify climate risks that could inhibit productivity.	The activity could rely on climate information systems to improve preparedness for severe weather events to minimize the damage to young crops, and increase efficiency with water use.
Activity 2: Improving the onion, potato, and tomato production system				
Sub-activity 2.1: Conducting assessments of the production system for targeted value chains	Climate variability will impact seed productivity in Guinea-Bissau and adaptability to increased temperatures, precipitation changes, and soil salinization.	Low	This sub-activity will prepare the activity to establish interventions to improve the production of selected horticultural commodities.	The identification of climate-smart agricultural practices and use of climate information systems could be expected to strengthen producers' resilience.
Sub-activity 2.2: Identifying technologies / practices that could be disseminated and develop training courses and materials based on this information	Climate and weather-related changes (including, but not limited to, severe flooding and increasing temperatures) could inhibit the viability of targeted commodities and require more intensive inputs and water use.	Low	The activity will consult with domestic and international experts to establish approaches to enhance the production of target commodities and will emphasize climate-smart approaches, improved irrigation, and other technologies to improve producers' production outcomes.	Improved cold storage, irrigation, and other technologies could be expected to strengthen producers' resilience to increasing temperatures and soil productivity changes. Training will improve producers' awareness of and adaptability to climate risks.
Sub-activity 2.3: Support for water	Water availability varies seasonally in Guinea-Bissau, impacting the establishment of	Moderate	The activity will consult with local partners to identify intervention opportunities and the	Unreliable access to energy for water pumping and cold storage may be

Tasks / Defined or Illustrative Interventions	Climate Risks ¹	Risk Rating Low / Moderate / High	How Risks are Addressed at Activity Level ²	Opportunities to Strengthen Climate Resilience ³
storage, irrigation, and cold storage	water pumping and storage. Climate conditions may have a compounding impact on the ability to reliably access water or energy.		most viable sites for these small-scale projects.	supplemented through the use of solar panels.
Activity 3: Strengthening the technical capacities of public and private horticultural sector actors				
Sub-activity 3.1: Providing training and agricultural extension services to farmers	Climate and weather-related changes (including, but not limited to, severe flooding and increasing temperatures) could inhibit the viability of targeted commodities and require more intensive inputs and water use.	Low	This sub-activity will improve producers' access to extension and technical advisory services to adapt to climate risks.	Improved agricultural extension services could be expected to expand long-term access to research and training services, providing producers with guidance on climate-smart production approaches.
Sub-activity 3.2: Establishing a Horticulture Development Hub to demonstrate and train farmers on technologies and production approaches	Extreme climate and weather events could hinder producers' access to demonstration sites and reduce the viability of test crops.	Low	This sub-activity will rely on climate information services and consultation with Bissau-Guinean agricultural experts. The activity may utilize multiple sites for demonstration activities to improve the viability of crops and improve producers' access to training services.	The Horticulture Development Hub should emphasize climate-smart approaches, including, but not limited to, water conservation (e.g. Zai, half moon), improving shade cover, and promoting high-quality seeds to improve producers' climate resilience.

IMPLEMENTATION

In accordance with 22CFR216 and Agency policy, the conditions and requirements of this document become mandatory upon approval. This includes the relevant limitations, conditions and requirements enumerated in this document as well as any BEO Specified Conditions of Approval.

Approval:	_____ clear _____ Ying Hsu, USAID/Senegal Acting Mission Director	_7/10/2023_____ Date
Clearance:	_____ Clear _____ Shivaun Leonard, Horticulture Innovation Lab, Acting AOR	_7/10/2023_____ Date
Clearance:	_____ Clear _____ Abdourahmane Ndiaye, Mission Environmental Officer	_7/10/2023_____ Date
Clearance:	Clear _____ Brittany Thomas, Sahel Regional Office (SRO), Regional Environmental Advisor and Climate Integration Lead	07/10/2023_____ Date
Concurrence:	_____ William Thomas, RFS Bureau Environmental Officer	_____ Date

LIMITATIONS OF THIS INITIAL ENVIRONMENTAL EXAMINATION

The determinations recommended in this document apply only to projects/activities and sub-activities described herein. Other projects/activities that may arise must be documented in either a separate IEE, an IEE amendment if the activities are within the same project/activity or other type of environmental compliance document and shall be subject to an environmental analysis within the appropriate documents listed above.

Other than projects/activities determined to have a Positive Threshold Determination, it is confirmed that the projects/activities described herein do not involve actions normally having a significant effect on the environment, including those described in 22CFR216.2(d).

In addition, other than projects/activities determined to have a Positive Threshold Determination and/or a pesticide management plan (Pesticide Evaluation Report Safe Use Action Plan - PERSUAP), it is confirmed that the projects/activities described herein do not involve any actions listed below. Any of the following actions would require additional environmental analyses and environmental determinations:

- Support project preparation, project feasibility studies, or design for activities listed in §216.2(d)(1);
- Affect endangered and threatened species or their critical habitats per §216.5, FAA 118, FAA 119;
- Provide support to extractive industries (e.g. mining and quarrying) per FAA 117;
- Promote timber harvesting per FAA 117 and 118;
- Lead to new construction, reconstruction, rehabilitation, or renovation work per §216.2(b)(1);
- Support agro-processing or industrial enterprises per §216.1(b)(4);
- Provide support for regulatory permitting per §216.1(b)(2);
- Lead to privatization of industrial facilities or infrastructure with heavily polluted property per §216.1(b)(4);
- Research, testing, or use of genetically engineered organisms per §216.1(b)(1), ADS 211;
- Assist the procurement (including payment in kind, donations, guarantees of credit) or use (including handling, transport, fuel for transport, storage, mixing, loading, application, clean-up of spray equipment, and disposal) of pesticides or activities involving procurement, transport, use, storage, or disposal of toxic materials. Pesticides cover all insecticides, fungicides, rodenticides, etc. covered under the Federal Insecticide, Fungicide, and Rodenticide Act per §216.2(e) and §216.3(b).

REVISIONS

Per 22CFR216.3(a)(9), when ongoing programs are revised to incorporate a change in scope or nature, a determination will be made as to whether such change may have an environmental impact not previously assessed. If so, this IEE will be amended to cover the changes. Per ADS 204, it is the responsibility of the USAID A/COR to keep the RFS BEO informed of any new information or changes in the activity that might require revision of this environmental analysis and environmental determination.