



INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY DATA

Project/Activity Name:	Initial Environmental Examination (IEE) for Graduating to Sustainable Agriculture, Income, Nutrition, and Food Security (GAINS) Program in the Democratic Republic of the Congo (DRC)
Geographic Location(s) (Country/Region):	Kasai Province in The Democratic Republic of Congo
Amendment (Yes/No)	N
Implementation Start/End Date	Awarded
Solicitation/Contract/Award Number(s):	
Implementing Partner(s):	Mercy Corps
Link to IEE:	https://ecd.usaid.gov/document.php?doc_id=58993
Link of Other, Related Analyses:	DRC 118/119 , DRC Climate Risk Profile , DRC Programmatic PERSUAP

ORGANIZATIONAL/ADMINISTRATIVE DATA

Implementing Operating Unit(s) (e.g. Mission or Bureau or Office)	Bureau of Humanitarian Assistance (BHA)
Funding Operating Unit(s) (e.g. Mission or Bureau or Office)	Same as above
Other Affected Operating Unit(s):	USAID/DRC
Lead BEO Bureau:	
Funding Account(s) (if available):	
Prepared by:	Francis Xavier Tuokuu, Senior Advisor – Environmental Compliance
Date Prepared:	March 25, 2024

ENVIRONMENTAL COMPLIANCE REVIEW DATA

Analysis Type:	<input checked="" type="checkbox"/> Initial Environmental Examination	<input type="checkbox"/> Amendment
Environmental Determination(s):	<input type="checkbox"/> Categorical Exclusion(s) <input checked="" type="checkbox"/> Negative <input checked="" type="checkbox"/> Positive <input checked="" type="checkbox"/> Deferral	
IEE Expiration Date (if applicable):	End of Awards	
Additional Analyses/Reporting Required:	Implementing Partners to develop Supplemental IEEs	
Climate Risk Rating for Risks Identified:	Low <u> 9 </u> Moderate <u> 10 </u> High <u> 3 </u>	

THRESHOLD DETERMINATION AND SUMMARY OF FINDINGS

PURPOSE AND SCOPE OF THE INITIAL ENVIRONMENTAL EXAMINATION

The purpose of this initial environmental examination, in accordance with Title 22, Code of Federal Regulations, Part 216 (22 CFR 216), is to provide a preliminary review of the reasonably foreseeable effects on the environment of the USAID-funded intervention described herein and recommend determinations and, as appropriate, conditions, for these activities. Upon approval, these determinations become affirmed, per 22 CFR 216, and specified conditions become mandatory implementation obligations.

ACTIVITY SUMMARY

As indicated in the GAINS proposal, the activity will address the most critical drivers of Food Nutrition and Economic (FNE) insecurity using a targeted, integrated approach that meaningfully engages individuals, communities, and public and private actors with the goal of strengthening resilience to shocks and stresses and sustainably increasing Food Nutrition and Economic Security (FNES). In line with growing momentum in the DRC for humanitarian, development, and peace (HDP)-coherent approaches, GAINS will pursue a bold vision of direct support to the ultra-poor and most malnourished combined with community- led, subpopulation-specific, and mutually reinforcing private and public partnership strategies to support long-term development and foster peace.

ENVIRONMENTAL DETERMINATIONS AND CLIMATE RISK RATINGS

The table below summarizes the Environmental Determinations and Climate Risk Ratings for activities analyzed in this GAINS IEE.

Upon approval of this document, the determinations become affirmed, per Agency regulations (22 CFR 216). All activities to be implemented under the GAINS program will be identified under the recommended determination pursuant to Title 22 Code of Federal Regulation, part 216 (22CFR 216). Even though activities like training, workshops, and gatherings of people are categorized under categorical exclusion, these need to comply with COVID-19 protocols of the country.

Interventions	22 CFR 216 Environmental Determination	Climate Risk Rating
Commodity Fumigation	Positive Determination	Low, moderate, and high (see CRM table)
Increased use of disinfectants/germicides to minimize COVID-19 transmission	Negative Determination	Low
Increased use of PPE and support for PPE production to minimize COVID-19 transmission	Negative Determination	Low and Moderate

Rehabilitation of 200km of roads to facilitate access to markets- road and bridge	Positive determination	High
Construction of storage facilities for farm products	Negative determination with conditions	Moderate
Creation of nurseries for seedlings production	Negative determination	Moderate
Women, men, and youth have increased financial capability;	Negative Determination	Low and Moderate
Formal and informal financial actors offer products and services adapted to the needs of women, men and youth	Negative Determination	Moderate
Women, men, and youth have increased entrepreneurial skills to create and develop microenterprises	Negative Determination	Low
Adapted business development services are available and accessible to all HHs	Negative Determination	Low
Farmers apply resilient agricultural practices to nutritious food production	Negative Determination	Moderate
Input suppliers adapt their products, services, and commercial networks to respond to the demand	Negative Determination	Moderate
Communities manage landscape in a sustainable and inclusive manner	Negative Determination	Moderate
HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices	Negative Determination	Low
HHs adopt more equitable gender norms and practices to support the nutrition and care	Negative Determination	Low

needs of female family members		
Community-level nutrition services are available and accessible to all HHs	Negative Determination	Moderate
Households have improved knowledge and attitudes around safe WASH practices and related health risks	Negative Determination	Low
Community-led WASH services are available and accessible to all households	Negative Determination with Conditions	High

BEO SPECIFIED CONDITIONS OF APPROVAL

- Condition 1: Applicant to submit Environmental Safeguards Plan.
- Condition 2: Awardee to develop Supplemental IEE for Mission and Washington clearance by the end of the Refine and Implement (R&I) period.⁴
- Condition 3: Awardee to develop and align Environmental Mitigation and Monitoring Plan (EMMP) and Climate Risk Management (CRM) with performance M&E systems.⁵
- Condition 4: Awardee to submit Environmental Status Reports (ESRs⁶) annually before the Pipeline Resource Estimate Proposal (PREP). Additional reporting is reflected in the Annual Report (AR).
- Condition 5: Awardee to develop an Environmental Assessment for any actions with potential for significant impact to ecological habitats, as determined by USAID.
- Condition 6: Awardee to plan for a Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), which includes for pesticide procurement and/or use (e.g., agriculture, livestock, public health, construction), and/or commodity fumigation mitigation requirements.
- Condition 7: Awardee to support the Mission in the development of any Best Practice Review (BPR) for environmental safeguarding.
- Condition 8: Awardee to ensure compliance with partner country environmental regulations, including COVID-19 local and international standards.
- Condition 9: Awardee to plan for management of packaging waste associated with commodity distribution and increased waste streams due to communicable diseases (including COVID-19).
- Condition 10: Awardee to include awareness of pandemic health risks of activities (e.g., irrigation, roads) that disrupt wildlife habitat, and are exacerbated by climate risks in the IEE.

IMPLEMENTATION

In accordance with 22 CFR 216 and Agency policy, the conditions and requirements of this document become mandatory upon approval. This includes the relevant limitations, conditions, and requirements as stated in Sections 3, 4, and 5 of the IEE and any BEO Specified Conditions of Approval. Any significant delinquencies and lack of compliance with 22 CFR 216 will result in a [Corrective Action Plan \(CAP\)](#).⁷

USAID APPROVAL OF INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY NAME: _____

Bureau Tracking ID: _____

Approval: _____
[NAME], Mission Director or Washington DC Equivalent [*required*] Date

Clearance: _____
[NAME], Activity Manager [*as appropriate*] Date

Clearance: _____
[NAME], A/COR [*required*] Date

Clearance: _____
[NAME], Mission Environmental Officer [*as appropriate*] Date

Clearance: _____
[NAME], Regional Environmental Advisor [*as appropriate*] Date

Clearance: _____
[NAME], Regional Legal Officer [*as appropriate*] Date

Clearance: _____
[NAME], Climate Integration Lead [*as appropriate*] Date

Clearance: _____
[NAME], Other [*as appropriate*] Date

Concurrence: _____
[NAME], _____ Bureau Environmental Officer [*required*] Date

Concurrence: _____
[NAME], _____ Bureau Environmental Officer [*other BEOs required for cross Bureau funding or geographic responsibilities*] Date

DISTRIBUTION

INITIAL ENVIRONMENTAL EXAMINATION

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1.0 PROJECT/ACTIVITY DESCRIPTION

1.1 PURPOSE AND SCOPE OF THE IEE

The purpose of this document, in accordance with Title 22, Code of Federal Regulations, Part 216 (22 CFR 216), is to provide a preliminary review of the reasonably foreseeable effects on the environment of the USAID intervention described herein and recommend determinations and, as appropriate, conditions, for these activities. Upon approval, these determinations become affirmed, and specified conditions become mandatory obligations of implementation. This IEE also documents the results of the Climate Risk Management process in accordance with USAID policy (specifically, ADS 201mal).

This activity level IEE is a critical element of USAID's mandatory environmental review and compliance process meant to achieve environmentally sound activity design and implementation. Potential environmental impacts are addressed through formal environmental mitigation and monitoring plans (EMMPs) and/or Environmental Assessments (EAs), if needed.

This IEE was prepared by Mercy Corps for activities in the target areas of Kasai Province in the DRC.

The scope of this document includes a review of the foreseeable environmental effects of proposed actions of GAINS, recommended environmental threshold determination for all outputs, and provision of an EMMP to monitor the implementation of mitigation measures intended to eliminate foreseeable adverse environmental effects. In addition, climate risk ratings are conducted for planned activities to address the negative impact of climate change.

1.2 PROJECT/ACTIVITY OVERVIEW

Led by Mercy Corps, which is globally known for its quality resilience programming and systems thinking, GAINS' consortium of expert international and local organizations will address the most critical drivers of Food Nutrition and Economic (FNE) insecurity using a targeted, integrated approach that meaningfully engages individuals, communities, and public and private actors with the goal of strengthening resilience to shocks and stresses and sustainably increasing Food Nutrition and Economic Security (FNES). In line with the growing momentum in the DRC for humanitarian, development, and peace (HDP)-coherent approaches, GAINS will pursue a bold vision of direct support to the ultra-poor and most malnourished combined with community- led, subpopulation-specific, and mutually reinforcing private and public partnership strategies to support long-term development and foster peace. GAINS' design emphasizes local autonomy, ownership, agency, and participation to advance FNES. With targeted outreach to women, youth, and minority groups, we will establish and leverage a base layer of community mobilization and facilitate inclusive, accountable governance of citizen-prioritized, climate-adapted, and nutrition-sensitive agricultural and economic development. This comprehensive strategy will enable communities to better prevent and manage shocks, stresses and their effects while transforming harmful, interrelated social, governance, economic, and environmental dynamics.

GAINS will prioritize the most critical pathways to strengthen absorptive, adaptive, and transformative resilience capacities towards FNES. The consortium's Scoping Assessment informs this strategic prioritization; mapping and analysis of FNE insecurity drivers and effects, shocks and stresses, and specific subpopulation group impacts; consortium members' rich programmatic successes and experience; and triangulated by a thorough literature review. This evidence-based prioritization offers greater potential for impact and sustainability, avoiding a "one-size-fits-all" approach and carefully selecting key risks and constraints to FNE insecurity for GAINS' target geography and populations. Our Theory of Change (ToC) addresses these constraints by building on identified leverage points that inform GAINS' implementation approach, sustainability, and exit strategies. It follows a logic of simultaneous strengthening of demand and supply for behaviors and services.

I.3 ACTIVITY DESCRIPTION

The activity descriptions below are taken from the approved GAINS application and logical framework submitted for approval. As described in the IEE, BHA GAINS program activities are intended to improve and sustain FNES of populations who are vulnerable by reducing extreme poverty and strengthening resilience in populations vulnerable to chronic hunger, malnutrition, and recurrent shocks, stresses, and crises. These activities work at the individual, household, community, and institutional levels to address the underlying causes of food insecurity and malnutrition and strengthen transformative opportunities. This includes improving food access and incomes through agriculture and other livelihood initiatives; combating under-nutrition, especially for children under two and pregnant and lactating women; and reducing and mitigating disaster impact through community capacity strengthening and preparedness activities. GAINS will sustainably improve FNES in Kasai through two Purposes and five Sub-Purposes (SP):

COMMODITY MANAGEMENT: FUMIGATION

BHA makes commodity donations to private voluntary organizations (PVOs) and international organizations (IOs), such as the UN's World Food Program (WFP). Most commodities are purchased from US farmers and shipped abroad from US ports. In order to prevent the spoilage and waste of food commodities procured by resilience food security funds, a range of protective measures are implemented in commodity storage warehouses. One common protective measure to prevent commodity loss from insect, fungal, or mammal infestations is fumigation utilizing phosphine gas and/or applying contact pesticides to warehouse surfaces.

POPULATION HEALTH-RELATED ACTIVITIES

This RFA IEE also covers two activities that address communicable disease prevention. These guidelines originate from the COVID-19 response regulation but can inform additional population health interventions relating to communicable disease:

Support for increased use of disinfectants/germicides to minimize communicable disease transmission. In order to prevent the spread of viral pathogens, GAINS will rely on the increased use of germicides (e.g., disinfectants, sanitizers) to clean surfaces. BHA partners will also be using or supporting increased PPE to minimize the spread of viruses, including COVID-19.

Increased use of PPE and support for PPE production to minimize communicable disease transmission. USAID approved using program funds to finance the local production of medical-grade and non-medical-grade PPE, including for small and medium enterprises (SMEs). PPE production includes (but is not limited to) masks, gowns, face shields, protective eyewear, boot covers, linens, and gloves.

GAINS ACTIVITIES AND SECTORS

Purpose 1 (P1): Strengthened livelihoods and increased income

Designed to address the constraints identified in the Contextual Framework, P1 interventions will contribute to FNES by improving HHs' ability to launch or expand stable, diverse, and lucrative on-farm, off-farm, and non-farm IGAs and MSMEs by applying improved technical and soft skills and accessing quality inputs, financial services, and context- and subpopulation- specific BDS. IGAs and MSMEs will be market- and community needs-driven to ensure their sustainability while promoting equitable, transparent, and sustainable management of natural resources and putting community development squarely in the hands of the population. P1's nutrition-sensitive activities will diversify, increase food production, and improve NRM, layering and integrating with nutrition-specific activities under P2. By strengthening HH livelihoods and increasing incomes, participants will have more stable access to

nutritious, quality foods, will have strengthened resilience in the face of shocks and stresses, and will be able to further invest in their IGAs and MSMEs, all resulting in strengthened FNES.

Purpose 2 (P2): Improved utilization of quality food among vulnerable people

Taking an asset-based approach, investing in community capacities and networks rather than concentrating on weaknesses or behaviors deemed “wrong”, P2, directly and indirectly addresses the constraints discussed within the Conceptual Framework (see Section B.). P2’s integrated activities specifically focus on improving feeding practices for PLW and CU5, transforming entrenched sociocultural norms, empowering marginalized women and youth, and providing access to clean water. P2 uses community-led, GYSI-transformative, and SBC- focused nutrition and WASH approaches that capitalize on the opportunities and strengths within targeted HZs. These approaches empower diverse subpopulations to take charge of nutrition and WASH management and unlock opportunities for their youth, thereby sustainably improving FNES. Strengths within HZs include community and HH influencers and role models, who will play an important role in modeling positive MIYCN, WASH, FP, and other behaviors, including fostering positive dialogues between diverse HH members around more equitable decision-making, division of responsibilities, and access to and control over resources. Elevating role models and influencers will help GAINS better demonstrate strategies that enable community members to advance solutions to persistent FNE insecurity. P2 activities are integrated with PI, ensuring HHs have the knowledge, skills, and resources provided through IGA and livelihoods development to apply improved nutrition and WASH behaviors under P2 sustainably. By improving nutrition and WASH knowledge, infrastructure, and behaviors alongside increased access to and availability of nutritious food supported under PI, utilization of quality food will increase and contribute to improved FNES.

These core programmatic components are complemented by a strong understanding of their programmatic intersects, as well as cross-cutting themes such as risk reduction and resilience, governance, gender, youth, social inclusion, and climate adaptation.

TABLE I: DEFINED INTERVENTIONS

Purpose 1: Strengthen Livelihoods and Increased Income
Sub Purpose 1.1 Improve Usage of Credit and Capital
Outcome 1.1.1 Women, men, and youth have increased financial capability.
Outcome 1.1.2: Formal and informal financial actors offer products and services adapted to the needs of women, men and youth
Sub Purpose 1.2 Increased Profitable and Diverse Enterprises and IGs
Outcome 1.2.1: Women, men, and youth have increased entrepreneurial skills to create and develop microenterprises.
Outcome 1.2.2: Adapted business development services are available and accessible to all HHs
Sub Purpose 1.3 Increased Sustainable Agricultural Production:
Outcome 1.3.1: Farmers apply resilient agricultural practices to nutritious food production.
Outcome 1.3.2: Input suppliers adapt their products, services, and commercial networks to respond to the demand.
Outcome 1.3.3: Communities manage landscape in a sustainable and inclusive manner
PURPOSE 2: IMPROVED UTILIZATION OF QUALITY FOOD AMONG VULNERABLE PEOPLE:
Sub-Purpose 2.1: Improved Maternal, Infant, & Young Children Nutrition

Outcome 2.1.1: HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices.

Outcome 2.1.2: HHs adopt more equitable gender norms and practices to support the nutrition and care needs of female family members.

Outcome 2.1.3: Community-level nutrition services are available and accessible to all HHs

Sub-Purpose 2.2: Improved Water, Sanitation, and Hygiene (WASH) Behaviors:

Outcome 2.2.1: Households have improved knowledge and attitudes around safe WASH practices and related health risks.

Outcome 2.2.2: Community-led WASH services are available and accessible to all households

Will this project/activity involve construction¹ as defined by ADS 201 and 303? Yes No

If yes, describe in the space below:

D.2 PROPOSED IMPLEMENTATION PLANS FOR CONSTRUCTION ACTIVITIES

Build and rehabilitate:

Once designs are finalized, GAINS will work with communities to rehabilitate feeder roads and bridges and construct community assets, such as agricultural collection centers (CCA), market WASH, and water points to improve access to markets, employment, and services, thereby strengthening FNES. Ensuring value for money and capitalizing on their Kasai construction expertise, local partner SDC will be responsible for construction of water points and market WASH, with Mercy Corps providing oversight and quality control based on our **Field Infrastructure Manual**, which puts in place **safeguards** to mitigate performance risks. GAINS will hire a contractor to construct CCA.

Purpose 1

Market infrastructure: As noted in the Proposed Implementation Plans for Construction Activities section, communities will identify and take ownership of construction or rehabilitation of market-related infrastructure, such as CCA, roads, or marketplace WASH. CCAs will reduce post-harvest losses, help stabilize prices during harvest times, add value to crop production, and provide continuous access to food during the dry season, thereby strengthening FNES.

Purpose 2

Infrastructure planning and construction: Once infrastructure points are identified in alignment with LLMPs and LNPs, GAINS will carry out tailored assessments including feasibility studies, environmental and social impact assessments, mitigation strategies, and infrastructure improvement plans. After plans are finalized, GAINS will construct conflict-sensitive, community-approved and sustainable water points and community WASH infrastructure in markets.

Environmental and Social Safeguards – To comply with the government environmental protection policy and USAID environment compliance Section 117 of the Foreign Assistance Act of 1961 and 22 CFR 216 (Regulation 216), which requires that environmental impact assessment and appropriate mitigation be implemented for all USAID projects. So that GAINS will conduct a separate environmental and social impact assessment for construction activities which are identified in this supplementary IEE environmental threshold determination of **negative determination with condition** and **positive determinations**.

Mercy corps with implementing partners will include detailed budgets, procurement requirements, technical information on existing infrastructure, hydrogeological assessments, the Supplemental Initial Environmental Examination (S-IEE - see Annex 9: Environmental Safeguards Plan) to ensure environmental and social safeguards are in place, and detailed plans, with design support from Social Development Center (SDC). GAINS will also engage the National Congolese Environment Agency to ensure full compliance.

I.4 MERCY CORPS ENVIRONMENTAL SUSTAINABILITY APPROACH

We recognize that our actions through our operations and programs in the 40+ countries we work in impact the changing climate. Therefore, we have initiated several policy guidelines and commitments to reduce our carbon emissions. In 2022, Mercy Corps became the first international non-governmental organization to monitor, track, and measure our global emissions using a centralized tracking system. We subsequently published this in our inaugural report dubbed “Greening Mercy Corps Report,

2022.” We have since published our second sustainability report, titled “Greening Mercy Corps Report, 2023.”

In the fiscal year 2023, Mercy Corps also designed environmental compliance and safeguard tools to guide our programmatic work, recommend environmental thresholds determination for all outputs, and provide an environmental management plan to monitor the implementation of mitigation measures to eliminate foreseeable adverse environment effects.

Spearheading our commitment is Mercy Corps’ Environmental Sustainability Team, which works to secure humanitarian and development outcomes by increasing the agency’s ability to implement effective programs that support climate adaptation, natural resource management, and access to clean energy. The Team receives enormous support from Mercy Corps’ country, as well as regional and global leadership to ensure that environmental sustainability remains a strategic priority.

At Mercy Corps, we strive to minimize the environmental impact of our day-to-day operations and program activities. Consequently, we have initiated global and country-level programs to achieve these goals. The Greening Mercy Corps 2022 and 2023 reports highlight our progress in creating a robust system for tracking our carbon footprint and understanding the best opportunities for change.

2.0 BASELINE ENVIRONMENTAL INFORMATION

2.1 LOCATIONS AFFECTED AND ENVIRONMENTAL CONTEXT (ENVIRONMENT, PHYSICAL, CLIMATE, SOCIAL)

The DRC, in Central Africa, has a total land area of 2.34 million square kilometers (sq km), making it the second largest country in Sub-Saharan Africa and the 11th largest country in the world. Most of the DRC is composed of the central Congo Basin, a vast low-lying plain surrounded by high plateaus to the north, west, and south. In the east are Lakes Albert, Edward, Kivu, Mweru, and Tanganyika and high mountain ranges, including the Mitumba Mountains, the Ruwenzori Range, and the volcanic Virunga Mountains.

The Congo River, including its 3.4 million sq km basin and tributaries, provides the most extensive network of navigable waterways in Africa. The Congo Basin is the world's second-largest tropical rainforest, the first largest being the Amazon, is a mosaic of rivers, forests, savannas, swamps, and flooded forests.

GAINS's efforts in promoting food security and resilience are carried out in Kasai province. This target geography is located in the southern area of the country, specifically in the central part of the region below the equator and are classified as South Congolian forest-savanna mosaics. A brief geographic overview of each province within the BHA geographic zones is provided in Figure 1. indicates GAINS food security investment regions within the Democratic Republic of the Congo.

GAINS Health Zones

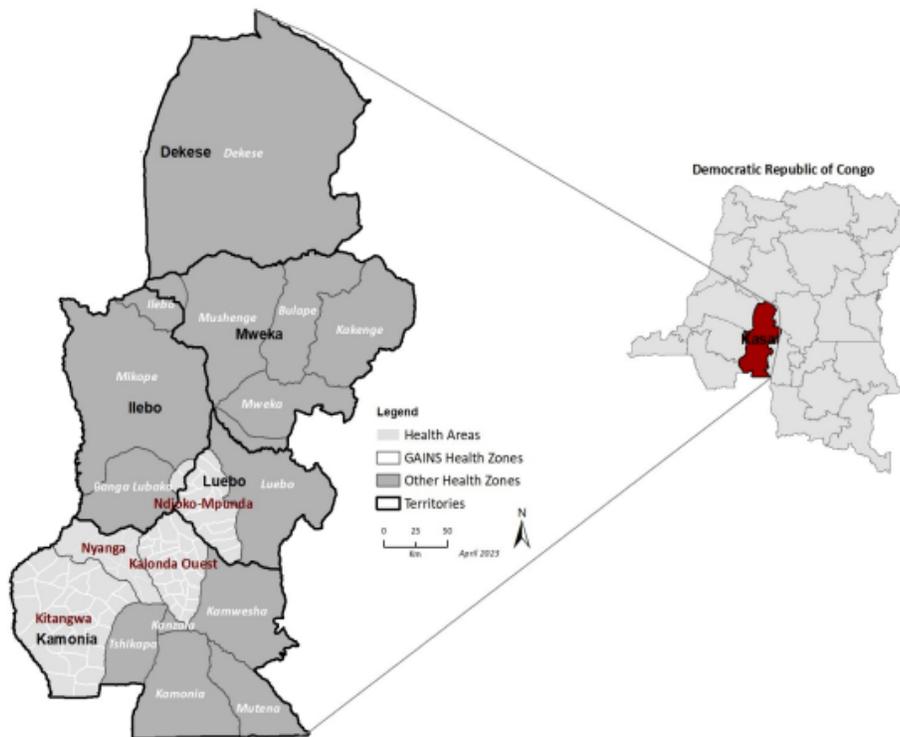


Figure 1 GAINS Targeted Areas

SOCIO-ECONOMIC OVERVIEW

Its socio-economic conditions compound the DRC's environmental and climate crises. Despite fertile land, rich biodiversity, and vast quantities of natural resources and minerals, the DRC is currently characterized by significant social vulnerability, political instability, food insecurity, and high poverty rates. As of 2021, nearly 64% of the population lives in poverty. About one in six people living in extreme poverty in Sub-Saharan Africa lives in the DRC. The DRC's Human Development Index is low, ranking 180 as of 2022².

The DRC has faced civil war and conflict over control of its natural resources for the past three decades. An estimated 5.8 million Congolese were internally displaced as of February 2023, the vast majority fleeing violence between rebel groups and Congolese armed forces. In the Kasai Region, over a million people were displaced due to the fighting that occurred between 2016 - 2018. In addition, more than 650,000 people have been forced to flee the violent clashes in Tanganyika Province.

The DRC's ecosystems have also faced the burden of ongoing conflict. Both Congolese refugees and rebels take shelter in the forests, resulting in mining, forest tracts clearing, and the hunting of bushmeat for subsistence. War has also led to a prioritization of resources that has destabilized national park management. Wildlife and their habitats are vulnerable to mining and harvesting by poachers. New roads lead to mining sites in previously impenetrable forests, leading to ecological destruction from hunters, loggers, and miners.

Crop Production

Agriculture is a critical sector of the DRC economy and livelihoods. In recent years, agriculture has accounted for about 20 percent of the national gross domestic product (GDP) and employed approximately 60 percent of the country's population, serving as a primary source of livelihood for the Congolese people. The country has the most available farmland in Africa, with an estimated 80 million hectares of available arable land; however, only about 10 percent of that land is currently cultivated. The sector is mainly subsistence in nature, with Congolese supplementing farming with hunting, small animal husbandry, and some fishing in communities close to lakes. Crop production varies by region, but maize and cassava are significant staples, and most areas support livestock. The principal staple crops are cassava, plantains, beans, and bananas. The main agricultural exports include palm oil, green coffee, sugar, and natural dry rubber. The primary crops grown in the GAINS regions of interest.

Livestock and Fisheries

Livestock is an important sector supporting the DRC's overall food security through small-scale household livestock production (e.g., pigs, chickens, goats). The southern savannahs and the mountainous regions of the southeast and east (Kasai and Tanganyika Provinces) provide meat, milk, and wool and have a growing processing sector. While livestock rearing is practiced throughout the DRC, overall, the sector is under-exploited and has significant potential to expand. With more than 87 million hectares of grassy plains and wooded grasslands, the DRC is estimated to produce only about 2.3 percent of its national potential in beef; however, few families can buy or manage a herd. And raising cattle can contribute to the degradation of forests and other landscapes. However, the potential impacts of climate variability and change on this sector create further challenges, hindering both the animals' tolerance and the system's potential productivity.

Fisheries is also a sector with significant room for expansion in the DRC. Currently, the country is using only an estimated 30 percent of its total fisheries potential, primarily harvesting through artisanal

² UNDP (United Nations Development Program). 2024. Human Development Report 2023-24: Breaking the gridlock: Reimagining cooperation in a polarized world. New York.

practices. Even still, fisheries provide a critical source of protein for communities living along the country's water bodies. Within USAID's regions of interest, the main bodies of water that fisherfolk rely on include Lake Tanganyika, Lake Kivu, and a series of rivers, including the Congo, Kasai, and Lubilash Rivers. Like the livestock sector, climate change poses a series of risks to expanding sustainable fisheries across the DRC (Table 5). According to the Intergovernmental Panel on Climate Change (IPCC), regions, where inland fishery production is derived primarily from lakes (Tanganyika) are at less risk of a reduced catch than regions more reliant on rivers and floodplains (Kasai provinces), since hydrological dynamics are more likely to be altered by climate change in rivers, relative to lakes. However, water temperatures are reportedly increasing in various lakes in Africa's Great Lakes region, including Lake Kivu and Lake Tanganyika at the DRC's eastern border. Variations in climate can cause wide fluctuations in freshwater thermal dynamics, leading to increased algal growth and reduced dissolved oxygen while increasing deep-water temperatures and, thus, reducing the upwelling of nutrient-rich deep water that supports fish populations.

Conflict Management

The DRC has experienced decades-long conflict and violence driven by ethnic and geopolitical unrest, particularly along its eastern front (including Tanganyika province). Access to land resources is already a driver of conflict within the DRC. Increased stress on resources due to climate change could intensify conflict and complicate circumstances for those fleeing violence. Dwindling resources across the country due to climate and environmental shocks could increase competition and conflict in forest spaces, threatening the land tenure of groups that have been marginalized, particularly Indigenous Peoples. Furthermore, according to the most recent IPCC report, there have been observed links between water stress and individual attitudes toward participating in violence within the DRC, potentially affecting those in more arid regions where water stress is a concern.

Communities afflicted by violence are less likely to be able to address climate impacts due to the vulnerabilities associated with and magnified by violence. The degrading of institutions that manage and safeguard natural resources and provide essential services, and the absence of reliable law enforcement in areas experiencing violence, could stifle efforts to adapt to climate change. For example, lack of investment in the DRC's forestry sector has been tied to security concerns.

KEY GEOGRAPHIC FEATURES

GEOGRAPHY

A brief geographic overview of the Kasai province within Mercy Corps' GAINS-BHA geographic zone is provided below:

- **Kasai Province (321,163 sq km)** is in central DRC and is bordered by Angola to the south and six other DRC provinces (including Kasai Central Province to the east). Kasai Province includes a portion of the Congo Basin in northern areas as well as the Kasai River (the chief southern tributary of the Congo River) and Sankuru River.

SOIL & FORESTS

Soil erosion presents a significant threat to livelihood in communities throughout DRC. There is a contrast between rich soils in eastern DRC and the poorer soils of the center and western areas.²⁰ In the central part of the Congo Basin, the soils are old, leached, highly acidic, and less fertile. They often lack essential plant nutrients or/are extremely wet, which limits the scope for agriculture; however, ecologically, they are highly valuable as carbon sinks in wetlands and rainforests.

Soil fertility is largely at risk due, in part, to extensive deforestation. The DRC has one of the world's highest deforestation rates, losing 490,000 hectares (1.2m acres) of primary rainforest in 2020. ²¹ In the

DRC, significant drivers of deforestation are small-scale charcoal production and slash-and-burn agriculture; about 93% of forest loss between 2000 and 2014 was due to smallholder agriculture. 22 Additionally, charcoal is mainly used to meet the DRC's domestic energy demands, as only 9% of the population can access electricity.²³ Charcoal or fuelwood logging remains the principal source of cooking energy for 90% of the population.

WATER RESOURCES

The DRC has one of Africa's highest volumes of freshwater with 12,000 km of navigable networks and 52% of Africa's surface water reserves. 24 Surface water and groundwater sources are critical elements in the food security equation throughout the country. The DRC alone accounts for an estimated 23% of Africa's internal renewable water resources. Despite this hydrological wealth, access to water remains a critical issue for rural populations due largely to a lack of investment in the water resources management sector.

Even in areas where water supplies are readily available, concerns arise about quality, particularly in and around major urban areas, as increased rainfall intensity, flooding, and increasing temperatures can impact storage, infiltration, and the transport of potential contaminants – all of which affect water quality. Furthermore, the current intensity of rainfall events already results in rivers and streams overflowing their banks, disrupting transportation, and damaging critical infrastructure.

Only half of the population has access to improved water supply, and only 29% have improved sanitation facilities. Approximately 33 million people living in rural areas do not have access to quality water, which plays a role in high chronic malnutrition rates and transmission of waterborne diseases.

KEY ECOLOGICAL HABITATS

GAINS's geographic zones contain ecosystems that serve as important sources of biodiversity. See Figure 2, which shows the provinces targeted by BHA activities and their proximity to protected areas.

Ecosystem services provide vital benefits to communities, such as water provisioning, carbon sequestration, and flood protection. Healthy and well-managed ecosystems play an important role in enhancing the resilience of communities to shocks. The DRC is a critical, global ecosystem service provider, providing numerous economic and social benefits. However, increased deforestation, species depletion, land degradation, climate change, and pollution result in the fragmentation and degradation of natural habitats, disturbances of ecosystem functions, and loss of biodiversity and ecosystem services. 27

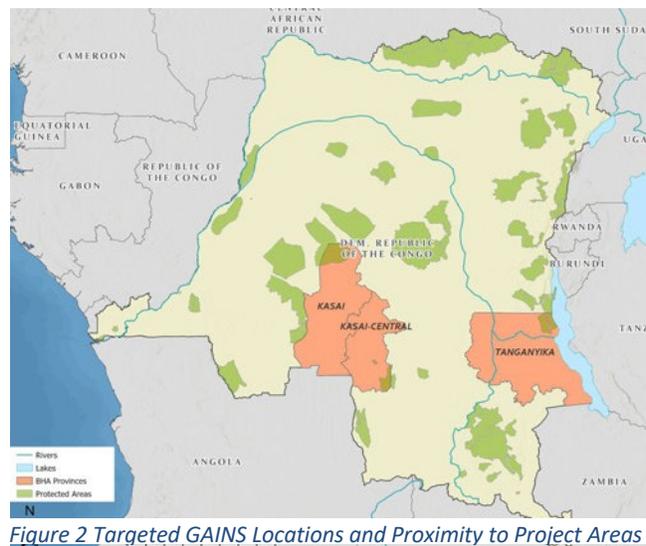


Figure 2 Targeted GAINS Locations and Proximity to Project Areas

The DRC has abundant wetlands, protected areas, and five sites of cultural significance. The following two sections describe the largest or most important wetlands and protected areas in the BHA targeted locations. However, in their Supplemental IEEs, IPs must provide a more specific analysis of the wetlands and protected areas closest to or affected by their planned activities.

PROTECTED AREAS

There are currently 53 protected areas in the DRC, including nine national parks and 14 nature and

wildlife reserves, covering 13.85% of DRC's land area and 0.24% of its marine area. Most protected areas in the DRC are far from secure despite the designations due to a lack of funding, expertise, or capacity to manage or govern them properly; approximately 7.3% of the land is effectively protected. Nevertheless, the DRC Government is committed to expanding protected areas to cover 15 to 17% of its national territory. GAINS-BHA geographic zones within the Kasai Province do not have any protected areas.

WETLANDS

The DRC is endowed with many freshwater and wetland ecosystems that provide essential goods and services to the environment and the local communities that depend on them. Wetlands play a significant part in the landscape of the country, covering an estimated 19.2 % of the total country area.

The DRC contains many wetland types, including mountain streams, waterfalls, hot saline springs, subterranean systems, blackwater rainforest rivers, extensive rapids, vast swamps, and large lakes.

To date, a great part of the Congolese population continues to depend on natural resources for their livelihoods. Local populations fish, hunt, and collect non-timber forest products. 34 Freshwater fish are an important source of protein for local communities, and it is estimated that 70,000 tons of fish are consumed in DRC per year.³⁵ Additionally, seasonally inundated areas are essential for rice production. The absence and poor condition of roads and inadequate infrastructure have resulted in more reliance on waterways for transportation and access to services.³⁶ The Second Congo War (1998-2003) and ongoing conflict have also caused displaced populations to resettle along waterways and to depend more on local natural resources for their livelihoods.

Despite the large number of wetlands in the DRC, there is limited literature on each wetland site because of prioritization and resource management gaps in nationwide wetland conservation efforts. However, it is well-documented that gold and diamond mining operations continue to adversely affect each site's character in land and water use.³⁷

THREATS

ENVIRONMENTAL THREATS OVERVIEW

Direct and indirect pressures on the DRC's biodiversity are numerous primarily resulting from human activities. Threats from human activities are generally the result of poor management (i.e., lack of effective protected area management), which is the primary threat to the protected area network. This threat manifests itself in several ways, principally through the uncontrolled poaching of megafauna, encroachment, and habitat degradation caused by expanding agriculture or by displaced populations relocating into protected areas, and through illegal artisanal logging and mining.

Other threats to biodiversity are extensive and uncontrolled exploitation and pollution of water resources, particularly concerning fishing activities (subsistence and commercial) and petroleum exploitation in the hydrocarbon sector; genetic erosion of agrobiodiversity; financing of military activities through the exploitation of natural resources such as diamonds, gold, coltan; and misappropriation of funds for conservation activities.

INVASIVE SPECIES

Although only limited documentation exists on non-native, invasive species, these species rapidly expand throughout DRC farmlands, rangelands, and aquatic ecosystems. Non-native, invasive species can reduce biodiversity and cause reductions in crops, fish, and forage yields. For example, fall armyworm (*Spodoptera Frugiperda*, introduced in Africa circa 2016) infestations have resulted in crop losses in DRC, including in Kasai. Invasive species displace indigenous species and disrupt natural ecosystems. While the impact of invasive species in the DRC has not been well-documented, they threaten food security,

livelihoods, and human and animal health, including in BHA geographic zones.

Invasive species in DRC pose an increased threat as climate change facilitates the spread and establishment of many alien species and reduces the resilience of natural habitats and agricultural systems.⁴¹ According to the [Global Biodiversity Information Facility](#), more than 424 alien and invasive species (including plants, animals, bacteria, etc.) have been introduced into the DRC as of 2020. However, no national strategy exists to deal with the growing number of invasive species.⁴²

BHA projects in the DRC are expressly prohibited from using USAID support to promote any invasive species. Humanitarian assistance initiatives to support agriculture may inadvertently promote the expansion of invasive species to the detriment of land productivity, biodiversity, and ecosystem function.

GAINS will address the potential impacts of invasive species in regions where it operates as a priority to avoid economic damage and costly removal efforts.

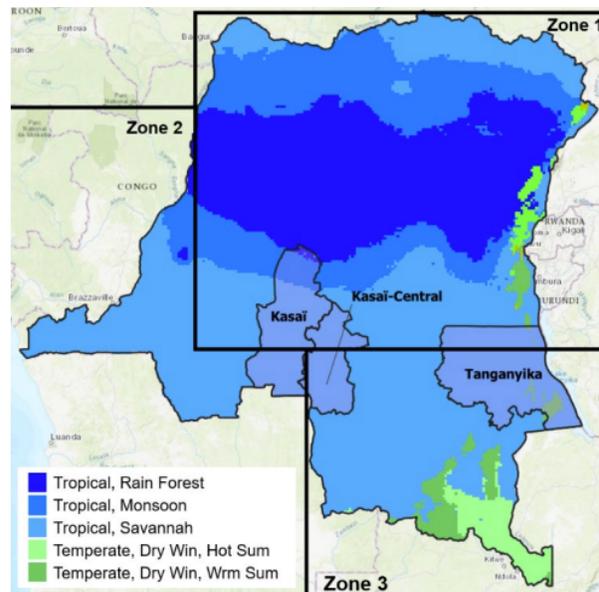
CLIMATE SUMMARY

HISTORY OF CLIMATE

The DRC experiences high regional variability in its climate. In the country's equatorial regions, temperatures and humidity are high, with annual averages of 24.6 degrees Celsius (°C), and rainfall ranges from 1,600–2,000 millimeters (mm) annually. The country's tropical climate zones north and south of the equatorial zone experience distinct dry (April to October) and rainy (November to March) seasons driven by the Intertropical Convergence Zone (ITCZ). The country's eastern highlands experience southeastern trade winds and snow at high altitudes. (1).

USAID recognizes three major climatic zones (Figure 3) (2):

- › **Zone 1** (parts of Kasai and Tanganyika): This zone contains tropical rainforests along the Congo River and its tributaries and is characterized by two rainy seasons (March to May, September to December) followed by two short dry seasons (June to August, January to February). Average temperatures range from 24–25°C throughout the year.
- › **Zone 2** (parts of Kasai): This zone has mountainous terraces, dense grasslands, and mostly tropical wet and dry climates with one rainy season (July to August). Average temperatures range from 24–25°C throughout the year.
- › **Zone 3** (parts of Kasai and Tanganyika): This zone contains savannas in the south and southeast and a subtropical climate with one rainy season (December to February). Average temperatures range from 22–23°C throughout the year.



CLIMATE RISKS

According to the World Bank, climate variability and change are likely to exacerbate existing vulnerabilities, including political instability and conflict, food insecurity, and the high poverty rates in the DRC. Food security is of primary concern as most DRCs agriculture is primarily rainfed and conducted by small-holder farmers. GAINS will also build on the additional information on climate risks to the DRC in the USAID 2023 DRC Climate Risk Profile (CRP). The data in the CRP provides a broad

overview of climate risk to GAINS-RFSA sectors, but more detailed and localized data may be required for program activity and/or engineering design.

Temperature. The DRC experiences high regional variability in its climate driven by the Intertropical Convergence Zone (ITCZ). The DRC’s vast territory is divided into three major climatic zones: (1) tropical climate with two rainy seasons (March to May, September to December) followed by two short dry seasons (June to August, January to February); (2) tropical wet and dry climates with one rainy season (July to August); and (3) subtropical climate with one rainy season (December to February).⁴⁴ Kasai Province experiences Zone 1 and 2 climates, while Kasai Central and Tanganyika provinces experience Zone 1 and 3. According to the USAID Climate Risk Profile and the Climate Change Knowledge Portal, changes to the climate have already begun to affect the DRC. Over the last 30 years, the DRC has experienced temperature increases of 0.17°C per decade, while the warmest day of the year has increased by about 0.25°C per decade.

Rainfall. Like climate, rainfall is highly variable across the DRC. In the equatorial climate zone near the Equator, rains fall throughout the year, averaging between 1,600 and 2,000 millimeters (mm).⁴⁶ BHA geographies in the central and southeastern areas of the DRC have one rainy season (July to August). Rainfall is likely to increase in frequency and intensity of extreme rainfall events by as much as 27%. Future rainfall is expected to harm and negatively impact agriculture, water, energy, forestry, health, freshwater resources, and ecosystems.

Extreme weather events. The DRC experiences extreme weather, resulting in high exposure to floods and droughts, which are projected to increase in frequency and severity due to climate change. The most common natural disasters are floods, heavy rainfall events, and droughts. According to the Climate Change Knowledge Portal, floods have accounted for 27% of all disasters in the DRC. Excess rainfall is projected to be strongest in the central areas of the DRC, with increased aridity and drought forecast in southern areas. Changes in extreme weather events will likely continue contributing to the structural food insecurity faced within the DRC, including the GAINS geographies.

Future Climate

Future climate projections indicate that temperatures will continue to rise in the DRC (Table 1). The country is expected to experience an increase in the frequency and duration of heat waves, and cold days and nights may decrease 6–10 percent by the end of the century. The highest rise in temperature will likely occur from October to March. Higher temperatures are also associated with an increase in evapotranspiration rate.

While rainfall projections are more uncertain, future rainfall is likely to increase in variability, with projections indicating a higher frequency of extreme events and increases of heavy rain intensity by up to 27 percent. This increase in rainfall is more likely to occur during the wet season from October to April. Heavy rains could lead to increased runoff from the Congo River system by as much as 50 percent (under a high-emissions RCP 8.5 scenario), leading to increased flood risk throughout the basin. Dry spell duration and drought frequency, as well as natural disasters driven by more frequent and intense floods, are also expected to increase. Future flooding risk, as well as wildfire risk (driven by dryness), are high throughout the country.

Table 1 : Key climate projections in the DRC for the near and mid-term. Data for projections comes from RCP 8.5 CMIP5 ensemble projections and show values in the 10th to 90th percentile. Source: World Bank 2021. Source: DRC Climate Risk Profile.

Climate Variable	Baseline (1901–2020)	Near-term future (2020–2039)	Mid-term future (2040–2059)
Average annual temperature	24.1°C	+0.5 to +1.4°C	+1.2 to +2.4°C
Total annual precipitation	1,508.3 mm	-13.7 to +21.6 mm	-17.1 to +25.2 mm

°C = degrees Celsius; mm = millimeters

IMPACTS AND VULNERABILITIES

Climate change is likely to bring about adverse consequences across the DRC’s agricultural value chain, affecting the country’s food security. Agricultural value chains for the DRC differ by specific crop and scale at which crop production and distribution occurs. This considered, Figure 6 provides a broad and illustrative example of what a simplified agricultural value chain could resemble in the DRC, detailing potential impacts from the climate stressors discussed above at stages and potential adaptation and resilience measures to limit these impacts. Additionally, while impacts of changing climate conditions are largely negative across the DRC’s agricultural value chains, they may also bring about the potential for opportunities, such as better growing conditions for certain crops or less favorable conditions for certain pests and diseases that reduce crop production.

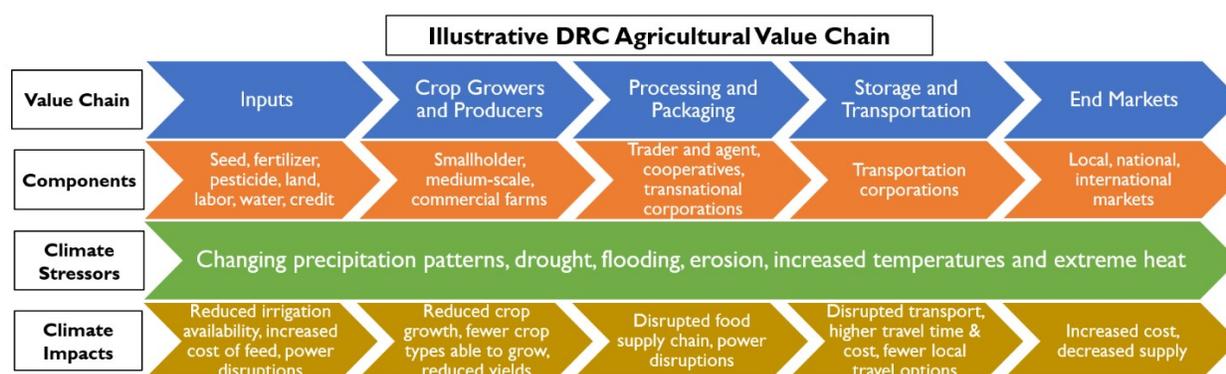


Figure 6. Illustrative DRC agricultural value chain.

The following sections provide more detailed insight into the impacts of a changing climate across the agricultural value chain. Sectors that may indirectly impact the country’s food security in the face of climate change (e.g., conflict management, ecological sensitivity, and biodiversity) are also considered.

Table 2 Primary Crops grown in DRC regions of interest and their climate sensitivities

Crop Province	Climate Sensitivities
Maize Tanganyika, Kasai Regions	<ul style="list-style-type: none"> • Optimal growing temperature from 17–33°C • Sensitive to temperatures above 35°C • Risk of crop failure (i.e., death) at 45°C
Cassava Tanganyika, Kasai Regions	<ul style="list-style-type: none"> • Optimal growing temperature from 25–29°C but can withstand higher temperatures. • Fairly abundant rainfall is best for optimal growth but can withstand prolonged periods of drought. • Periods of drought combined with very high temperatures can inhibit yield and quality
Beans Kasai Regions	<ul style="list-style-type: none"> • Sensitive to heat stress, drought, and flooding • Susceptible to pests and disease (fungal and root rot), including Mosaic virus (BCMV) and leaf rust; requires dry conditions at harvest
Soybean Kasai Regions	<ul style="list-style-type: none"> • Sensitive to temperatures above 35°C • Increased ozone concentrations have been linked to yield losses of 8.5–14 percent globally as ozone affects the reproductive process, leading to reduced fruit and seed development. • Sensitive to soil moisture conditions throughout the growing cycle • Sensitive to waterlogging and excessive humidity, particularly at harvest and

	<ul style="list-style-type: none"> during storage Soybean yields could experience benefits from the CO₂ fertilization effect
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°C = degrees Celsius; mm = millimeters; BCMV = Bean common mosaic virus; CO₂ = carbon dioxide

PESTS AND PERSUAPS

Agriculture is a critical sector of the DRC economy and livelihoods. Although the agricultural sector employs over 60% of the population and comprises almost 20% of the DRC's gross domestic product (GDP), it fails to ensure food security and generate sufficient revenues and sustainable employment. Yet, the DRC has various challenges related to pest management, including crop damage from diseases or insects, lack of availability of information and technologies for agriculture, the misuse of pesticides, and a shortage of trained professionals in fields related to integrated pest management. Due to widespread poverty, the use of fertilizers and other chemical products is lower than in other countries that are as heavily reliant on agriculture. However, the increased use of pesticides in agriculture could present a future threat to human health impacts and pollution, especially to aquatic ecosystems.

The DRC has a [2017 Agricultural Portfolio Programmatic PERSUAP Amendment #1](#), that covers USAID-funded activities that may require pesticide use for crop production, agricultural research, seed multiplication, post-harvest storage and processing, and livestock and aquaculture production. PERSUAP expires in December 2024.

The DRC is also partly covered by the Farmer-to-Farmer (F2F) PERSUAP, which covers assistance for procuring or using pesticides. The F2F Program includes 26 core countries, and GAINS's consortium identifies the main areas of program focus. In the DRC, the F2F program concerns cassava and poultry. According to the F2F PERSUAP, primary concerns facing pesticide management in the DRC include lack of safety equipment, improper disposal methods, limited knowledge about the application, and loose enforcement of safety laws and regulations across the country. Additionally, there is presumably a low level of knowledge and use of Integrated Pest Management (IPM) measures in the DRC.

Changing climate conditions could also lead to a changing prevalence of pests and diseases, potentially affecting agricultural yields and, subsequently, the use of pesticides. Since women have high labor force participation in agriculture, increases in pesticide use induced by climate change may result in disproportionately more pesticide-related health impacts to women. Further, the absence of strong legal frameworks to enforce international standards on pesticide use, along with lack of formal distribution networks will continue to contribute to negative impacts on human, animal, and ecosystem health.

OTHER KEY STAKEHOLDERS

There are many key stakeholders currently working in the DRC, including in the Kasai province. Stakeholders include African Development Bank (AfDB), Food and Agriculture Organization of the UN (FAO), Global Environment Facility (GEF) Agencies, International Fund for Agricultural Development (IFAD), International Union for Conservation of Nature (IUCN), The World Bank, and the country's Ministry of Agriculture.

Program	Amount	Donor	Year	Implementer
Activities under the Central Africa Regional Program for the Environment , including: <ul style="list-style-type: none"> • Forest resource management and understanding of drivers of forest loss • Environmental monitoring and policy support • Maiko-Tayna-Kahuzi-Biega landscape Areas Project 		USAID	Ongoing	<ul style="list-style-type: none"> • African Wildlife Foundation • Wildlife Conservation Society • World Wildlife Fund • African Parks • NASA • University of Maryland • Central Africa Forest • Satellite Observatory
Forests for the Future: For sustainable and scalable Community Forests in the Democratic Republic of Congo		USAID	2020-2025	<ul style="list-style-type: none"> • Rainforest Foundation, UK
Esi Ni Nishati Kwa Kila Mtu (Gas Is Affordable Alternatives to Charcoal Activity)		USAID		<ul style="list-style-type: none"> • BBOX Ltd.
Tanganyika Conflict Mitigation and Reconciliation	\$9.975 million	USAID	2018–2024	<ul style="list-style-type: none"> • Pact, Inc.
USAID’s End Malaria Project	\$39.9 million	USAID	2021–2026	<ul style="list-style-type: none"> • Chemonics International
Accelerating Peri-Urban Water And Sanitation Services In Kasai Oriental And Lomami Provinces Activity (DRC Peri-Urban WASH)	\$21.7 million	USAID	2020–2025	<ul style="list-style-type: none"> • Chemonics International
Strengthening capacities in the Agriculture, Forestry and other Land Use sector of the DRC to enhance transparency and tracking of the Nationally Determined Contribution	\$1.95 million	GEF Trust Fund	2022–2025	<ul style="list-style-type: none"> • FAO
Reducing vulnerability and increasing resilience to climate change through promoting innovation, transfer and large-scale deployment of adaptation oriented technologies in priority agriculture value-chains and creating jobs	\$44 million	LDCF	2022–2027	<ul style="list-style-type: none"> • UNIDO
Climate Resilient Growth and Adaptation in Democratic Republic of Congo	\$28 million	LDCF	Concept approved	<ul style="list-style-type: none"> • UNDP
Improvement of the nutrition situation in sub-Saharan Africa		German Federal Ministry for Economic Cooperation and Development	2016–2019	GIZ, DRC Ministry of Agriculture and Rural Development
Healthy School and Village (promoting WASH services in schools, villages, and health centers)		UNICEF	Ongoing	UNICEF

2.3 APPLICABLE AND APPROPRIATE PARTNER COUNTRY AND OTHER INTERNATIONAL STANDARDS (E.G.WHO), ENVIRONMENTAL AND SOCIAL LAWS, POLICIES, AND REGULATIONS

2.3.1 SUB-SAHARAN AFRICA EIA PROCEDURES

According to the Legal and Regulatory Framework Study of the World Bank, environmental impact assessment (EIA), is a “process and a tool to identify the likely consequences a particular project would have on the biophysical environment and human health and welfare and to convey this information to those responsible for sanctioning project proposals at a stage when it can materially affect decisions about future project implementation”. Significant strides have been made to build a legal foundation for EIAs in Sub-Saharan Africa in recent years. Whereas EIAs typically used to be carried out only to meet requirements of foreign donors, they are now mandated in 24 Sub-Saharan countries as an essential element of domestic environmental law and policy. Accordingly, GAINS prepared and documented this Supplemental IEEs based on the country's environmental law and policy.

REGULATORY STRUCTURE

The principal framework for environmental management in the DRC is established by the 2005 Constitution (amended in 2011). 57 Article 53 of the Constitution states that “every person has a right to a healthy environment, that the environment must be protected, and that the state is responsible for protecting the environment and the health of the people”. Further, Article 123 makes provisions for laws concerning the protection of the environment and tourism. Article 203 calls for cooperative governance between central and provincial administration to protect and conserve the environment, natural sites, and landscapes.

The Fundamental Principles Relating to Environmental Protection (Law No. 11/009) establishes the institutional framework and the procedural and financing mechanisms for environmental protection. It establishes the rules for managing and conserving natural resources, including regulating civil liability. It also requires Environmental and Social Impact Assessments (ESIA) for projects; environmental audits; environmental evaluation of policies, plans, and programs; the creation of new institutional structures; and an Environmental Fund for research, conservation, clean-up operations, rehabilitation, and pollution prevention.

Decree No. 14/019 (dated August 02, 2014) sets the rules on the functioning and procedural mechanisms of environmental protection. A national agency named (Congolese Agency for Environment) has been created and has the mission to manage EIA implementation in the DRC. In collaboration with all related services, the Congolese Agency for Environment shall develop and make publicly available an Operations Manual and Implementation Procedures for environmental and social impact studies.

The **Nature Conservation Law (Law No. 14/003)** establishes the rules relating to the conservation of biological diversity, the sustainable use of its constituent elements, and the access and fair and equitable sharing of benefits arising from the use of biological and genetic resources. It contributes to ensuring the conservation of ecosystems and natural habitats, the protection of wild fauna and flora species, and sustainable development in protected areas.

Other relevant legislation includes the **Operating Rules of the Procedural Mechanisms for Environmental Protection (Decree No. 14-019)** and the **Forest Code (Law No. 11-2002)**. The DRC has taken other significant policy strides, including developing strategic interventions and plans to support biodiversity, climate change, and conservation efforts, which include:

- › The National Biodiversity Strategy and Action Plan (2016-2020) to ensure the sustainable management of biodiversity through integration into all national sectors so that biodiversity may contribute to the development of the DRC and all Congolese.

- › The National Strategy for Community Forestry (2018) provides an operational framework for developing the community forestry process in the DRC and ensuring that it is conducted transparently and consensually among stakeholders.
- › The National Action Program for Adaptation to Climate Change (2006) enables the most vulnerable populations and most exposed grassroots communities to cope with the consequences of climate change in the country. Additionally, it develops a program covering all DRC and identifies urgent and immediate adaptation activities that respond to the current and anticipated adverse effects of climate change, including extreme events.

INTERNATIONAL AGREEMENTS

The DRC has signed and ratified several major international environmental agreements. Some of those most relevant to BHA projects are listed below.

- › African Convention on the Conservation of Nature and Natural Resources – 1976
- › Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) – 1995
- › Convention on Wetlands of International Importance (Ramsar Convention) – 1994
- › United Nations Convention on Biological Diversity – 1992
- › United Nations Framework Convention on Climate Change (UNFCCC) – 1994
- › World Heritage Convention – 1975

Despite momentum in several key sectors, the DRC's ability to implement and enforce the legal and regulatory framework pertaining to the environment remains a complex process. These challenges ultimately weaken the effectiveness of the safeguards established by law. In particular, the lack of proper mechanisms to allow the public to hold the Government accountable should it fail to uphold its obligations has been identified as a significant obstacle to ensuring compliance with environmental and social safeguards. Mining and forestry, sectors with the greatest influence on the environment, are the most corrupt. 58 While environmental management capacity is generally poor in the DRC, recent changes to the regulatory framework and some donor-funded actions have opened the potential for transformation despite remaining significant policy constraints.

In compliance with DRC environmental protection law and procedure, GAINS undertakes environmental impact assessment and documents this supplemental IEE.

3.0 ANALYSIS OF POTENTIAL ENVIRONMENTAL RISK

This section aims to discuss the potential environmental & health effects and climate risks of activity interventions approved in GAINS. Regulation 216 defines "effect" as being adverse based on activities nature and baseline situations stated under the above session. This IEE has closely reviewed interventions proposed by GAINS consortium members, considering the environmental and social context within which approved GAINS activities will be carried out. A discussion of potential environmental effects and climate risk for each intervention is presented below under each outcome.

3.1 COMMODITY FUMIGATION

Environmental Impacts

Most BHA activities will carry out the storage and protection of commodities, either as US in-kind food assistance or as locally procured food commodities. To prevent the loss of food commodities from pest infestations during storage, performing periodic fumigation of warehouses and/or the application of contact pesticides to warehouse surfaces is common practice.

As mentioned in the Fumigation Programmatic Environmental Assessment (PEA), impacts of commodity fumigation must be considered, including:

- Use of the fumigant aluminum phosphide, and to a lesser extent magnesium phosphide, can potentially affect the health of applicators and other on-site workers and visitors.
- Use of the fumigant phosphine gas can affect the health of residents near warehouses being fumigated.
- Fumigation residuals could affect water quality, soil, and non-target organisms.
- Poor practices in transport, storage, application, and disposal of fumigants are a concern for human health.
- Improper disposal practices of rodents and birds killed by phosphine gas could affect human health.
- Phosphine may not completely control fungal contamination.

In addition, it is a USAID agency commitment that activities consider procuring or promoting pesticides as a last resort within an Integrated Pest Management (IPM) framework (see USAID Special Topic Presentation on Pesticides). Whichever their intended use may be, pesticides are potent killing agents, and their use poses intrinsic dangers to applicators, households, communities, and the environment. These risks include, but are not limited to:

- Use of chemical, non-organic compound-based, and biological or botanical-based pesticides can potentially affect the health of applicators, on-site workers, and visitors.
- Poor practices in the transport, storage, application, and disposal of pesticides and pesticide containers are a concern for human and environmental health.
- Pesticides can negatively affect and/or eliminate non-target organisms in the environment (i.e., predatory insects and pollinators, microorganisms beneficial to soil health, aquatic organisms, etc.) thereby altering ecological food webs and potentially causing detriment to agricultural production systems.
- Chemical pesticides can contaminate surface and groundwater, water, soil, and can bioaccumulate in surrounding ecosystems and organisms, posing a concern for health.
- Misuse or overuse of pesticides can result in pesticide-resistance.

Climate Risks

As noted in the climate summary, the DRC will experience increasing temperatures. Climate hazards include heat waves, drought, heavy precipitation, and flooding (potentially leading to landslides and erosion). Based on the most recent information and models, the future will increase climate variability and extreme events. The climate changes expected in the DRC could impact fumigation by changing herbivore and pathogen range and occurrence, which should also be considered during fumigation, and threatening fumigation storage effectiveness.

TABLE 3 : POTENTIAL ENVIRONMENTAL IMPACTS AND CLIMATE RISKS OF COMMODITY FUMIGATION

Commodity Fumigation	Potential environmental and social impacts	Potential climate risks
Warehouse treatment of bagged and bulk commodity	<ul style="list-style-type: none"> • Negative health impacts to applicators and on-site workers and visitors (including transporters). • Negative health impacts of residents near fumigation sites. • Negative impacts to water quality, soil and non-target organisms if fumigant disperses from the site. • Negative health impacts due to poor solid waste management (such as improper disposal of dead birds and rodents killed by fumigants) of fumigation residues/byproducts. • Need for ancillary treatment of fungal diseases as Phosphine may not be effective in control of fungal contamination. 	<ul style="list-style-type: none"> • Certified applicators unwilling to use personal protective equipment due to increased temperatures. • Increased temperatures and changes in rainfall patterns, changes occurrence of pests and pathogens and therefore fumigation requirements. • Warehouses where commodities are stored are in locations threatened by extreme weather, or in flood zones.

3.2 POPULATION HEALTH RELATED ACTIVITIES

Environmental Impacts

The COVID-19 pandemic and its response activities have had direct and indirect environmental and health impacts. For example, BHA response activities include increased disinfectant use, which can negatively impact human health without oversight, and increased PPE use and production, which can lead to waste management challenges. Indirect impacts relate to coping mechanisms for individuals and communities whose livelihoods have been impacted by COVID-19. For example, deforestation rates are spiking in many areas of the world as a result of economic hardship related to COVID-19. The lessons learned from COVID-19 response activities and their subsequent impacts can also inform other communicable disease responses and population health interventions. In recent years, the DRC has experienced outbreaks and/or increases in cases of Ebola virus disease, measles, meningitis, typhoid fever, Mpox, and influenza. The increased use of PPE and disinfectants to combat these outbreaks calls for similar waste management interventions as established during COVID-19.

The anticipated environmental impacts of communicable diseases are both direct and indirect. Communicable disease response actions relate directly to Activity 2 (disinfectant use), and Activity 3 (COVID-19 PPE production for small and microenterprise support (SME) support).

Environmental and human health impacts related to:

- Exposure to COVID-19 and other communicable diseases at gatherings, informational sessions, and during essential work.
- Exposure to disinfectants/germicides, and hazardous wastes (medical waste, pharmaceuticals, electronics) in health facilities, businesses, public spaces, and/or households; and
- Increased exposure to zoonotic diseases through wildlife trafficking.

Direct environmental and ecological impacts related to:

- Pollution/contamination from inappropriate use or management of disinfectants.
- Pollution/contamination from inappropriately managed Small and Medium Enterprises (SMEs), such as those producing PPE or sanitizer.
- Increase in infectious waste stockpiles, as PPE use increases; and
- Increase in the use of single-use plastics, as, in some cases, plastic bag bans are lifted to minimize the spread of the virus on reusable bags.

Indirect environmental and ecological impacts related to:

- Increased deforestation due to reduced policing of international timber exploitation and community member livelihood coping mechanisms (e.g., charcoal making, firewood); and
- Increased non-timber forest products (e.g., wildlife trafficking), and associated minerals exploitations (e.g., artisanal gold, tantalum, tin, bauxite, mining etc.).

Climate Risks

Climate and weather shocks and stressors can cause direct and indirect negative impacts to human health, such as heat waves leading to increased heat-related illness or changing temperatures and rainfall patterns changing the distribution of infectious diseases. These impacts may magnify the severity of communicable disease outbreaks. Furthermore, climate and weather shocks and stressors may also weaken health systems, and these systems' ability to respond to emerging outbreaks. Populations who are in conditions of acute vulnerability are usually the most impacted by climate and weather shocks and stressors, potentially putting more people at risk of serious illness. An example of the interplay between climate and population health can be found in the seasonality of COVID-19, with higher temperatures acting as a protective factor in reducing spread and colder seasons subject to infection surges.

3.3 GAINS PROGRAM AREAS AND ELEMENTS**3.3.1 PURPOSE I: STRENGTHENED LIVELIHOOD AND INCREASED INCOME**

Designed to address the constraints identified in the Contextual Framework, PI interventions will contribute to FNES by improving HHs' ability to launch or expand stable, diverse, and lucrative on-farm, off-farm, and non-farm IGAs and MSMEs by applying improved technical and soft skills and accessing quality inputs, financial services, and context- and subpopulation- specific BDS. IGAs and MSMEs will be market- and community needs-driven to ensure their sustainability, while promoting equitable, transparent, and sustainable management of natural resources and putting community development squarely in the hands of the population. PI's nutrition-sensitive activities will diversify, increase food production, and improve NRM, layering and integrating with nutrition-specific activities under P2. By strengthening HH livelihoods and increasing incomes, participants will have more stable access to nutritious, quality foods, will have strengthened resilience in the face of shocks and stresses, and will be able to further invest in their IGAs and MSMEs, all resulting in strengthened FNES.

TABLE 4 : POTENTIAL ENVIRONMENTAL IMPACTS AND CLIMATE RISKS OF STRENGTHENED LIVELIHOOD AND INCREASED INCOME

Project/Activity Description	Potential environmental and social impacts	Potential climate risks
SUB-PURPOSE 1.1: IMPROVED USAGE OF CREDIT AND CAPITA		
<p>Outcome 1.1.1 Women, men, and youth have increased financial capability;</p>	<p>These activities led to an increase in economic security by increasing the number of IGS and SLGs, but the SLG members may invest in activities that could harm the environment and neighboring community members</p>	<p>Climate and weather shocks and stressors can cause direct and indirect negative impacts on SLG investment - adversely affect the selected on-farm and off-farm activities.</p>
<p>Outcome 1.1.2: Formal and informal financial actors offer products and services adapted to the needs of women, men and youth</p>	<p>Activities that directly or indirectly support on-farm, off-farm, and non-farm IGAs may have quite a variety of environmental and social problems. Here are some of the most common and significant ones:</p> <ul style="list-style-type: none"> › Degradation of land and landscape, › Pollution of air, water, and soil through inappropriate use of inputs › Introduction of non-native species through poor and uncertified seeds › Poor agricultural practices and post-harvest management contribute to the creation of food borne diseases. › Health impacts from operating machinery, spraying chemicals, and pesticide application <p>Inefficient production techniques reduce productivity and create excessive solid waste/garbage</p>	<p>Impact of climate risks to on-farm, off-farm, and non-farm IGAs</p> <p>Damage to crops, reduced productivity, and increased economic losses due to increased flooding in river basins.</p> <p>Reduced yields due to crop damage and field waterlogging from floods</p> <p>Reduced yields of staple cereal crops (wheat, rice, and maize) due to higher temperatures.</p> <p>Reduced food availability due to increased climate variability and the changed frequency and intensity of extreme weather events.</p> <p>Increased food price fluctuations due to variation in temperature and precipitation</p> <p>Reduced willingness of farmers to invest in productivity enhancing assets such as fertilizer due to price volatility and greater uncertainty about future prices.</p> <p>Reduced labor productivity due to impacts to health and wellbeing of the workforce caused by extreme heat events</p> <p>Lower protein content in grains due to elevated temperature and CO2.</p> <p>Damaged transportation networks, hindering transport of imports and access to markets</p> <p>Extreme weather events may adversely impact off- farm activities.</p>
SUB-PURPOSE 1.2: INCREASED PROFITABLE, DIVERSE ENTERPRISES AND IGAS		
<p>Outcome 1.2.1: Women, men, and youth have increased entrepreneurial skills to create</p>	<p>Increased entrepreneur skills and microenterprise had no observable impact on the environment. NB: But need to integrate environmental compliance topics in the training curriculum</p>	<p>No observable risks</p> <p>Increasing temperatures may impact the comfort of participants and their willingness to participate in planned training /meetings. Flooding may also affect participation of community on the meeting</p>

and develop microenterprises		
<p>Outcome 1.2.2: Adapted business development services are available and accessible to all HHs</p>	<p>To achieve economic security, GAINS will stimulate market actors to adopt new market behaviors. For a business, this could mean introducing a new product line, adopting a new processing practice by upgrading equipment or introducing a new marketing approach. Lack of considering/including environmental management in <i>market system analyses, adapting supply and strengthening market linkage, and two-tier investment fund provision</i> may cause environmental and human health risks. Hence, depending upon their individual characteristics (Enterprises); MFI/FI, BDS, SLGs, and MSMEs can have quite a variety of environmental problems. Here are some of the most common and significant ones:</p> <ul style="list-style-type: none"> > Business groups may invest in activities that could harm the environment and neighboring community members. > Inappropriate inputs or products introduction by the identified value chain actors may contribute to air and water pollution and might have adverse health impacts. > Degradation of land and landscape, > Pollution of air, water, and soil through inappropriate use of agricultural inputs > Introduction of non-native species through poor and uncertified seeds > Poor agricultural practices and post-harvest management contribute to the creation of food borne diseases. > Health impacts from operating machinery, spraying chemicals, and pesticide application. > Chemical and hazardous waste. Production processes may use chemicals such as acids and metals. > Air pollutants—such as chemicals, dust, or smoke—can be created by burning fuel (such as wood, charcoal, gasoline, or oil) > Odor. Waste from MSMEs’ production processes can have a strong odor that can damage the quality of life nearby > Noise. Production can involve 	<p>Business groups may invest in activities that could be impacted by climate change -climate shocks and stressors</p> <p>Climate changes have the potential to reduce yield potential, modify production costs, damage crops post-harvest, and reduce labor productivity</p> <p>Changing climate conditions could also lead to changing prevalence of pests and diseases, potentially affecting agricultural yields</p> <p>Climate change is likely to bring about adverse consequences on market system-</p> <p>Climate change affects agricultural value chain, affecting the country’s food security.</p> <p>Climate change may exacerbate loss during storage (post-harvest loss, rodent infestation) as extreme heat or increased flooding could damage improperly stored crops</p> <p>Damaged transportation networks, hindering transport of imports and access to markets</p>

	<p>equipment that is very noisy or causes strong vibrations. This can affect workers' hearing and health, as well as that of the local community.</p> <p>› Health and safety risks. One of the most immediate and significant adverse impacts of MSEs can be on the health of workers and of family members who live on the premises,</p>	
Sub Purpose 1.3 Increased Sustainable Agricultural Production:		
<p>Outcome 1.3.1: Farmers apply resilient agricultural practices to nutritious food production</p>	<p>Lack of technical skill, proper design and implementation of conservation measures may lead to environmental degradation. The impacts are:</p> <ul style="list-style-type: none"> › Unnecessary soil disturbance › Poor SWC structural design and layout may cause gully initiation › Wastage of productive land where the structures will be placed › Structures may create favorable condition for pest occurrence on the opening of structure › Biological measures may be less productive › Invasive species may harm soil and under vegetation › Conflict over the resource after once degraded land rehabilitated. <p>Promotion of small scall irrigation may cause;</p> <ul style="list-style-type: none"> › Water salinity, acidity, and waterlogging › Soil erosion, flood, scouring soil › May create favorable conditions for vector and water-borne disease › Conflict among users and upper & down settlers 	<p>Extreme weather events like flood, erratic rain fall, temperature, may affect the implemented natural resource measures</p> <ul style="list-style-type: none"> › Damage the structure › Water harvesting structure may not serve for the intended purposes - prolonged drought › Drought may affect survival rate of the seedlings › Drought may elongate rehabilitation period › Flood may damage structures and fill the structures with sediment › Scarcity of rainfall renders rainwater capture ponds useless when needed most by users › Extreme weather events may affect the production of nutritious food › Reductions in food micronutrients due to higher temperatures and CO2 concentrations.
<p>Outcome 1.3.2: Input suppliers adapt their products, services, and commercial networks to respond to the demand</p>	<p>Improper handling of agricultural chemical inputs and veterinary service may harm the environment and human health.</p> <p>Improved and sustainable agricultural productivity requires expanding access to quality inputs. This intervention may cause the following environmental and social impacts.</p> <p>Seed and Planting Materials: Using low-quality seeds and planting materials can have a negative effect on crop yields and waste agricultural inputs</p> <p>Seed Importation:</p>	<p>High temperature affects storage of agricultural inputs</p> <p>Moisture affects shelf life of agricultural inputs</p> <p>Extreme weather events may damage local infrastructure</p> <p>Climate risks may affect the local food system security</p>

	<p>Invasive plant seeds are often distributed by humans, knowingly or unknowingly. Invasive species can have significant adverse impacts on the economy, human health, and biodiversity.</p> <ul style="list-style-type: none"> › Introduction of invasive and weed seed varieties through pooled procurements of formal structures/groups › Threat to existing genetic diversity due to use of imported GM plants › Seed Production Including Seed Diversification, Multiplication, and Quality Assurance; The activity may also reduce the number of non-target seeds or off-specification seeds in seed lots, and, therefore, reduce the amount of non-native or exotic seeds sown into fields. <p>Improved seed: Use of poor-quality seed and planting materials can have a negative effect on crop yields and waste agricultural inputs</p>	
<p>Outcome 1.3.3: Communities manage landscape in a sustainable and inclusive manner</p>	<p><i>Most of the environmental and social impacts of NRM Idem as outcome 1.3.1</i></p>	<p><i>Climate risks of NRM Idem as outcome 1.3.1</i></p>

3.3.2 PURPOSE 2(P2): IMPROVED UTILIZATION OF QUALITY FOOD AMONG VULNERABLE PEOPLE

Taking an asset-based approach, investing in community capacities and networks rather than concentrating on weaknesses or behaviors deemed “wrong”, P2, directly and indirectly, addresses the constraints discussed within the Conceptual Framework (see Section B.). P2’s integrated activities specifically focus on improving feeding practices for PLW and CU5, transforming entrenched sociocultural norms, empowering marginalized women and youth, and providing access to clean water. P2 uses community-led, GYSI-transformative, and SBC- focused nutrition and WASH approaches that capitalize on the opportunities and strengths within targeted HZs. These approaches empower diverse subpopulations to take charge of nutrition and WASH management and unlock opportunities for their youth, thereby sustainably improving FNES. Strengths within HZs include community and HH influencers and role models, who will play an important role in modeling positive MIYCN, WASH, FP, and other behaviors, including fostering positive dialogues between diverse HH members around more equitable decision-making, division of responsibilities, and access to and control over resources. Elevating role models and influencers will help GAINS better demonstrate strategies that enable community members to advance solutions to persistent FNE insecurity. P2 activities are integrated with P1, ensuring HHs have the knowledge, skills, and resources provided through IGA and livelihoods development, to apply improved nutrition and WASH behaviors under P2 sustainably. By improving nutrition and WASH knowledge, infrastructure, and behaviors alongside increased access to and availability of nutritious food

supported under PI, utilization of quality food will increase and contribute to improved FNES.

TABLE 5: POTENTIAL ENVIRONMENTAL IMPACTS AND CLIMATE RISKS OF IMPROVED UTILIZATION OF QUALITY FOOD AMONG VULNERABLE PEOPLE

Project/Activity Description	Potential environmental and social impacts	Potential climate risks
Sub-Purpose 2.1: Improved Maternal, Infant, & Young Children Nutrition		
<p>Outcome 2.1.1: HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices</p>	<p>Consumption smoothing through Title II commodities. To prevent the loss of food commodity from pest infestations during storage, it is common practice to perform periodic fumigation of warehouses and/or the application of contact pesticides to warehouse surfaces. <i>This chemical may harm the environment and humans if not properly managed.</i> Use of the fumigant aluminum phosphide, and to a lesser extent magnesium phosphide, can potentially affect the health of applicators and other on-site workers and visitors Use of the fumigant phosphine gas can affect the health of residents near warehouses being fumigated. Fumigation residuals could affect water quality, soil, and non-target organisms. Poor practices in transport, storage, application, and disposal of fumigants are a concern for human health. Improper disposal practices of rodents and birds killed by phosphine gas could affect human health. Negative health impacts to applicators and on-site workers and visitors (including transporters).</p>	<p>Certified applicators unwilling to use personal protective equipment due to increased temperatures. Increased temperatures and changes in rainfall patterns, changes occurrence of pests and pathogens and therefore fumigation requirements. Warehouses where commodities are stored are in locations threatened by extreme weather, or in flood zones.</p>
<p>Outcome 2.1.2: HHs adopt more equitable gender norms and practices to support the nutrition and care needs of female family members</p>	<p><i>This intervention has no foreseen environmental impacts</i></p>	<p><i>Has no foreseen risks</i></p>
<p>Outcome 2.1.3: Community-level nutrition services are available and accessible to all HHs</p>	<p>GAINS' implementation of Outcome 2.1.3 follows the six steps of the GoDRC NAC: <i>which have minimal environmental and social impacts.</i> But to facilitate the works and sustain motivation, Nurturing Care Groups (NCG) members (LMs and LFs) will receive cooking kits, training materials</p>	<p>No observable risk for the adoption of gender norms and practices. BUT Increasing temperatures may impact willingness to participate in group meetings if the participants are uncomfortable.</p>

	for MIYCN and WASH, Perma Garden kits, and small livestock.	Floods may also affect the movement of community from their home to meeting area. Planning procedures should take into consideration the availability of shade and potable water for any meetings held during hot seasons and also consider the occurrence of flooding during the rainy season.
Sub-Purpose 2.2: Improved Water, Sanitation, and Hygiene (WASH) Behaviors:		
Outcome 2.2.1: Households have improved knowledge and attitudes around safe WASH practices and related health risks	GAINS will work to ensure community members are knowledgeable about the positive role they can play in disease reduction by using clean water, and that they have the skills to apply and maintain positive WASH practices at HH and community levels. which have minimal environmental and social impacts	Has no observable risks
Outcome 2.2.2: Community-led WASH services are available and accessible to all households	Poorly designed water supply projects can Over-extract fresh water, leading to reduced flows for downstream users as well as flows inadequate to maintain habitat, wetlands, and biodiversity. Contamination of drinking water at point of use Stagnant water at water points Poorly designed sanitation projects can contaminate receiving water with human excreta, causing Nutrient enrichment, Depletion of dissolved oxygen, and other changes that disturb natural ecosystems and reduce the diversity of flora and fauna. Construction of water supply and sanitation infrastructure in or near sensitive areas like wetlands or estuaries can Destroy flora, fauna, and/or their habitats, Leading to losses in biodiversity and ecosystem functioning.	Flood may damage poorly sited sanitation and hygiene facilities and may cause water bore disease. Scarcity of rainfall may cause water shortage and affect sanitation of latrine.

4.0 ENVIRONMENTAL THRESHOLD DETERMINATIONS AND CLIMATE RISK RATINGS

The following table summarizes the recommended determinations and climate risk ratings based on the environmental analysis conducted. Upon approval, these determinations become affirmed, per 22 CFR

216.

4.1 RECOMMENDED ENVIRONMENTAL DETERMINATIONS

Interventions planned by SPIR II are listed in table 3 below, with recommended categories (Threshold Determination) based on the environmental analysis conducted. Upon approval, these determinations become affirmed, per 22 CFR 216. The environmental review classifications under 22 CFR §216 under which these interventions shall fall are:

Categorical Exclusion: classes of actions included in § 216.2(c)(2) for which an Initial Environmental Examination, Environmental Assessment, and Environmental Impact Statement generally are not required; actions that do not affect the natural or physical environment.

Negative Determination with Conditions: A Threshold Determination that applies to an action if the proposed action will not have a significant effect on the environment but may involve changing the biophysical environment and may, therefore, pose risks to the environment, which, with specified mitigation and monitoring, no significant environmental impacts will occur. Conditions stipulated in this IEE will have one or more associated mitigation and monitoring measures identified in the EMMP.

Positive Determination: actions that pose a significant adverse environmental impact and require a full Environmental Assessment (EA) or Scoping Statement as per Reg 216 guidance. NB: Even though activities like training, workshops and any gathering of people categorized under categorical exclusion must comply with COVID protocol as stated on DRC RFA IEE.

TABLE 3: ENVIRONMENTAL DETERMINATIONS AND CLIMATE RISK RATINGS

Interventions	22 CFR 216 Environmental Determination	Climate Risk Rating
Commodity Fumigation	Positive Determination	Low, moderate, and high (see CRM table)
Increased use of disinfectants/germicides to minimize COVID-19 transmission	Negative Determination	Low
Increased use of PPE and support for PPE production to minimize COVID-19 transmission	Negative Determination	Low and Moderate
Rehabilitation of 200km of roads to facilitate access to markets- road and bridge	Positive determination	High
Construction of storage facilities for farm products	Negative determination	Moderate

Creation of nurseries for seedlings production	Negative determination	Moderate
Women, men, and youth have increased financial capability;	Negative Determination	Low and Moderate
Formal and informal financial actors offer products and services adapted to the needs of women, men and youth	Negative Determination	Moderate
Women, men, and youth have increased entrepreneurial skills to create and develop microenterprises	Negative Determination	Low
Adapted business development services are available and accessible to all HHs	Negative Determination	Low
Farmers apply resilient agricultural practices to nutritious food production	Negative Determination	Moderate
Input suppliers adapt their products, services, and commercial networks to respond to the demand	Negative Determination	Moderate
Communities manage landscape in a sustainable and inclusive manner	Negative Determination	Moderate
HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices	Negative Determination	Low
HHs adopt more equitable gender norms and practices to support the nutrition and care needs of female family members	Negative Determination	Low
Community-level nutrition services are available and accessible to all HHs	Negative Determination	Moderate

Households have improved knowledge and attitudes around safe WASH practices and related health risks	Negative Determination	Low
Community-led WASH services are available and accessible to all households	Negative Determination with Conditions	High

4.2 CLIMATE RISK MANAGEMENT

This section summarizes the methodology used and findings of the CRM Screening in accordance with [ADS 201mal](#). The project design team, in consultation with the CIL, considered the potential effect of climate risks/stressors on the sustainability of the project (changing precipitation patterns, rising temperature, floods, droughts, fires, landslides, etc.) in addition to the impact of project activities on the climate (increased greenhouse gas emissions, land use changes, etc.). See Annex 2 for the complete CRM table.

Changes to the climate have already begun to affect the country. Over the last 30 years, the DRC has experienced temperature increases of 0.17°C per decade, while the warmest day of the year has increased by about 0.25°C per decade. Furthermore, the temperature of deep lake waters in Lake Tanganyika has increased 0.20–0.70°C since the 1960s. Increased frequency of extreme weather events, such as intense rainfall that follows prolonged dry spells, has led to erosion and flash flooding. For example, heavy rains in January 2018 resulted in severe flooding and landslides in communities near Kinshasa that killed 51 people and affected 15,700 others. These climate change impacts disproportionately affect women and youth, increasing their risk of food insecurity, poverty, health problems, violence, and displacement. Youth in the DRC are especially vulnerable to climate change; the DRC is ranked ninth among the top countries where children are most at risk to climate and environmental impacts.

Therefore, any development intervention must consider potential climate risks during planning processes to proactively respond to and build community resilience. According to USAID 201 ADS, screening all the proposed activities with respect to climate risks is mandatory. To this end, and in line with USAID Project-level climate risk screening and management tools, the extent to which climate might jeopardize the success of all proposed interventions was thoroughly reviewed.

The GAINS' climate risk management (CRM) assessment is documented in this IEE (see Annex 2 for the CRM table). This analysis is based on the USAID Climate Risk Screening and Management Tool for Project Design (U.S. Climate Resilience Toolkit: <https://toolkit.climate.gov/>).

The climate risk analysis established that climate risk was low for most interventions, except for the following interventions:

- Crop/backyard vegetable
- Livestock production
- Nutrition
- Construction, - rural infrastructures
- Small Grants – Tiers
- Promotion of commercial market

- Access to credit,

For these components, climate risk was ranked as moderate, requiring that risk management options be identified and implemented. Changing climatic conditions, such as the increased frequency of droughts and floods, will likely affect growing seasons and wet/dry seasons, alter precipitation patterns, and challenge the degree to which activities are able to meet their objectives. Accordingly, climate-proofing of these interventions is therefore required.

The recommended climate risk management actions include integrating education on climate change and variability into capacity-building activities, considering exposure to climate-related events when planning activities, ensuring timely communication of changing weather conditions to participants of in-person programming, ensuring that future climate variability is considered when planning capacity building activities; encouraging climate-resilient seed, crop, and livestock varieties; and deferring climate risk management to the engineer of record for any construction activities.

These climate risk management options will be integrated into activity implementation plans (Annex 2. GAINS CRM Summary Table).

5.0 CONDITIONS AND MITIGATION MEASURES

5.2 CONDITIONS

For applicants, USAID BHA environmental compliance at the time of activity design will be met through adherence to both 1) this RFA IEE and 2) completion of a stand-alone Supplemental IEE, only upon USAID's indication of an intent to award. Once the Supplemental IEE, including the Environmental Mitigation and Monitoring Plan (EMMP), CRM screening, and Institutional Arrangement Plan (IAP; including attendant budget), is finalized and approved by BHA/BEO, the IEE is to be used to guide activity implementation. All mitigation measures contained in the Supplemental IEE must be implemented and

monitored to effectively reduce potential environmental impacts resulting from interventions.

The following 10 conditions (explained in more detail in the following sections) describe awardees' environmental compliance, mitigation, monitoring, and evaluation responsibilities throughout the life of award (LOA).

- › **Condition 1:** Applicant to submit Environmental Safeguards Plan.
- › **Condition 2:** Awardee to develop Supplemental IEE for Mission and Washington clearance by the end of the R&I period.⁶¹
- › **Condition 3:** Implement environmental monitoring requirements.⁶² This includes development and alignment of Environmental Mitigation and Monitoring Plan (EMMP) and Climate Risk Management (CRM) with performance M&E systems.
- › **Condition 4:** Awardee to submit Environmental Status Reports (ESRs) annually before the Pipeline Resource Estimate Proposal (PREP). Additional reporting is reflected in the Annual Report (AR).
- › **Condition 5:** Develop an Environmental Assessment for any actions with potential for significant impact to ecological habitats, as determined by USAID.
- › **Condition 6:** Plan for a Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), which includes for pesticide procurement and/or use (e.g., agriculture, livestock, public health, construction), and/or commodity fumigation mitigation requirements.
- › **Condition 7:** Support the Mission in the development of any Best Practice Review (BPR) for environmental safeguarding.
- › **Condition 8:** Ensure compliance with partner country environmental regulations, including COVID-19 local and international standards.
- › **Condition 9:** Plan for management of packaging waste associated with commodity distribution and increased waste streams due to communicable diseases (including COVID-19).
- › **Condition 10:** Include awareness of pandemic health risks of activities (e.g., irrigation, roads) that disrupt wildlife habitat, and are exacerbated by climate risks in the IEE.

The environmental determinations in this IEE are contingent upon these general implementation and monitoring requirements, as well as ADS 204 and other relevant requirements.

5.1.1 During Pre-Award:

- 5.1.1.1 **Pre-Award Briefings:** As feasible, the design team and/or the cognizant environmental officer(s) (e.g., MEO, REA, BEO) will provide a pre-award briefing for potential offerors on environmental compliance expectations/responsibilities at bidders' conferences.
- 5.1.1.2 **Solicitations:** The design team, in coordination with the A/CO, will ensure solicitations include environmental compliance requirements and evaluation criteria. A/CO will ensure technical and cost proposal requirements include approach, staffing, and budget sufficient for complying with the terms of this IEE.
- 5.1.1.3 **Awards:** The A/COR, in coordination with the A/CO, will ensure all awards and sub-awards, include environmental compliance requirements.

5.1.2 During Post-Award:

- 5.1.2.1 **Post-Award Briefings:** The A/COR and/or the cognizant environmental officer(s) (e.g., MEO, REA, BEO) will provide post-award briefings for the IP on environmental compliance responsibilities.

- 5.1.2.3 Workplans and Budgeting: The A/COR will ensure the IP integrates environmental compliance requirements in work plans and budgets to comply with requirements, including EMMP implementation and monitoring.
- 5.1.2.4 Staffing: The A/COR, in coordination with the IP, will ensure all awards have staffing capacity to implement environmental compliance requirements.
- 5.1.2.5 Records Management: The A/COR will maintain environmental compliance documents in the official project/activity file and upload records to the designated USAID environmental compliance database system.
- 5.1.2.6 Host Country Environmental Compliance: The A/COR will ensure the IP complies with applicable and appropriate host country environmental requirements unless otherwise directed in writing by USAID. However, in the case of a conflict between the host country and USAID requirements, the more stringent shall govern.
- 5.1.2.7 Work Plan Review: The A/COR will ensure the IP verifies, at least annually or when activities are added or modified, that activities remain within the scope of the IEE. Activities outside of the scope of the IEE cannot be implemented until the IEE is amended.
- 5.1.2.8 IEE Amendment: If new activities are introduced or other changes to the scope of this IEE occur, an IEE Amendment will be required.
- 5.1.2.14 USAID Monitoring Oversight: The A/COR or designee, with the support of the cognizant environmental officer(s) (e.g., MEO, REA, BEO), will ensure monitoring of compliance with established requirements (e.g., by desktop reviews, site visits, etc.).
- 5.1.2.16 Environmental Compliance Mitigation and Monitoring Plan: The A/COR will ensure the IP develops, obtains approval for, and implements Environmental Mitigation and Monitoring Plans (EMMPs) that are responsive to the stipulated environmental compliance requirements.
- 5.1.2.17 Environmental Compliance Reporting: The A/COR will ensure the IP includes environmental compliance in regular project/activity reports, using indicators as appropriate; develops and submits the Environmental Mitigation and Monitoring Reports (EMMRs); and completes and submits a Record of Compliance (RoC) describing their implementation of EMMP requirements in conjunction with the final EMMR or at the close of sub activities (as applicable). And where required by Bureaus or Missions, ensure the IP prepares a closeout plan consistent with contract documentation for A/COR review and approval that outlines responsibilities for end-of-project operation, the transition of other operational responsibilities, and final EMMR with lessons learned.
- 5.1.2.18 Corrective Action: When noncompliance or unforeseen impacts are identified, IPs notify the A/COR, place a hold on activities, take corrective action, and report on the effectiveness of corrective actions. The A/COR initiates the corrective action process and ensures the IP completes and documents their activities. Where required by Bureaus or Missions, ensure the Record of Compliance is completed.

5.2 AGENCY CONDITIONS

- 5.2.1 Sub-award Screening: The A/COR will ensure the IP uses an adequate environmental screening tool to screen any sub-award applications and to aid in the development of EMMPs.
- 5.2.2 Programmatic IEEs (PIEE): PIEEs stipulate requirements for additional environmental examination of new or country specific projects/activities. The A/COR of any

project/activity being implemented under a PIEE will ensure appropriate reviews are conducted, typically through a Supplemental IEE, and approved by the cognizant BEO.

- 5.2.3 Supplemental IEEs (SIEEs): An SIEE will be prepared for any new project/activity being planned which falls under a PIEE. The SIEE will provide more thorough analysis of the planned activities, additional geographic context, and baseline conditions as well as specific mitigation and monitoring requirements.
- 5.2.4 Other Supplemental Analyses: The A/COR will ensure supplemental environmental analyses that are called for in the IEE are completed and documented.
- 5.2.5 Resolution of Deferrals: If a deferral of the environmental threshold determination was issued, the A/COR will ensure that the appropriate 22CFR216 environmental analysis and documentation is completed and approved by the BEO before the subject activities are implemented.
- 5.2.6 Positive Determination: If a Positive Determination threshold determination was made, the A/COR will ensure a Scoping Statement, and if required an Environmental Assessment (EA), is completed, and approved by the BEO before the subject activities are implemented.
- 5.2.7 Compliance with human subject research requirements: The AM, A/COR shall assure that the IP and sub-awardees, -grantees, and -contractors demonstrate completion of all requirements for ethics review and adequate medical monitoring of human subjects who participate in research trials carried out through this IEE and ensure appropriate records are maintained. All documentation demonstrating completion of required review and approval of human subject trials must be in place prior to initiating any trials and cover the period of performance of the trial as described in the research protocol.

6.0 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 22 CFR 216.2(d).

In addition, other than projects/activities determined to have a Positive Threshold Determination and/or a pesticide management 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 engineering 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).

7.0 REVISIONS

Per 22 CFR 216.3(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 MEO/REA and BEO informed of any new information or changes in the activity that might require revision of this environmental analysis and environmental determination.

ATTACHMENTS:

Annex 1: Environmental Mitigation and Monitoring Plan (EMMP for GAINS)

Annex 2: Climate Risk Management Plan (CRM for GAINS)

ATTACHMENT 1. EMMP TABLE FOR GRADUATING TO SUSTAINABLE AGRICULTURE, INCOME, NUTRITION AND FOOD SECURITY PROGRAM [GAINS]

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
Purpose 1: Strengthen Livelihoods and Increased Income					
Sub Purpose 1.1 Improve Usage of Credit and Capital					
Outcome 1.1.1 Women, men, and youth have increased financial capability;	These activities led to an increase in economic security by increasing the number of IGS and SLGs, but the SLG members may invest in activities that could harm the environment and neighboring community members	<p>The SLG members may do not have all the skills or tools on hand to be able to effectively integrate environmental concerns into their daily operations right away;</p> <ul style="list-style-type: none"> > Incorporate environmental topics within their commodity specific training (financial literacy) > Conduct rapid screening for FI and SLG on environmental impact level of loan/borrower 	<ul style="list-style-type: none"> > Strategy for screening SLG activities developed and implemented > Y/N Environmental topics included within the commodity-specific training curriculum 	Quarterly and annually	Environmentalist, Program team / livelihood team lead
Outcome 1.1.2: Formal and informal financial actors offer products and services adapted to the needs of women, men and youth	During R&I, GAINS will work with Equity Bank, FINCA, and local MFIs to ensure they offer context-appropriate credit and savings products to the needs of smallholder farmers those engaged in other on-, off-, and non-farm IGAs. Activities that directly or indirectly support on-farm, off-farm, and non-farm IGAs may have quite a variety of environmental and social problems. Here are some of the most common and significant ones:	<p>Provide technical support to conduct comprehensive assessment of on-farm, off-farm and non-farm IGS against a “cleaner production” model, particular in relation to use of appropriate type and standard of inputs.</p> <ul style="list-style-type: none"> > Assistance for on-farm, off-farm and non-farm /SME must comply with local, national, USAID, or its own organizational environmental policies > Incorporate environmental topics within their commodity 	<ul style="list-style-type: none"> > Verify training reports. > # of land tenure and gender issues addressed > Verify impact screening methodology is in place > Verify impact screening has been conducted. 	Quarterly and annually	Environmentalist, Program team / livelihood team lead

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<ul style="list-style-type: none"> › Degradation of land and landscape, › Pollution of air, water, and soil through inappropriate use of inputs › Introduction of non-native species through poor and uncertified seeds › Poor agricultural practices and post-harvest management contribute to the creation of food borne diseases. › Health impacts from operating machinery, spraying chemicals, and pesticide application › Inefficient production techniques reduce productivity and create excessive solid waste/garbage 	<p>specific training (financial literacy and business skill)</p> <ul style="list-style-type: none"> › Include training on environmental screening as part of FI and SLG capacity building › Develop or modify formats for customized environmental screening process for use by FI and SLGs as part of eligibility criteria to access products/services › Minimize agricultural land expansion by intensifying production- (NB: Intensification should be environmentally sound). › Use only seeds and planting materials that meet the host country's sanitary and phytosanitary standards. › promote crops/varieties and approaches that are proven in practice to be appropriate to the ago-ecological zone. › Address land tenure, gender, and vulnerable groups issues 	›		
Outcome 1.2.1: Women, men, and youth have increased entrepreneurial skills to create and develop microenterprises	Increased entrepreneur skills and microenterprise had no observable impact on the environment	But need to integrate environmental compliance topics in the training curriculum	Y/N Environmental topics included with the training curriculum	Before the training	Environmentalist, Program team / livelihood team lead
Outcome 1.2.2: Adapted business development services are	To achieve economic security, GAINS will stimulate market actors to adopt new market behaviors . For a business, this could mean <i>introducing a new</i>	Technical support: Provide technical support to identified firms/MSEs to conduct comprehensive assessment of their business against a “cleaner	# of environmentally sound firms/enterprises identified Enterprises abide	Quarterly and annually Conduct bi-annual spot	Environmentalist, Program team / livelihood team lead

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
available and accessible to all HHs	<p><i>product line, adopting a new processing practice by upgrading equipment, or introducing a new marketing approach.</i> Lack of considering/including environmental management in <i>market system analyses, adapting supply and strengthening market linkage, and two-tier investment fund provision</i> may cause environmental and human health risks. Hence, depending upon their individual characteristics (Enterprises); MFI/FI, BDS, SLGs, and MSMEs can have quite a variety of environmental problems. Here are some of the most common and significant ones:</p> <ul style="list-style-type: none"> > Business groups may invest in activities that could harm the environment and neighboring community members. > Inappropriate inputs or products introduction by the identified value chain actors may contribute to air and water pollution and might have adverse health impacts. > Degradation of land and landscape, > Pollution of air, water, and soil through inappropriate use of agricultural inputs 	<p>production” model, particular in relation to use of appropriate type and standard technology.</p> <p>Support government authority to identify/design and promote appropriate environmental mitigation plans with incentives that encourages enterprise to adopt practical environmental management plans</p> <p>Provide oversight on all MSE development activities, to reduce environmental impacts and abide by Regulation 216.</p> <p>Develop or modify formats for customized environmental screening process for use by Banks/MFI as part of eligibility criteria to access products/services.</p> <p>Screen MSMEs eligible for the Two-Tier Investment Fund using environmental compliance formats before they get a fund.</p> <p>For activities involving hazardous materials, work with the business to develop SOPs for the safe and appropriate procurement, storage, management and/or disposal of these materials.</p> <p>Capacity Building: Include training on environmental screening as part of Banks/MFI/SLG capacity building.</p> <p>Provide training for local partners and firms to comply with</p>	<p>by USAID environmental regulation 216</p> <p># of environmentally sound firms eligible for the Two-Tier investment fund.</p> <p># of partners attained environmental compliance training</p> <p># of firms trained on proper handling and application of agricultural inputs</p> <p># of land tenure and gender issues addressed</p> <p># of enterprises adopted/promote GREEN Production approach</p>	<p>checks to verify activities follow MSE environmental guidelines</p> <p>Review of records documenting the SME screening activities and compliance with relevant environmental requirements.</p>	

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<ul style="list-style-type: none"> › Introduction of non-native species through poor and uncertified seeds › Poor agricultural practices and post-harvest management contribute to the creation of food borne diseases. › Health impacts from operating machinery, spraying chemicals, and pesticide application. › Chemical and hazardous waste. Production processes may use chemicals such as acids and metals. › Air pollutants—such as chemicals, dust, or smoke—can be created by burning fuel (such as wood, charcoal, gasoline, or oil) › Odor. Waste from MSMEs' production processes can have a strong odor that can damage the quality of life nearby › Noise. Production can involve equipment that is very noisy or causes strong vibrations. This can affect workers' hearing and health, as well as that of the local community. › Health and safety risks. One of the most immediate and significant adverse impacts of MSEs can be on the health of workers and of 	<p>regulatory requirements including PERSUAP, proper application and handling of agricultural inputs like improved seeds, fertilizer, and pesticides.</p> <p>Provide training on</p> <ul style="list-style-type: none"> › General facts about MSEs and the occupational health and environmental issues associated with them › Clean technologies and methods for preventing and mitigating adverse environmental impacts. <p>Preserving land and landscape: Minimize agricultural land expansion by intensifying production- (NB: Intensification should be environmentally sound).</p> <ul style="list-style-type: none"> › Use land in conformity with its capability. › Support land clearing only with detailed assessment and thorough mitigation. › Implement erosion/runoff control measures and riparian buffers. › Consider the community-based watershed management approach. › Promote integrated soil fertility management practices (ISFM). › Provide capacity building training for local partners on 			

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<p>family members who live on the premises,</p>	<p>agronomic practices, post-harvest management – soil fertility management, composting, soil, and water conservation measures implementation.</p> <p>Preserving Biodiversity, Control Pollution, and leaching</p> <p>Social, Human Health and Safety Include Occupational and Community Health and Safety in the capacity building/training curriculum prepared for the MFI, MSME s and SLG.</p> <p>Address land tenure, gender, and vulnerable groups issues in the assessment</p> <p>Undertake pre-implementation gender and related social analyses.</p> <p>Promote GREEN ENTERPRISES: Develop criteria that help to select enterprises that have no or minimal environmental impact for partnership and request Environment Impact Analysis and mitigation plan for selected partners.</p> <p>Award Two-Tier Investment Fund for enterprises that offer a wide range of goods and services including the following:</p> <ul style="list-style-type: none"> › Promote solar energy for small holders -irrigation, cooking, and lighting. 			

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
		<ul style="list-style-type: none"> › Sustainable agriculture/forestry › Production of fertilizer from organic waste › Waste collection and disposal › Recycling, repair, and remanufacturing 			
Sub Purpose 1.3 Increased Sustainable Agricultural Production:					
Outcome 1.3.1: Farmers apply resilient agricultural practices to nutritious food production	<p>GAINS promotes Resilience Design (RD)- follows a design process that is informed and shaped by the unique characteristics, opportunities, and challenges of each farming system, which will allow GAINS participants to expand their farmland by rehabilitating abandoned degraded areas and protect land under use. But lack of technical skill, proper design and implementation of conservation measures may lead to environmental degradation. To mention some of the impacts:</p> <ul style="list-style-type: none"> › Unnecessary soil disturbance › Poor SWC structural design and layout may cause gully initiation › Wastage of productive land where the structures will be placed › Structures may create favorable condition for pest occurrence on the opening of structure › Biological measures may be less productive 	<p>Guideline or Approach-GoDRC:</p> <ul style="list-style-type: none"> › Follow Government of DRC-MoA Watershed development guidelines or the country natural resource management guideline/approach. <p>Suitability and land capability</p> <ul style="list-style-type: none"> › Apply structures suitable to the agro-ecology of the area and land uses › Design and construct conservation structural based on community-based watershed guideline technical specifications. <p>Capacity Building and Technical support</p> <ul style="list-style-type: none"> › Capacity building on technical layout and design of conservation measures/RD approach › Train partners and FSP on Environmental Sound Management Framework (ESMF) and screening procedure. › Promote integration of biological measures with 	<p>Y/N Structures are constructed with minimum soil disturbance</p> <p>Y/N Structures are designed and constructed following watershed guideline technical specifications</p> <p>Number of individuals who participate in ESMF & watershed guideline training</p> <p>Y/N Structures are integrated with biological measures</p> <p>Y/N Structures are properly compacted and there is no evidence of rats using the structures as home</p> <p>Area (ha) covered with biological measures</p> <p># of GRM in place</p>	Quarterly and annually	Environmentalist/ Program team lead/ NRM team lead/ Agricultural team lead

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<ul style="list-style-type: none"> › Invasive species may harm soil and under vegetation › Conflict over the resource after once degraded land rehabilitated. <p>Promotion of small scall irrigation may cause;</p> <ul style="list-style-type: none"> › Water salinity, acidity, and waterlogging › Soil erosion, flood, scouring soil › May create favorable conditions for vector and water-borne disease › Conflict among users and upper & down settlers › 	<p>physical Soil and Water Conservation measures.</p> <ul style="list-style-type: none"> › Promote planting grass & forage trees/shrubs on the constructed conservation measures. › Design and construct conservation structural based on the standards on community-based watershed development guideline technical specifications › Placed soil and stone properly while constructing conservation measures. › Ensure GRM conflict resolution mechanism is in place. › Conduct community consultations. › Promote nitrogen fixer crops to increase the fertility of the soil › Promote soil fertility management; organic fertilization; composting › Promote cut and carry system › Promote bio-pesticide <p>GAINS RD Approach: GAINS will apply the Resilience Design in Smallholder Farming Systems (RD) approach which strengthens resilience of smallholder farmers and their farming systems to environmental and economic shocks and stresses through:</p> <ul style="list-style-type: none"> › enhancing natural resources and ecosystem services; 	<p># of communities consulted</p> <p># of individuals who apply cut-and carry</p> <p># of reported conflicts</p> <p># of resolved conflicts</p> <p>Y/N PEA for SSI developed</p> <p># of schemes with a feasibility study conducted</p> <p># of schemes that passed through ESMF screening</p> <p>Y/N site specific EMMP prepared</p>		

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
		<ul style="list-style-type: none"> > increasing energy efficiency; > contributing to increased nutritional status; and > strengthening farmers' skillsets, adaptability, and confidence. <p>Small scall Irrigation promotion;</p> <ul style="list-style-type: none"> > Develop Programmatic Environmental Assessment for Small Scall Irrigation > Conduct feasibility study > Conduct ESMF screening and prepare site specific EMMP > Follow PEA for SSI to address effects 			
	<p><i>Rehabilitation of road, bridge and other community projects may have an adverse environmental and social impacts:</i></p> <ul style="list-style-type: none"> > Cause soil erosion, siltation > Change in natural water flow > Degrade water quality > Alter hydrology > Damage valuable ecosystems and habitats <p>Damage or destroy sensitive terrestrial ecosystems and/or damage to aquatic ecosystems</p>	<p>Minimize disturbance of native flora (vegetation) during construction. Minimize the amount of clearing. Clear small areas for active work one at a time</p> <p>Avoid damaging areas that provide valuable ecosystem services, as revealed by an ESV</p> <p>Avoid use of herbicides. Any use should follow health and safety procedures to protect people and the environment. At a minimum, herbicides should be used according to manufacturer's specifications</p> <p>Where possible, remove large plants and turf without destroying them, and preserve them for replanting in temporary nurseries</p> <p>Move earth and remove</p>	<p>Environmental sound road, bridge plan prepared and executed</p>	<p>During design plan preparation and construction period</p>	<p>Environmental expert and Engineer</p>

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
		<p>vegetation only during dry periods. Store topsoil for resspreading. If vegetation must be removed during wet periods, disturb ground only just before actual construction</p> <p>Install temporary erosion control features when permanent ones will be delayed. Use erosion control measures such as hay bales, berms, straw or fabric barriers</p> <p>Revegetate with recovered plants and other appropriate local flora immediately after equipment is removed from a section of the site</p> <p>Cover pile with plastic sheeting; prevent run off with hay bales or similar measures</p> <p>Place fence around excavation</p> <p>Have construction crews and supervisors be alert for buried historic, religious and cultural objects and provide them with procedures to follow if such objects are discovered. Provide incentives for recovery of objects and disincentives for their destruction or theft</p>			
<p>Outcome 1.3.2: Input suppliers adapt their products, services, and commercial networks to respond to the</p>	<p>GAINS will support farmers to establish business relationships with seed multipliers, with the goal of having a seed system that can fully meet demand for high-quality, contextually appropriate seed Improved and sustainable</p>	<p>Seed System Assessment- GAINS will begin with a R&I seed system security assessment led by consortium members IITA and CIP, to expand production and commercialization of improved, climate resilient, and nutrient -rich seeds</p>	<p>Y/N seed system assessment conducted? # of seed producer groups training on seed multiplication technics</p>	<p>Quarterly and annually</p>	<p>Environmentalist and program team</p>

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
demand	<p>agricultural productivity requires expanding access to quality inputs. This intervention may cause the following environmental and social impacts.</p> <p>Seed and Planting Materials: Using low-quality seeds and planting materials can have a negative effect on crop yields and waste agricultural inputs. Seed-borne fungal pathogens can cause serious diseases in crops, while poorly cleaned seeds can introduce weeds or “off-types”—i.e. seeds that do not produce the intended crop variety.</p> <p>Seed Importation: Invasive plant seeds are often distributed by humans, knowingly or unknowingly. Invasive species can have significant adverse impacts on the economy, human health, and biodiversity.</p> <ul style="list-style-type: none"> › Introduction of invasive and weed seed varieties through pooled procurements of formal structures/groups › Threat to existing genetic diversity due to use of imported GM plants <p>Seed Production Including Seed Diversification, Multiplication, and Quality Assurance: Seed production is</p>	<ul style="list-style-type: none"> › Examine availability, access, varietal suitability, seed quality and system resilience and, › Identify bottlenecks, opportunities for strengthening formal and informal seed provision. <p>Empower and Capacitate: GAINS will empower and capacitate the GoDRC’s primary seed-related organizations: INERA and SENASEM, which have regional offices in Kasai.</p> <ul style="list-style-type: none"> › While INERA is charged with research and dissemination of high-quality seed to multipliers and › SENASEM is responsible for seed technology, quality control, and certification, GAINS will support resources to fully fulfill their obligations. › Educate producers regarding safe handling of treated seed › Use only species/varieties known to be appropriate for the agro-climatic zone <p>Environmental Regulation: Importers of seed into a country must comply with local regulations and applicable legislation.</p> <p>Use only seeds and planting materials that meet host country sanitary and phytosanitary standards</p> <p>Establish Seed System GAINS</p>	<p>Types of seed fulfill minimum country ER requirements</p> <p>Y/N seed system established?</p> <p>Variety of seeds passed seed quality test</p> <p># of improved research instituted support.</p> <p># of seed multiplication groups formed and supported</p> <p># of seed multiplier connected with business</p> <p>Types of seed certified and distributed</p>		

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<p>expected to have a positive impact on the environment when done in combination with comprehensive land use management by increasing productivity on agricultural lands, potentially reducing the need to clear more land for agricultural production.</p> <ul style="list-style-type: none"> › The activity may also reduce the number of non-target seeds or off-specification seeds in seed lots, and, therefore, reduce the amount of non-native or exotic seeds sown into fields. › Impact of GM/GE varieties and containment facility research on food safety and animal feed (e.g., toxicity) › Potential for weedy or invasive persistence, unintended gene flow to other organisms, impact on non-target organisms <p>Improved seed: Use of poor-quality seed and planting materials can have a negative effect on crop yields and waste agricultural inputs.</p> <ul style="list-style-type: none"> › Promotion and scaling of farming of bio-fortified crops, such as orange-fleshed sweet potato possibly introducing invasive species that have the potential to cause damage to ecosystem 	<p>will support farmers to establish business relationships with seed multipliers, with the goal of having a seed system that can fully meet demand for high-quality, contextually appropriate seed.</p> <p>Varietal Testing; Ensuring improvements in informal seed commercialization channels will facilitate access to local varieties, and incorporating varietal testing of improved varieties with organic fertilizers will facilitate the application of Resilience Design (RD).</p> <p>Improve Research and Development Performance: GAINS, through CIP/IITA, will work with INERA Benalongo (located in the Activity area) to improve its research and development performance for nutritious, contextually appropriate, and farmer-chosen improved seed varieties, including orange-fleshed sweet potatoes and biofortified cassava and cowpeas, among others.</p> <p>Physical sampling should be conducted per a field manual or operating procedure addressing field team safety in addition to sample quality and integrity.</p> <p>Containment facility research should be supported with a documented, independently reviewed risk assessment to</p>			

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
		<p>determine the risk level, and independent expert site audit to verify conformity of the facility with requirements</p> <p>Quality Control and Certification; GAINS, through CIP and IITA, will work with SENASEM to develop more effective training modalities for farm multipliers on seed technology and regulations, while ensuring quality control and certification processes are in place, understood, and consistently used by staff.</p> <p>Connecting Seed Multiplier with Business; GAINS will support seed multipliers with business and marketing mentorship.</p> <ul style="list-style-type: none"> > Will facilitate connections between seed multipliers and (Y)PO leads, agricultural cooperatives, and other local producers' groups to encourage the development of long-term business relationships. > GAINS will also support business partnerships between seed multipliers and seed traders to ensure consistent expansion of demand beyond targeted HZs 			
Outcome 1.3.3: Communities manage landscape in a	GAINS promote participatory NRM through CATALYSE to increased sustainable agricultural production first	<i>Idem as outcome 1.3.1 (mentioned under outcome 1.3.1)</i>	Idem as outcome 1.3.1	Idem as outcome 1.3.1	Idem as outcome 1.3.1

Project/Activity/Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
sustainable and inclusive manner	through development of Local Landscape Management Plans (LLMP), which will determine community management of natural resources related to food production, also impacting community-led Purpose 2 activities (such as selection of water point sites and tree planting). <i>Most of the environmental and social impacts of NRM Idem as outcome 1.3.1</i>				

PURPOSE 2: IMPROVED UTILIZATION OF QUALITY FOOD AMONG VULNERABLE PEOPLE:

Sub-Purpose 2.1: Improved Maternal, Infant, & Young Children Nutrition

Outcome 2.1.1: HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices	<p>Consumption smoothing through Title II commodities To address the high rates of food and nutrition insecurity, especially within the ultra-poor and most vulnerable HHs, GAINS will provide vulnerable HHs (GA and FfW participants) with a nutritious, context-relevant basket of food rations: cornmeal, yellow split peas, and vegetable oil.</p> <p>Commodity Fumigation: To prevent the loss of food commodity from pest infestations during storage, it is common practice to perform periodic fumigation of warehouses and/or the application of contact pesticides to warehouse surfaces. <i>This chemical may harm the</i></p>	<p>Develop PERSUAP of commodity fumigation and contact pesticides.</p> <p>Follow SUAP procedures and comply with fumigation PEA</p>	<p>Y/N PERSUAP developed and approved by USAID</p> <p>Y/N Updated Commodity Management SUAP with Environmental Status Report submitted.</p>	<p>At the beginning of the implementation phase</p> <p>Annually with ESR</p>	<p>Environmental lead and commodity team</p> <p>Environmental lead and commodity team</p>
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Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<p><i>environment and humans if not properly managed.</i></p> <ul style="list-style-type: none"> › Use of the fumigant aluminum phosphide, and to a lesser extent magnesium phosphide, can potentially affect the health of applicators and other on-site workers and visitors › Use of the fumigant phosphine gas can affect the health of residents near warehouses being fumigated. › Fumigation residuals could affect water quality, soil, and non-target organisms. › Poor practices in transport, storage, application, and disposal of fumigants are a concern for human health. › Improper disposal practices of rodents and birds killed by phosphine gas could affect human health. › Phosphine may not completely control fungal contamination. 				
	<p>GAINS will build an enabling environment to increase knowledge around community members' important role in promoting positive MIYCN practices. To promote this GAINS will;</p> <ul style="list-style-type: none"> › Working with influencers: › Facilitate training: › Form and work with NCG participants and groups: 				

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<ul style="list-style-type: none"> > Conduct community dialogue: > Layering nutrition-sensitive with nutrition-specific activities: <p>This intervention has no foreseen environmental impacts because they are categorically excluded pursuant to 22 CFR 216.2(c)(2)(viii) for programs involving nutrition, health care or population and family planning services.</p>				
<p>Outcome 2.1.2: HHs adopt more equitable gender norms and practices to support the nutrition and care needs of female family members</p>	<p>Applying gender- transformative approaches empowers both men and women to take charge of nutrition management, involving men is essential for improving HH health and nutrition behaviors. Building an enabling environment of positive influencers can establish trust among gatekeepers to facilitate discussion on culturally sensitive topics, such as gender inequity and its relationship to malnutrition.</p> <p><i>This intervention has no foreseen environmental impacts</i></p>	<p>No</p>			
<p>Outcome 2.1.3: Community-level nutrition services are available and accessible to all HHs</p>	<p>GAINS' implementation of Outcome 2.1.3 follows the six steps of the GoDRC NAC: which have minimal environmental and social impacts.</p> <p>But to facilitate the works and</p>	<ul style="list-style-type: none"> > Provide technical support and on-site training and mentoring by extension agents on Perma gardening, > Ensuring optimal design based on soil and water capacity, crop conditions, 	<p>Verify that guidelines for conducting analysis and trainings are in place</p> <p>Verify criteria for</p>	<p>As per workplans, according to timing of engagement in activity</p> <p>Quarterly with</p>	

Project/ Activity/Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
	<p>sustain motivation, Nurturing Care Groups (NCG) members (LMs and LFs) will receive cooking kits, training materials for MIYCN and WASH, Perma Garden kits, and small livestock. So in appropriate practices at household level</p> <ul style="list-style-type: none"> > Leading to soil and water degradation > Have adverse health and soil composition impacts 	<p>available technology, and management capacity.</p> <ul style="list-style-type: none"> > Promote green manure, to preserve soil and water, and to avoid stagnant water and pathways > Promote cleaning production approaches for small ruminant – proper waste management 	<p>evaluating Parma Garden design and siting are in place</p> <p>Review training reports for extension workers and community members</p> <p>Conduct on-site visit during Parma Garden set up and all year round</p>	<p>program reports</p>	
Sub-Purpose 2.2: Improved Water, Sanitation, and Hygiene (WASH) Behaviors:					
<p>Outcome 2.2.1: Households have improved knowledge and attitudes around safe WASH practices and related health risks</p>	<p>GAINS will work to ensure community members are knowledgeable about the positive role they can play in disease reduction by using clean water, and that they have the skills to apply and maintain positive WASH practices at HH and community levels. which have minimal environmental and social impacts</p>	<p>GAINS will use the R&I Behavior Barrier Analysis to confirm key behavioral challenges around WASH in target HZs, including how to reduce environmental, social and individual barriers to sanitation services uptake</p> <p>GAINS will conduct Programmatic Environmental Assessment /PEA – for water project</p> <p>Through training on HH perm gardens, PEAs will ensure NCGs, and their neighbors are well-versed in the linkages between good WASH practices and agriculture.</p>	<p>Y/N Behavior barrier analysis conducted around WASH int targeted HZs?</p> <p>Y/N Programmatic Environmental Assessment undertaken for water project?</p> <p># Environmentally sound water project designed</p> <p># of HHs/NCG trained on the linkage between WASH and Agriculture</p>	<p>As per workplans, according to timing of engagement in activity</p> <p>Quarterly with program reports</p>	<p>Environmental team lead/ Water Engineer</p>
<p>Outcome 2.2.2: Community-led WASH services are available and accessible to all</p>	<p>Infrastructure planning and construction: GAINS will construct conflict-sensitive, community-approved and sustainable water points and</p>	<p>Once infrastructure points are identified in alignment Infrastructure Planning and Construction: With LLMPs and LNPs, GAINS will carry out tailored</p>	<p># of stakeholders consulted and community meetings held</p> <p>Water yield and</p>	<p>As per workplans, according to timing of engagement in activity</p>	<p>Environmental team lead/ Water Engineer</p>

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
households	<p>community WASH infrastructure in markets.</p> <p>But improperly designed water supply projects can</p> <ul style="list-style-type: none"> › over-extract fresh water, leading to reduced flows for downstream users as well as flows inadequate to maintain habitat, wetlands, and biodiversity. <p>Poorly designed sanitation projects can contaminate receiving water with human excreta, causing</p> <ul style="list-style-type: none"> › nutrient enrichment, › depletion of dissolved oxygen, and other changes that disturb natural ecosystems and reduce the diversity of flora and fauna. <p>Construction of water supply and sanitation infrastructure in or near sensitive areas like wetlands or estuaries can</p> <ul style="list-style-type: none"> › destroy flora, fauna, and/or their habitats, › leading to losses in biodiversity and ecosystem functioning. 	<p>assessments including feasibility studies, environmental and social impact assessments, mitigation strategies, and infrastructure improvement plans.</p> <ul style="list-style-type: none"> › During project design, calculate yield and extraction rates in relation to other area water uses and available supply. Monitor water levels to detect overdrawing. › Assess water quality upstream and downstream to determine if water is safe to drink and to establish a baseline so that any future degradation can be detected, prior to commissioning › Develop, implement, and periodically review WQAP. › Ensure sanitation facilities are sited an appropriate distance away from source, at least 30 m. › Ensure water and sanitation access benefits both genders equally and that women are not carrying the largest management burden. <p>Infrastructure management and maintenance: GAINS will support the promulgation of the GoDRC Water Law, engaging communities, government, and private sector actors to fully understand and flesh out mechanisms, roles, and responsibilities, and develop an</p>	<p>extraction reports</p> <p>Number of water committees formed</p> <p>Number of community members trained in cleaning and maintenance</p> <p>Water quality reports</p> <p>Presence of fence or equivalent</p> <p>Number of community members trained on proper use and maintenance of the system</p> <p>Number of times fecal coliform bacteria are measured.</p> <p>Average distance traveled to access water and sanitation</p>	Quarterly with program reports	

Project/ Activity/Sub- Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
		<p>initial management and financial plan for long-term WASH infrastructure maintenance.</p> <ul style="list-style-type: none"> › Ensure government involvement and trust between governments and communities via stakeholder engagement meetings during planning. › Establish water committee to oversee usage and consider pricing › Use fencing or equivalent to keep livestock from grazing uphill of the water supply and from drinking from the water source. 			

ATTACHMENT 2. CLIMATE RISK MANAGEMENT SUMMARY TABLE FOR GAINS

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
Outcome 1.1.1 Women, men, and youth have increased financial capability;	LoA	All intervention areas	Climate and weather shocks and stressors can cause direct and indirect negative impacts on SLG investment - adversely affect the selected on-farm and off-farm activities	Low	Capacity building on risk management and adopting climate-smart technologies, which can reduce the prevalence of climate change shocks and increase riskbearing capacity of private sectors	Capacity building on risk management and adopting climate-smart technologies, which can reduce the prevalence of climate change shocks and increase riskbearing capacity of private sectors Incorporating climate and disaster risk information into capacity building activities in other development sectors may increase resilience to disaster and ensure effectiveness and sustainability of development objectives.	Investing in climate-smart technologies
Outcome 1.1.2: Formal and informal financial actors offer products and services adapted to the needs of women, men	LoA	All intervention areas	Impact of climate risks to on-farm, off-farm, and non-farm IGAs Damage to crops, reduced productivity, and increased economic losses due to increased flooding	Moderate	Build awareness of climate change implications for food security. Help farmers adapt cropping practices to help ensure food production, food	Take advantage of financial services that are especially responsive to the needs of underserved and marginalized populations to reduce inequalities.	Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
and youth			<p>in river basins.</p> <p>Reduced yields due to crop damage and field waterlogging from floods</p> <p>Reduced yields of staple cereal crops (wheat, rice, and maize) due to higher temperatures.</p> <p>Reduced food availability due to increased climate variability and the changed frequency and intensity of extreme weather events.</p> <p>Increased food price fluctuations due to variation in temperature and precipitation</p> <p>Reduced willingness of farmers to invest in productivity enhancing assets such as fertilizer due to price volatility and greater uncertainty about future prices.</p> <p>Reduced labor productivity due to</p>		<p>security, and sustainable livelihoods (e.g., altering cultivation and sowing times and crop cultivars).</p> <p>Support improvements in processing, marketing, and distribution of agricultural products.</p> <p>Help develop value chains for new agricultural products.</p> <p>Support investments in new technologies and management practices that will increase returns to land, labor, and capital.</p> <p>Provide extension services and training in climate-smart agriculture and sustainable fishing practices.</p> <p>Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices.</p>	<p>Promote new public-private partnerships that will strengthen agriculture value chains.</p> <p>Encourage adoption of innovations in food processing, packaging, transport, and storage.</p>	<p>management (IPM), and crop rotation</p> <p>Provide farmers with new cultivars that are drought and heat tolerant.</p> <p>Ensure equal opportunity access to such technologies for all farmers, especially marginalized populations.</p> <p>Help farmers adapt cropping practices to help ensure food production, food security, and sustainable livelihoods (e.g., altering cultivation and sowing times and crop cultivars).</p> <p>Support improvements in processing, marketing, and</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			<p>impacts to health and wellbeing of the workforce caused by extreme heat events</p> <p>Lower protein content in grains due to elevated temperature and CO2.</p> <p>Damaged transportation networks, hindering transport of imports and access to markets</p> <p>Extreme weather events may adversely impact off-farm activities.</p>				<p>distribution of agricultural products.</p> <p>Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices.</p> <p>Support improvements in processing, marketing, and distribution of agricultural products.</p>
<p>Outcome 1.2.1: Women, men, and youth have increased entrepreneurial skills to create and develop microenterprises</p>	<p>LoA</p>	<p>All intervention areas</p>	<p>No observable risks. BUT Increasing temperatures may impact the comfort of participants and their willingness to participate in planned training /meetings. Flooding may also affect participation of community on the meeting</p>	<p>Low</p>	<p>Train participants on how to effectively use weather information from the result of monitoring from early warning system</p> <p>Consider exposure to extreme weather events whenever plan for capacity building training and location</p>	<p>Consider risks based on location, access routes, and health of users/participants. For example, reduce the numbers of training participants during rainy seasons when access to route is inaccessible.</p>	<p>Train participants on how to effectively use weather information from the result of monitoring from early warning system</p> <p>Consider exposure to</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
							extreme weather events whenever plan for capacity building training and location
<p>Outcome 1.2.2: Adapted business development services are available and accessible to all HHs</p>	LoA	All interventions areas	<p>Business groups may invest in activities that could be impacted by climate change - climate shocks and stressors</p> <p>Climate changes have the potential to reduce yield potential, modify production costs, damage crops post-harvest, and reduce labor productivity</p> <p>Changing climate conditions could also lead to changing prevalence of pests and diseases, potentially affecting agricultural yields</p> <p>Climate change is likely to bring about adverse consequences on market system-</p> <p>Climate change affects</p>	Moderate	Assessing and identifying opportunities appropriate to the climate context of the area	Assessing and identifying opportunities appropriate to the climate context of the area	Recommending climate context on farm, off-farm and IGS activities

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			<p>agricultural value chain, affecting the country's food security.</p> <p>Climate change may exacerbate loss during storage (post-harvest loss, rodent infestation) as extreme heat or increased flooding could damage improperly stored crops</p> <p>Damaged transportation networks, hindering transport of imports and access to markets</p>				
<p>Outcome 1.3.1: Farmers apply resilient agricultural practices to nutritious food production</p>	<p>LoA</p>	<p>All interventions areas</p>	<p>Extreme weather events like flood, erratic rain fall, temperature, may affect the implemented natural resource measures</p> <ul style="list-style-type: none"> > Damage the structure > Water harvesting structure may not serve for the intended purposes - prolonged drought 	<p>Moderate</p>	<p>Guideline or Approach- GoDRC:</p> <ul style="list-style-type: none"> > Follow Government of DRC-MoA Watershed development guidelines or the country natural resource management guideline/approach. <p>Suitability and land capability</p> <ul style="list-style-type: none"> > Apply structures suitable to the agro-ecology of the area 	<p>Follow the country watershed development guideline</p> <p>Capacity Building and Technical support</p> <ul style="list-style-type: none"> > Capacity building on technical layout and design of conservation measures/RD approach > Train partners and FSP on 	<p>Capacity building to planning team on climate risks identification and management.</p> <p>Proper design of NRM(SWC) structures based on hydrological</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			<ul style="list-style-type: none"> › Drought may affect survival rate of the seedlings › Drought may elongate rehabilitation period › Flood may damage structures and fill the structures with sediment › Scarcity of rainfall renders rainwater capture ponds useless when needed most by users › Extreme weather events may affect the production of nutritious food › Reductions in food micronutrients due to higher temperatures and CO₂ concentrations. 		<ul style="list-style-type: none"> › and land uses › Design and construct conservation structural based on community-based watershed guideline technical specifications. <p>GAINS RD Approach: GAINS will apply the Resilience Design in Smallholder Farming Systems (RD) approach which strengthens resilience of smallholder farmers and their farming systems to environmental and economic shocks and stresses through:</p> <ul style="list-style-type: none"> › enhancing natural resources and ecosystem services; › increasing energy efficiency; › contributing to increased nutritional status; and › strengthening farmers' skillsets, adaptability, and confidence. <p>Small scall Irrigation promotion;</p> <ul style="list-style-type: none"> › Develop 	<ul style="list-style-type: none"> › Environmental Sound Management Framework (ESMF) and screening procedure. › Conduct community consultations. › Develop Programmatic Environmental Assessment for Small Scall Irrigation › Conduct feasibility study › Conduct ESMF screening and prepare site specific EMMP › Follow PEA for SSI to address effects 	<p>parameters using GoDRC & MoA guidelines.</p> <p>Conduct the ESMF screening before selecting types of SWC</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
					<ul style="list-style-type: none"> Programmatic Environmental Assessment for Small Scale Irrigation > Conduct feasibility study > Conduct ESMF screening and prepare site specific EMMP > Follow PEA for SSI to address effects 		
<p>Outcome 1.3.2: Input suppliers adapt their products, services, and commercial networks to respond to the demand</p>	<p>LoA</p>	<p>All interventions areas</p>	<p>High temperature affects storage of agricultural inputs Moisture affects shelf life of agricultural inputs Extreme weather events may damage local infrastructure Climate risks may affect the local food system security</p>	<p>Moderate</p>	<p>Seed System Assessment- GAINS will begin with a R&I seed system security assessment led by consortium members IITA and CIP, to expand production and commercialization of improved, climate resilient, and nutrient - rich seeds</p> <ul style="list-style-type: none"> > Examine availability, access, varietal suitability, seed quality and system resilience and, > Identify bottlenecks, opportunities for strengthening formal and informal seed provision. 	<p>Conduct seed system assessment</p> <p>Capacity building on risk management and adopting climate-smart technologies, which can reduce the prevalence of climate change shocks and increase risk-bearing capacity of private sectors.</p>	<p>Investing in climate-smart agriculture.</p> <p>Conducted seed system assessment</p> <p>Capacity building on risk management and adopting climate-smart technologies</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
					<p>Capacity building on risk management and adopting climate-smart technologies, which can reduce the prevalence of climate change shocks and increase risk-bearing capacity of private sectors.</p>		
<p>Outcome 1.3.3: Communities manage landscape in a sustainable and inclusive manner</p>	<p>LoA</p>	<p>All interventions areas</p>	<p>Extreme weather events like flood, erratic rain fall, temperature, may affect the implemented natural resource measures</p> <ul style="list-style-type: none"> - Damage the structure - Water harvesting structure may not serve for the intended purposes - prolonged drought - Drought may affect survival rate of the seedlings - Drought may elongate rehabilitation period - Flood may damage 	<p>Moderate</p>	<p>GAINS promote participatory NRM through CATALYSE to increased sustainable agricultural production first through development of Local Landscape Management Plans (LLMP), which will determine community management of natural resources related to food production, also impacting community-led Purpose 2 activities (such as selection of water point sites and tree planting).</p> <ul style="list-style-type: none"> - During the planning process identify climate risks of the areas and prepare CRM 	<p>During the planning process identify climate risk and prepare risk management measures ahead</p> <ul style="list-style-type: none"> - Promote organic fertilization-composting, <i>manure management</i> - Soil fertility management practice - Integrate physical conservation measures with biological - Plant multipurpose tree seedling 	<p>Promote organic fertilization-composting, <i>manure management</i></p> <p>Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation</p> <ul style="list-style-type: none"> - Integrate physical conservation measures with biological

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			<ul style="list-style-type: none"> - structures and fill the structures with sediment - Scarcity of rainfall renders rainwater capture ponds useless when needed most by users - Extreme weather events may affect the production of nutritious food - Reductions in food micronutrients due to higher temperatures and CO₂ concentrations 				<ul style="list-style-type: none"> - Plant multipurpose tree seedling <p>Promote cut and carry system</p>
<p>Outcome 1.3.2: Input suppliers adapt their products, services, and commercial networks to respond to the demand</p>	<p>LoA</p>	<p>All interventions are</p>	<p>High temperature affects storage of agricultural inputs</p> <p>Moisture affects shelf life of agricultural inputs</p> <p>Extreme weather events may damage local infrastructure</p> <p>Climate risks may affect the local food system security</p>	<p>Moderate</p>	<p>Build awareness of climate change implications for input supplier – product, services and agriculture value chains and on-farm enterprises</p> <p>Support improvements in processing, marketing, and distribution of agricultural products</p> <p>Provide extension services and training in climate-smart agriculture</p>	<p>Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices.</p> <p>Promote climate smart agricultural technology.</p> <p>Ensure equal opportunity access to such technologies for all farmers, especially</p>	<p>Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation</p> <p>Provide farmers with new cultivars</p>

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
					and sustainable practices	marginalized populations.	that are drought and heat tolerant.
Outcome 2.1.1: HHs demonstrate increased knowledge, acceptance, and commitment towards promoted MIYCN practices	LoA	Areas where commodity fumigation will occur. Likely country wide.	Certified applicators unwilling to use personal protective equipment due to increased temperatures.	Low	Educate applicators on importance of wearing protective equipment	Educate applicators on importance of wearing protective equipment	Ensure that applicant training includes information on climate risks and emphasizes the importance of protective equipment.
			Increased temperatures and changes in rainfall patterns, changes occurrence of pests and pathogens and therefore fumigation requirements.	Moderate	<p>Conduct review of relevant literature on how pests and pathogens will change in the area due to climate change and evaluate how that might impact commodity storage and fumigation.</p> <p>Ask local community members about observed changes in pathogens and pests over recent years and use fumigation that is relevant for the current situation</p>	<p>Conduct review of relevant literature on how pests and pathogens will change in the area due to climate change and evaluate how that might impact commodity storage and fumigation.</p> <p>Ask local community members about observed changes in pathogens and pests over recent years and</p>	Consult relevant literature and local communities frequently throughout the life of the project to understand how pests and pathogens could change due to climate change impacts and how that

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
						use fumigation that is relevant for the current situation	might impact commodity storage and fumigation. Consider climate change's impacts when planning inspection times to ensure that any new pest species or increasing occurrences of pest infestations are identified as early as possible.
			Warehouses where commodities are stored are in locations threatened by extreme weather, or in flood zones	High	During site selection, evaluate if storage facilities are in areas that are exposed to extreme weather or regular flooding. Ensure that all pesticides stored in warehouses (as non-fumigants may also be stored in warehouses) are in locations safe from the impacts of extreme weather events (i.e., on raised platforms in the case of flood risk).	During site selection, evaluate if storage facilities are in areas that are exposed to extreme weather or regular flooding. Ensure that all pesticides stored in warehouses (as non-fumigants may also be stored in warehouses) are in locations safe from the impacts of extreme weather	During site selection, evaluate if storage facilities are in areas that are exposed to extreme weather or regular flooding. Improve early warning of climate and weather

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
						events (i.e., on raised platforms in the case of flood risk).	events, such as rainfall or flood, to improve preventative protection of commodities and stored pesticides
Outcome 2.1.2: HHs adopt more equitable gender norms and practices to support the nutrition and care needs of female family members	LoA	All intervention areas	Has No observable impact	Low	No	No	No

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
Outcome 2.1.3: Community-level nutrition services are available and accessible to all HHs	LoA	All intervention areas	No observable risk for the adoption of gender norms and practices. BUT Increasing temperatures may impact willingness to participate in group meetings if the participants are uncomfortable. Floods may also affect the movement of community from their home to meeting area.	Low	Planning procedures should take into consideration the availability of shade and potable water for any meetings held during hot seasons and also consider the occurrence of flooding during the rainy season.	Planning procedures should take into consideration the availability of shade and potable water for any meetings held during hot seasons and also consider the occurrence of flooding during the rainy season.	Planning procedures should take into consideration the availability of shade and potable water for any meetings held during hot seasons and also consider the occurrence of flooding during the rainy season.
Outcome 2.2.1: Households have improved knowledge and attitudes around safe WASH practices and related health risks	LoA	All intervention areas	Has no observable risks	Low	No		
Outcome 2.2.2: Community-led WASH services are available	Up to 15 years	Areas where WASH intervention implemented	Scarcity of rainfall may cause water shortage and affect sanitation of latrine and underutilization of	High	Appropriate design and siting of structures. Use guidelines and best practices integrated with	Appropriate design and siting of structures. Use guidelines and	Design water harvesting structures based on the

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
and accessible to all households			infrastructures		indigenous knowledge of the community	best practices integrated with indigenous knowledge of the community	existing best practices Conduct feasibility studies including CRM at sites before construction
			Flood may damage poorly sited sanitation and hygiene facilities and may cause water bore disease	Moderate	Appropriate design and siting of structures. Use guidelines and best practices integrated with indigenous knowledge of the community.	Appropriate design and siting of structures. Use guidelines and best practices integrated with indigenous knowledge of the community.	Thoroughly considered climatic factors during design and construction



Report from Field
Visit in DRC.docx

Annex 1–