INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY DATA

Project/Activity Name:	Highlands Resilience Activity (HRA)
Geographic Location(s) (Country/Region)**:**	Amhara, Oromia, Sidama, South Ethiopia, Central Ethiopia, and Tigray Regions in Ethiopia
Amendment (Yes/No), if yes indicate # (1, 2...):	New
Implementation Start/End Date (FY or M/D/Y)**:**	October 2, 2023-Septmber 30,30, 2028
If amended, specify New End Date:	
Solicitation/Contract/Award Number(s):	
Implementing Partner(s):	Mercy Corps, Action for Development, First Consult, HUNDEE-Oromo Grassroots Development Initiative, MahibereHiwot for Social Development, Mums for Mums, Sidama Development Association and Village Enterprise
Bureau Tracking ID:	
Tracking ID of Related RCE/IEE (if any)**:**	
Tracking ID of Other, Related Analyses:	

ORGANIZATIONAL/ADMINISTRATIVE DATA

Implementing Operating Unit(s): (e.g., Mission or Bureau or Office)	USAID Ethiopia
Other Affected Operating Unit(s):	
Lead BEO Bureau:	
Funding Account(s) (if available)**:**	
Original Funding Amount:	$60,000,000 USD
If amended, specify funding amount:	
If amended, specify new funding total:	
Prepared by:	Mercy Corps EThiopia
Date Prepared:	December 2023

ENVIRONMENTAL COMPLIANCE REVIEW DATA

Analysis Type:	☒Initial Environmental Examination	☐Deferral
Environmental Determination(s):	☒Categorical Exclusion(s) ☒Negative ☒Positive ☐Deferred (per 22 CFR 216.3(a)(7)(iv)	
IEE Expiration Date (if applicable)**:**	July 31,2028	
Additional Analyses/Reporting Required:	CRM	
Climate Risks Identified (#): 15	Low ___7__ Moderate ___8___ High ___#___	
Climate Risks Addressed (#): 15	Low ___7__ Moderate ___8__ High ___#___	

THRESHOLD DETERMINATION AND SUMMARY OF FINDINGS

PURPOSE AMD SCOPE OF THE IMITIAL 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 obligations of implementation. This IEE also documents the results of the activity level Climate Risk Management process in accordance with USAID policy (specifically, ADS 201mal).

PROJECT/ACTIVITY SUMMARY

As specified in the HRA proposal these activities will contribute to the achievement of improving resilience for millions PSNP 5 community through demonstrating and scale market driven approaches that pave sustainable pathway from poverty.

ENVIRONMENTAL DETERMINATIONS

Upon approval of this document, the determinations become affirmed, per Agency regulations (22 CFR 216).

All activities to be implemented under HRA 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 any gathering of people are categorized under categorical exclusion, these need to comply with COVID-19 protocols of the country.

TABLE 1: ENVIRONMENTAL DETERMINATIONS

Sub-Intermediate Result	Categorical Exclusion Citation (if applicable)	Negative Determination	Positive Determination[1]	Deferral[2]
Sub-IR 1.1: Improved production of agricultural commodities among PSNP on-farm enterprises	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 1.2: Increased sales among targeted PSNP on-farm enterprises:	22CFR216.2(c)(2)(iii)	☒	☐	☐
Sub-IR 2.1: Increased capacity in targeted off-farm enterprises:		☒	☐	☐
Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises	22CFR216.2(c)(2)(i)	☒	☐	☐
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households	22CFR216.2(c)(2)(i)	☒	☐	☐
Sub-IR 3.2: Increased access to and availability of	22CFR216.2(c)(2)(i)	☒	☐	☐

[1] Positive Determinations require preparation of a Scoping Statement and Environmental Assessment.
[2] Deferrals must be cleared through an Amendment to this IEE prior to implementation of any deferred activities.

jobs for wage-seeking PSNP households				
Sub-IR 4.1: Increased production of nutritious foods	22CFR216.2(c)(2)(viii) & (iii)	☒	☐	☐
Sub-IR 4.2: Increased last-mile supply of nutritious foods	22 CFR216.2(c)(2)(viii)	☒	☐	☐
Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers	22 CFR216.2(c)(2)(viii)	☒	☐	☐
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households	22CFR216.2(c)(2)(iii)	☒	☐	☐
Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies	22 CFR 216.2(a)(2)(iii)	☒	☐	☐
Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies	22 CFR 216.2(c)(2)(i)	☒	☐	☐

CLIMATE RISK MANAGEMENT

This IEE also documents the results of the Climate Risk Management process in accordance with USAID policy (specifically, ADS 201mal).

BEO SPECIFIED CONDITIONS OF APPROVAL

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 in this document as stated in Sections 3, 4, and 5 of the IEE and any BEO Specified Conditions of Approval.

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

CONTENTS

1.0 PROJECT/ACTIVITY DESCRIPTION

1.1 PURPOSE OF THE IEE

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 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 activity level 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 thirty six (36) woredas in Amhara region eight (8) woredas, Oromia region (10) woredas, Sidama region three(3) woredas, Southern region five (5), Central Ethiopia region three (3) woredas)and Tigray region seven (7) woredas. Lessons learned from RIPA north and implementing partners were considered and properly incorporated during the preparation of the document.

The scope of this document includes a review of the foreseeable environmental effects of proposed actions of HRA, 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 negative impact of climate change. Accordingly, the EMMP and CRM tables are attached as Annex 1 Environmental Mitigation and Monitoring Plan and Annex 2 Climate Risk Management Summary Table.

1.2 PROJECT/ACTIVITY OVERVIEW

The highland Resilience Activity is implemented by a consortium of Mercy Corps, Village Enterprise (VE), Mahibere Hiwot for Social Development (Amhara), HUNDEE-Oromo Grassroots Development Initiative (Oromia), Sidama Development Association (Sidama), Action for Development (SNNP), and Mums for Mums (Tigray) -is uniquely placed to leverage investment in Ethiopia's Highland over the last decade and contributes to PSNM5's "Big Push" to achieve the goal of 1200,000 PSNP households sustainably reaching the gradation threshold.

The HRA result framework shows that our approach layers on a higher aim of demonstrating and scaling market-driven approaches that pave sustainable pathway from poverty to resilience for millions of PSNP households. Our consortium recognizes the strength of USAID's theory of change, which leads with market systems and private sector investment to catalyze economic opportunity and activity.

HRA consortium builds on local partners' deep and trusted relationships with PSNP households and stakeholders at the kebele, woreda, and zona levels to mobilize communities in each region and implement household and community-level activities. Specifically, HRA's five local NGO partners will lead community activities in their respective regions. Our partners were deeply engaged in HRA design and are key to ensure continued contextualization and adaptation

throughout implementation. Village Enterprise (VE), a global leader in ultra-poor graduation, will provide technical assistance to local partners to implement the "VE intensive Mentorship Model" for a subset of PSNP women and youth to catalyze their empowerment and engagement in market system. Mercy Corps (MC) and First Consult will leverage decades of experience working with the private sector to mobilize investment in HRA target areas and expand and improve inclusive, pro-poor, nutrition sensitive, and shock-responsive services to benefit PSNP communities.

HRA STRATEGIC APPROACH AND GUIDING PRINCIPLES

STRATEGIC APPROACH

HRA centered resilience households in its strategic approach. All activities work to elevate households from below the graduation threshold and susceptible to backsliding, to a trajectory of wellbeing and resilience that supports year-round nutritious diets, sustained income, and risk diversified livelihood pathways. This approach starts with resilient market systems built on the foundation of MSD and adopting a resilience framework to facilitate sustainable pathways out of poverty and drive inclusive economic growth in the Highlands.

To catalyze local markets and to work better for poor households, HRA designs five threads: Skills & Information, Inputs & Technology, Capital & Private Sector Investments, Market Linkages & Partnerships, and Public Services. These five threads weave targeted "push" interventions to strengthen PSNP clients' knowledge, skills, and capacities with tailored and facilitative "pull" interventions to address market constraints.

GUIDING PRINCIPLES:

HRA will advance the qualities of market systems throughout our activities and approaches. They are also prioritized through HRA's five guiding principles, which align with USAID's theory of change and cross-cutting objectives as well as PSNP5 Principles. These guiding principles, described below, establish a shared vision for the team to advance sustainability and impact.

1) **Conflict-Sensitive & Shock-Responsive (PSNP5 Principle Scalable, Shock-Responsive Safety Net)**: HRA will conduct ongoing analysis of the risks associated with conflict dynamics and environmental- and climate-related shocks and how they affect participating households, communities, MSMEs, and Ethiopian firms to inform all interventions. Building on successes in applying a market systems resilience lens to programming, HRA will assess how specific market systems are impacted by different types of shocks and subsequently develop a resilience vision with partners, including changes to business practices and relationships that build trust and improve conflict-sensitivity and risk management capacity. HRA will consider conflict- and climate-related shocks and integrate adaptive measures across IRs to ensure that shocks do not derail livelihoods and that economic opportunities and markets deliver effective solutions in the face of shocks. In addition to supporting private sector partners to include climate shocks in business planning, HRA will improve PSNP clients' access to climate information, climate-smart inputs, and advisory services that help promote and increase adoption of climate resilient practices.

   Crisis Modifier (CM): As shocks rise to the level of affecting wider communities and markets, HRA will employ a CM to protect assets and income and prevent households from backsliding and resorting to negative coping. In collaboration with USAID, the HRA Consortium will develop a Pre-Approved CM Contingency Plan by zone. Plans will indicate anticipated shocks, the thresholds to trigger a response, a trigger indicator monitoring,

planned coordination, and envisaged activities for four phases: Preparedness; Stress-Early Onset; Crisis; and Recovery.

2) **Amplify Gender, Youth, & Social Inclusion (GYSI) (PSNP5 Principal Gender Equity and Social Inclusion):** HRA will conduct an intersectional GYSI assessment to better understand women's and young people's unique needs, constraints, assets, and motivators, paying attention to how gender, cultural, and social norms affect their ability to participate in economic activity. Based on findings, and drawing on existing analyses, HRA will embed transformative approaches across IRs and interventions – at household, community, and systems levels – to advance inclusion.

3) **Leverage Partnerships & Local Knowledge and Capacity (PSNP5 Principle Tailored Livelihood Solutions / Integrated into Local Systems):** Partnership and collaboration with diverse stakeholders such as GoE, private sector, research institutes, INGOs and USAID IPs, and community groups like VSLAs and livelihoods groups created under past programs) – is a core principle of this HRA Consortium. HRA prioritizes investing in and strengthening the capacity of local partners in civil society and the private sector to advance livelihood and MSD activities and, perhaps more importantly, to spark transformative change that is led and sustained by local actors and systems.

   Through our existing Ethiopia portfolio, MC has extensive relationships with national-level private sector actors who have the ability, interest, and incentives to serve and hire PSNP households.

4) **Focus on Innovation (PSNP5 Principle Tailored Livelihood Solutions):** Building on existing and new private sector partnerships and capitalizing on policies that encourage private sector investment, HRA will support the introduction of business models and increased investment to spur enterprise growth and create desirable, lower risk entrepreneurship and employment opportunities for PSNP clients.

5) **Collaborate with Other Investments to Deepen & Sustain Impact (PSNP5 Principle Integrated into Local Systems / Nutrition Sensitivity):** Extensive support has already been provided by USAID and other donor programs in the target areas. HRA will coordinate with, and bridge, these programs to maximize the transformative impact on PSNP communities. HRA will facilitate linkages between bottom-up, household-level activities and top-down value chain, economic growth, and trade investments. HRA will coordinate closely with USAID's Resilience Food Security Activities (RFSAs) and Community Nutrition Activity to introduce households and networks participating in these programs' direct interventions to products and services that support sustainable production, sales, nutritious diets, and risk diversified livelihood strategies and lift PSNP households up into inclusive, pro-poor market systems.

DETAILED APPROACH AND CORE ACTIVITIES

Building on over 15 years of MC experience adapting market systems development (MSD) approaches to shock-prone environments in Ethiopia and globally, HRA facilities inclusive, diverse, and connected markets that enable 120,000 PSNP households to sustainably reach the graduation threshold. Our HRA Consortium combines highly targeted "push" interventions that strengthen PNSP clients' skills and capacity to engage in markets, with "pull" interventions that engage private and public sector market actors to increase their investment in HRA target areas

through sustainable models and improve services and opportunities that reach and benefit PSNP households.

To achieve HRA's goal, our technical approach works through seven interlinked IRs. Our resilience-informed MSD approach enables sustainable change at scale, wherein local economies generate risk diversified livelihoods and strengthen PSNP household resilience through pro-poor, inclusive, and reliable input, and output markets. To show the interplay between systems and households, we present our approach starting with SO 2 and then detailing SO 1.

- ***Strategic Objective 2:*** *Improved pro-poor, inclusive, and resilient market systems, and institutions in targeted PSNP regions*
- ***Strategic Objective 1:*** *Improved resilience among PSNP households*

The two strategic objectives have seven intermediate results, and each intermediate result is further categorized into sub intermediate results. This environmental review is conducted at the Intermediate results/sub intermediate results level.

1.3 PROJECT/ACTIVITY DESCRIPTION

The activity descriptions below are taken from the approved HRA application and logical framework submitted for approval.

Strategic Objective 1: Improved resilience among PSNP households

To ensure that PSNP households gain maximum benefit from the systems-level work in IRs 5, 6, and 7, HRA will implement targeted interventions through IRs 1, 2, 3, and 4 that strengthen PSNP household skills and capacities to improve and expand on-farm, off-farm, and employment livelihoods and access to and consumption of nutritious diets. While still working in partnership with private sector and government actors, these IRs use a combination of targeted action and creative modalities, like value chain financing, to reach HRA's PSNP households.

TABLE 2: DEFINED OR ILLUSTRATIVE PROJECTS/ACTIVITIES AND SUB-ACTIVITIES

Strategic Objective 1 — [Improved resilience among PSNP households]
Intermediate Result 1 - Increased Productivity and Competitiveness of Targeted PSNP On-Farm Enterprises
- Sub IR 1.1 Improved production of agricultural commodities among PSNP on-farm enterprises
- Sub IR 1.2 Increased sales among targeted PSNP on-farm enterprises
Intermediate Result 2. - Increased Productivity and Competitiveness of Targeted PSNP Off-Farm Enterprises
- Sub-IR 2.1: Increased capacity in targeted off-farm enterprises
- Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises
Intermediate Result 3- Increased Employment and Wage Labor Among Targeted PSNP Clients
- Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households:
- Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households
Intermediate Result 4. Improved Diets, Particularly Among Women and Young Children
- Sub-IR 4.1: Increased production of nutritious foods:
- Sub-IR 4.2: Increased last-mile supply of nutritious foods:
- Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers:

Strategic Objective 2: Improved pro-poor, inclusive, and resilient market systems, and institutions in targeted PSNP regions

Strengthening market systems to better work for PSNP households is embedded into every HRA intervention. Through foundational IRs 5, 6 and 7, HRA addresses constraints in on-farm, off-farm, and employment systems and related public services, facilitating supporting functions and norms to develop inclusive, pro-poor, and shock-responsive goods and services. Leveraging private sector partnerships where HRA's and market actors' incentive align, as well as modalities like the Innovation Fund and cash transfers for economic recovery, IRs 5, 6 and 7 catalyze market system changes that "pull" PSNP households into an enabling market ecosystem.

Strategic Objective 2: Improved pro-poor, inclusive, and resilient market systems, and institutions in targeted PSNP regions
Intermediate Result 5- Improved Market Systems and Commercialization
- Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households:
- Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households:
Increased Result 6 Private Investment and Finance in Highlands Communities
- Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas:
- Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas:
Intermediate Result 7: Client-Responsive Public and Private Social Services Improved and Expanded
- Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies:
- Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies:

Will this project/activity involve construction[3] as defined by ADS 201 and 303? Yes ☐ No ☒

If yes, describe in the space below:

1.4 MERCY CORPS ENVIRONMENTAL SUSTAINEBILITY APPROACH

Mercy Corps recognizes that our actions through our operations and programs in the 40+ countries we work in have an impact on the changing climate. Therefore, we've initiated several policy guidelines and commitments to reduce our carbon emissions. In 2020, Mercy Corps became the first INGO to undertake a baseline calculation of carbon emissions in our operations and programs around the world, to enable us to measure a change (reduction or increase) in GHG emissions, developed a centralized tracking system to monitor, track, and measure our global emissions.

In the fiscal year 2023, Mercy Corps also designed environmental impact assessment tools to review the foreseeable environmental effects of the proposed actions of the projects, recommend environmental thresholds determination for all outputs, and provide an environmental management plan to monitor the implementation of mitigation measures intended 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, 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. We've initiated global and country level programs to achieve these goals. The Greening Mercy Corps 2022 report highlights progress we've made 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, THREATENED AND ENDANGERED SPECIES)

2.1.1 HRA PROPOSED GEOGRAPHY

HRA project targeted 36 woredas in six across the country (Figure 1). The table below identifies each of the targeted woredas where HRA will be implemented.

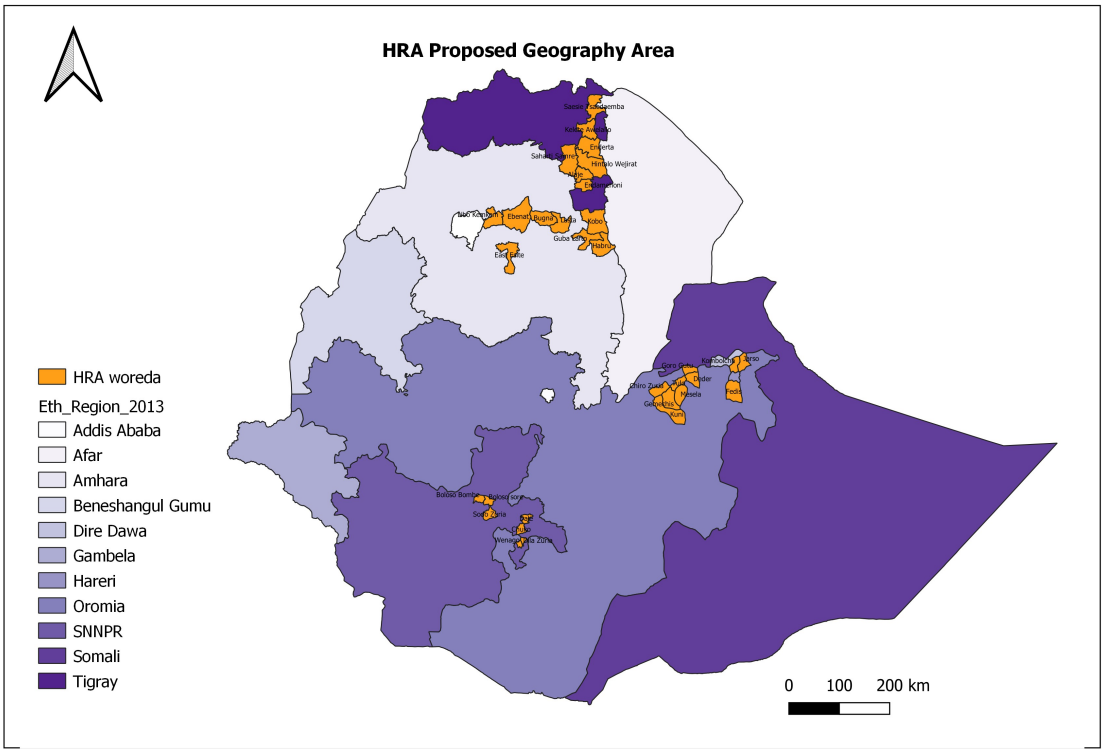

Figure 1 HRA's Proposed Geography

NB The boundary of the map is not representing the regions and zonal administrative boundary.

Table 1 HRA targeted Woredas

Target Area	Region	Zone	Targeted Woredas
1.	Amhara	North Willo	5 woredas (Bugna Gubalafto Habru Raya Kobo Lasta)
		South Gonder	3 woredas (Estie Sede Muja Guna)
2.	Oromia	East Hararghe	5 woredas (Deder Fedis Gorogutu Jarso Kombolcha)
		West Hararghe	5 woredas (Tullo Chiro Oda Bultum Gemechis Mesela)
3.	Sidama	Sidama	3 woredas (Aleta Chuko Dare Dala)
4.	Southern	Gedio	2 woredas (Dilla Zuria Wonago)
		Welayta	3 woredas (Boloso Bombe Boloso Sore Sodo Zuria)
5.	Central	Hadiya	3 (M/b Badawacho Shashog Soro)
6.	Tigray	Southern	3 (M/b Badawacho Shashog Soro)
		Southeastern	4 woredas (Hintalo Wajirat Seharti Samre)

2.1.2 ECONOMY

Ethiopia remains one of the world's poorest countries with a per capita income of US$590 (Atlas gross national income, 2014), which is substantially lower than the regional average of US$1,630 (The World Bank Group, 2016). Ethiopia is also ranked 174 out of 187 countries on the Human Development Index (2014) of the United Nations Development Program. At the Figure SEQ Figure * ARABIC 1. Map of Ethiopia ETHIOPIA HIGHLAND RESILIENCE IEE 15 same time, the economy has experienced strong and broad-based growth over the past decade and made substantial progress on social and human development objectives. According to the International Monetary Fund (IMF), Ethiopia is now one of the top five fastest-growing economies in the world, averaging an annual growth rate 10.9 percent GDP between 2004 and 2014. This level of economic growth has helped reduce extreme poverty in both urban and rural areas by 9.1 percent from 38.7 percent in 2004-05 to 29.6 percent in 2010-11 (The World Bank Group, 2016). However, because of high population growth, the absolute number of poor has remained unchanged over the past 15 years. Ethiopia has achieved the Millennium Development Goals (MDGs) for child mortality and water and there has also been encouraging progress in gender parity in primary education, HIV/AIDS, and malaria.

2.1.3 ENVIRONMENTAL CONTEXT

The following sub-sections provide a brief overview of the baseline climate and environmental information for Ethiopia, pertinent to the sub- national areas in the geographic zones in the Amhara, Oromia, Sidama, SNNP, and Tigray regions. It is crucial to undertake the baseline situation or the existing environmental situation or condition in the absence of USAID activities in order to undertake and measure the impacts, or changes from the baseline, caused by the Highland Resilience Activity (HRA) implementation.

2.1.3.1 TOPOGRAPHY AND SOILS

The topography of the country is marked by a large altitudinal variation, ranging from 126 meters below sea level at Dalol to 4,620 m at Ras-Dashen Mountain in the northwest part of the highlands. Ethiopian topography features an extensive swath of highlands rising in the south and continuing north into Eritrea. The two main topographic factors that govern the climate of Ethiopia are the proximity to the Equator on the southern border and the complexity of the topography. The highlands are surrounded by lowlands on all sides except to the north and are dissected by the Ethiopian African Rift Valley, where tectonic plate activity has separated an arm of the highlands off to the East. The country embraces diverse agro-ecological zones and farming systems. Ethiopia's wide range of topography, climate, parent material, and land use types created conditions for the formation of different soil types. Erosion has formed Ethiopia's diverse geological relief, creating a landscape featuring significant altitudinal variation.

The soils of Ethiopia can be classified into five principal types. The first type is composed of euritic nitosols and andosols and is found on portions of the Western and Eastern highlands. This soil is formed from volcanic material and, with proper management, have medium to high potential for rain-fed agriculture. The second group of soils, eutric cambisols and ferric and orthic luvisols, are found in the Simien plateau of the Western Highlands. They are highly weathered with a subsurface accumulation of clay and are characterized by low nutrient retention, surface crusting, and erosion hazards. With proper management, they are of medium agricultural potential.

The third group of soils is the dark clay found in the Western Lowlands and at the foothills of the Western Highlands. Composed of vertisols, they have medium to high potential for both food and agriculture but pose tillage problems because they harden when dry and become sticky when wet. Some of the rich coffee-growing regions of Ethiopia are found on these soils.

The fourth group is composed of yermosols, xerosols, and other saline soils that cover desert areas of the Eastern Lowlands and the Denakil Plain. Because of moisture deficiency and coarse texture, they lack potential for rain-fed agriculture. However, the wetter margins are excellent for livestock, and even the drier margins respond well to irrigation. The fifth soil group is lithosols found primarily in the Denakil Plain. Lack of moisture and shallow profile preclude cultivation of these soils.

Soil erosion is a serious problem in Ethiopia. Particularly in the northern provinces, which have been settled with sedentary agriculture for millennia, population density has caused major damage to the soil's physical base, to its organic and chemical nutrients, and to the natural vegetation cover. Even on the cool plateaus, where good volcanic soils are found in abundance, crude means of cultivation have exposed the soils to heavy seasonal rain, causing extensive gully and sheet erosion.

Table 2 Summery of Soil type and topographic characteristic of targeted area

Target Area	Altitude (m)	Major Soil Classifications	General Topography	Productivity Implications
1	700-4100	Walka (similar to Vertisols) Keyate (similar to Nitosols)	High plateaus dissected by steep gorges and broad valleys	Low Nitisols are fertile but exposed to acidity
2	1300-2400i	Chromic Cambisols Calcic Cambisols	Mountainous and hilly with Gemechi slightly higher in elevation than Chiro	Not fertile, high pH
3	500-3200	Calcic Cambisols Vertic Cambisols Chromic Vertisols Eutric Fluvisols Orthic Solonchaks association	Rugged plateaus dissected with deep valleys and gorges	Low fertility

2.1.3.2 CLIMATE-ZONES, NATURAL VEGETATION, AND AGRO-ECOLOGICAL

2.1.3.2.1 Current climate and climate zones

Ethiopia has a diverse climate and landscape, ranging from the equatorial rainforest with high rainfall and humidity in the south and southwest, to the Afro-Alpine on the summits of the Simien and the Bale Mountains, to desert-like conditions in the north-east, east, and south-east lowlands. Ethiopia has various ecological zones that range from arid and semi-arid to wet areas and high land zones. This is emanated from diversity in its climate, vegetation, and landforms/altitudes. Overall, Ethiopia is considered largely arid but exhibits a high variability of precipitation Ethiopia's climate is generally divided into three zones:

1. The alpine vegetated cool zones (Dega) with areas over 2,600 meters above sea level, where temperatures range from near freezing to 16°C.

2. The temperate Woina Dega zones, where much of the country's population is concentrated, in areas between 1,500 and 2,500 meters above sea level where temperatures range between 16°C and 30°C; and
3. The hot Kola zone, which encompasses both tropical and arid regions and has temperatures ranging from 27°C to 50°C.

HRA target area climate is governed by the seasonal migration of the Intertropical Convergence Zone (ITCZ) and associated atmospheric circulations as well as by the complex topography of the country. The central and eastern parts of the highlands receive bimodal rainfall, with small spring rains between February and May (known as the Belg season), a short dry period in June, and big summer rains between July and September (known as the Kiremt season). The mean annual rainfall distribution is approximately 2,000 mm over the south-western highlands and less than 300 mm over the south-eastern and north-eastern lowlands. Temperatures across Ethiopia can range from –15°c (in the highlands) to above 25°C in the lowlands. The rainfall regime depends upon the location of the ITCZ, a band encircling the earth near the equator where northeast and southeast trade winds meet. In the summer, from May to October the ITCZ is north of the equator (16–20°N) bringing moisture-laden winds from the south-west producing rain over large areas of the highlands. Generally, clouds form during the late morning, as a result of evaporation and convective rising of moisture from daytime warming of the soil, and it rains in the afternoon. In the winter months, November to April, the ITCZ is south of the Equator. During this part of the year, north-easterly winds bring a small amount of moisture from the Red Sea. The length of the dry season separating the spring and summer rains may vary in length from year to year, and the spring rains may sometimes be sporadic. The length of the rainy periods and the intensity of the rains generally decrease from the south to the north.

Topography influences how moisture is distributed and retained on a local scale. Extreme changes in relief mean that temperatures and precipitation can fluctuate widely over a small geographic area. Precipitation is almost exclusively in the form of rain. The variation in topography and altitude has induced the variability in seasons and climatic conditions across Ethiopia. In line with these variations, precipitation also varies, highland and cold areas receive higher precipitation while lowland and desert or hot areas get meager rainfall. Generally, the average annual rainfall above 1,500 m (~5000 ft.) is greater than 900 mm. Climate zones (Table below) are generally defined by altitude.

Table 3 Climate Zone Determined by Altitude & Temperature

Climate Zone	Elevation	Temperature
Wurch (Sub-Alpine/Alpine	>3000 m.	<10°C
Dega (Highlands)	2400 to 3000	0-16°C
Weina dega (Highlands)	1500 – 2400 m.	16°-30° C
Kolla (Lowlands)	< 1500 m	18°C

Source: adopted from FAO (2003) Ethiopia -country pasture/forage profile
http://www.fao.org/ag/AGP/AGPC/doc/counprof/ethiopia/Ethiopia.htm#figure

2.1.3.2.2 AGRO-ECOLOGICAL ZONES:

Agro-ecological zones are defined by both elevation and rainfall. Agro-ecological zonation is done in different ways in different countries. In Ethiopia, two classification systems are known

that include the traditional agro-ecological zones and the elaborated agro-ecological zones developed by MOA and EIAR. The traditional zones include Bereha, Kolla, Woina Dega, Dega, Wurch, and Kur where many kinds of crops are grown in each of these ecological zones. The weina dega agro-ecological zones can be both moist and dry7. The bulk of Ethiopia's farming takes place within this zone. The cropping of cold-tolerant grains such as barley and wheat continues into the higher dega agro-ecological zones. At lower elevations, pastoralism becomes the dominant livelihood.

2.1.3.2.3. NATURAL VEGETATION ZONES

The vegetation type is classified based on its life forms, density, and seasonality which is evergreen and deciduous in association with altitude, climate, and vegetation architecture. The various vegetation types in Ethiopia are dependent on factors like topographic features (i.e., altitudinal variation and aspect), climate (i.e., mainly precipitation and temperature), geology, and soil types. The ecosystem types of the country were grouped into various types; however, this work depends on the recent twelve major vegetation classification types that have been further subdivided into twelve.

The identified natural vegetation zones in HRA target areas have been impacted by humans, particularly the dry evergreen Afromontane Forest and grassland complex as well as the moist evergreen Afromontane Forest. It is believed that Ethiopian agriculture has mainly developed inside of these two vegetation complexes. As a result, forested areas have been greatly reduced.

Table 4 Natural Vegetation Zone of the targeted areas

Natural Vegetation Zones	Elevation (m)	Characteristic Plants
Acacia-Commiphora woodland and bushland proper (ACB)	1800-3000	Acacia genus
Dry evergreen Afromontane Forest and grassland complex (DAF)	1800-3000	Juniperus procera (common name: African juniper), Olea europaea (common name: European olive), and Podocarpus falcatus (common name: yellowwood or weeping yew)
Ericaceous Belt (EB)	3000–3200.	Erica arborea (common name: tree heath)
Afroalpine Belt (AA)	>3200	Giant Lobelia and Helichrysum genus

Source: Atlas of Potential Vegetation Types in Ethiopia.
https://www.academia.edu/21202204/Atlas_of_the_potential_vegetation_of_Ethiopia

2.1.4. LIVELIHOOD

The land is the resource base for livelihoods in rural Ethiopia. The availability of land is apart from human capital and is also a principal in rural livelihoods. The Federal Democratic Republic of Ethiopia (FDRE) Constitution declares the ownership of land by the public, the property of the Nations, and Nationalities of Ethiopia Land, a land tenure policy inherited from the Derg Regime. The administrative power of the land is vested in the regional governments. However, they commonly share the principle of the FDRE that land users do not have the right to sell or transfer land. The government recognizes customary rights of access to and use of natural resources. Households with large land sizes participated less in non-farm and off-farm livelihood diversification strategies and participated more in on-farm strategies. Large farm size supports

farmers to cultivate and produce more, which in turn increases farm income. On the other hand, decreasing land sizes under population pressure may inspire rural households to diversify their sources of income. More than 80 percent of people in Ethiopia rely on agriculture and livestock for their livelihoods. Yet the increasing frequency and magnitude of climate disasters and plant pests over the years have left many communities particularly vulnerable to food insecurity. Below are discussed farm cropping and livestock keeping as these are the dominant livelihoods for all target areas. Petty trade, handcrafts, day labor, food aid through public works, and firewood collection are other livelihood options that rank far below these two main forms of livelihood.

The Highland Resilience Activity (HRA) centered household resilience in its strategi approaches and layers on a higher aim of demonstrating and scaling market driven approaches to pave sustainable pathway from poverty to resilience for millions of PSNP households.

2.1.4.1 Cropping systems

The two dominant agricultural systems in Ethiopia are the mixed agriculture of the highlands, where both crops and livestock production are integrated, and pastoralism in the lowlands. Mixed agriculture exhibits several subsystems. Commercial agriculture using river basins, such as the Awash Basin, is a recent phenomenon. The highland mixed crop zone, often referred to as the cereal highlands, covers vast regions of the country with its center in the north and north-central highlands, but may occur in most of the highland systems, at higher elevations. Ethiopia's crop agriculture continues to be dominated by the country's numerous small farms that cultivate mainly cereals for both their consumption and sales. Ethiopia’s crop agriculture is complex, involving substantial variation in crops grown across the country’s different regions and agro-ecologies. Smallholders account for 96 percent of the total area cultivated and generate the key share of total production for the main crops. The dominant crops grown are wheat, tef (Eragrostis tef), barley, oats, maize, sorghum, millets, pulses such as beans, peas, chickpeas, and lentils, rough pea, and oil crops such as rapes and safflower. Ninety-three percent of rural households practice agriculture. In each of the target woredas, mixed farming is the dominant livelihood, meaning some forage animals are usually kept. The exception to this is the East Hararghe woredas that depend on livestock more heavily in an agro-pastoralist system. Agriculture production is predominantly rain-fed. All target woredas in the Oromia and Amhara regions have very limited irrigation infrastructure. In the Amhara region, some farmers have adopted water harvesting and use this water for small-scale irrigation. The majority of households practice farming on small landholdings. While it is common for women heads of households to retain land use rights, she has little decision-making power about what happens on that land. A woman without a male child of working age will usually rent out her land. The social barrier against women’s participation in farming decisions limits a woman’s ability to implement any form of climate change adaptation measure, even if she were disposed to make such changes.

2.1.4.2 Livestock systems

Livestock is a major source of animal protein, power for crop cultivation, means of transportation, export commodities, manure for farmland and household energy, security in times of crop failure, and means of wealth accumulation. It is the most important indicator of wealth in rural Ethiopia. Livestock holding has a significant positive correlation with livelihood diversification strategies and livestock holding significantly and positively affects participation in

wage activities. Households with more livestock holding do have the capacity to participate in profitable non-farm and off-farm employment activities than those households with no or small size livestock holding. Livestock production usually comprises cattle, Sheep, Goats, and equines. Crop residues and by-products have an important role as sources of animal feed as the livestock does not leave the area, particularly during the dry season. In addition to cattle, small ruminants (goats and sheep) and beasts of burden (donkey, horse, mule) are common in rural areas of Ethiopia. Like most of the rural areas of Ethiopia livestock kept in targeted woredas are mainly cattle, especially oxen, sheep, goats, and donkeys. Owners of draught oxen have the option to earn additional income through "renting" the animal to poorer households without draught power. In the HRA target area animals are kept for the following reasons:

- A form of insurance, a sellable asset for when crops fail.
- A form of savings to be drawn upon for special occasions
- For draught and breeding draught animals
- A source of food, more for dairy products than for meat.
- Ox Fattening and trading.
- For transport of harvests, fuelwood, humans, etc
- To supply manure for fuel

Since all land belongs to the government, animals are the most valued property of rural households for their multi-functionality and propagating capacity. Traditionally, livestock are allowed to graze in all places where it is not explicitly forbidden to do so, particularly after the harvesting season.

2.1.5 STATE OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

In December 2016, USAID/Ethiopia Mission completed 118/119 Tropical Forest/Biodiversity and Climate Risks Challenges and Opportunities assessments as part of its new CDCS preparation. This section documents direct threats to the environment as they relate to USAID programming, biodiversity, and tropical forests. Environmental threats are defined as "threats to processes and actions that may diminish biological diversity, including conversion of natural habitats; overexploitation of valuable species; introduction of invasive species; and environmental change, such as climate change, desertification, and pollution" (USAID 2015a). It also documents the drivers (i.e., root causes) of environmental threats for the purposes of FAA 118/119 analysis. The threats and root causes were identified based on reviewed literature, stakeholder consultations, and the expertise of the Assessment Team and are intended to capture the recent, current, and reasonably foreseeable issues relevant to USAID's 5- to 7-year planning timeline. The threats and drivers include those that are ecological (e.g., climate change, fire, pests), related to human use (e.g., agriculture), or institutional (e.g., failed policy, lack of enforcement) or transboundary issues.

2.1.6 PROTECTED AREAS

The principal mechanism used by Ethiopia to protect biodiversity, ecosystems, and ecological processes has been a network of wildlife conservation areas and priority forest areas. The total area of the wildlife conservation and forest areas is estimated as 15.5 percent of the area of the country, which is above the global and sub-Saharan average for protected area coverage. These areas contain sites set aside mainly for multiple uses. Before the 2016 Forest Sector Development Plan, forest priority areas were no-take areas for conservation only, but this has

been changed. Therefore, the changeover to multiple use will offer an opportunity to study the gains or losses associated with the two different management techniques.

The Ethiopian protected area (PA) system contains several categories, including national parks, wildlife reserves and sanctuaries, which were primarily designed for the protection of wildlife resources, and controlled hunting areas and forest priority areas, for the utilization of wildlife and timber resources. The overall effectiveness of most PAs is low, as many areas are not legally gazetted, receive inadequate funding, and are understaffed and ill-equipped, fail to include local communities and stakeholders from the surrounding area, and therefore providing low levels of biodiversity conservation (Vreugdenhil et al., 2012). An example is Bale National Parks where the rate of deforestation is estimated to be 3.4 percent for 2001-2006. The area is the target of the Bale Eco-Region REDD+ project which is helping to facilitate multiple stakeholders in the protection of these vulnerable forests.

2.1.7 FORESTS

Ethiopia has 17 million hectares of forests comprising natural and planted forests and woodlands, with coverage of about 15.5 percent of the country (unreleased data in MEF 2015). The Ethiopian forests and woodlands are seriously threatened by deforestation, habitat destruction, subsequent decline in regeneration, expansion of invasive species, agricultural expansion, and forest fires. The most important threats to forest genetic diversity are deforestation and forest fragmentation. A total of 103 tree and shrub species are considered endangered species according to the International Union for the Conservation of Nature (IUCN) Red List (IUCN, n.d.).

Illegal logging, firewood collection, overgrazing, and invasive species are threats to forests throughout the country. Land use changes, including commercial farming and population pressure, are other threats to forest and rangeland plants.

2.1.8 ECOSYSTEMS AND ECOSYSTEM SERVICES

Ethiopia's biogeography is characterized by two dominant features: the arid areas of the Horn of Africa, with the Ogaden center of endemism and the mesic highland plateaus where climate instability and highland isolation has also resulted in significant endemism. Ethiopia has over 6,000 species of vascular plant (with 625 endemic species), 860 avian species (16 endemic species), 279 species of mammal (35 endemic species), 201 species of reptile (14 endemic species), 23 species of amphibians (all endemic), and 150 freshwater fish species (6 endemic).

2.1.9 CLIMATE RISKS

Ethiopia has a diverse landscape and climate that includes equatorial rainforests in the south and southwest, Afro-Alpine forests on the summits of the Semien and Bale mountains, and desert-like conditions in the lowlands of the north-east, east, and south-east. Ethiopia has three traditional agro-climatic zones: the warm and semi-arid Kolla (2,400m above sea level). As a result of population increases and expanded agricultural activities, the Bereha (hot and arid) and Wurch (cold and moist) zones have been added at either end of the agro-climatic spectrum. Ethiopia's three seasons span a rainy season from June-September (kiremt), a dry season from October-January (bega), and a shorter rainy season from February-May (belg), some of which occur only in certain parts of the country.

According to the USAID Climate Risks in BHA Geographies - Ethiopia (2020), mean annual temperatures are projected to increase by 1.4°C to 1.8°C by the year 2050. The number of hot days (maximum temperature over 25°C) is projected to increase by 25–32 days, while the number of hot nights (maximum temperature over 20°C) is projected to increase by 37–55 days.

The lowlands of Ethiopia have historically been exposed to high temperatures and prolonged droughts, whereas the highlands have historically experienced more intense and irregular rainfall. ***Ethiopia Climate Risk and Opportunity Report_2016*** indicates that future rainfall projections are uncertain and could range from -25 percent to +30 percent by 2050, yet the proportion of "heavy" rainfall events could see annual increases of up to 18 percent. In 2019, the March-May seasonal rains in the southern/southeastern pastoral areas of Oromia experienced delayed onset and saw below-average rainfall, further challenging recovery in these areas from the 2016/2017 drought.

Ethiopia has experienced chronic localized drought events and seven major droughts (five of which resulted in famines). Droughts and their related impacts are expected to worsen as a result of future climate variability and change, with the potential to further accelerate levels of land degradation, soil erosion, deforestation, biodiversity loss, desertification, recurrent floods, and water and air pollution.

The sizeable population and high growth rate have exacerbated the levels of food insecurity and conflict over natural resources. Chronic food insecurity impacts over 10% of the country's population, rendering Ethiopia particularly vulnerable to climate risk. Drought is the most destructive climate-risk threatening Ethiopia with current estimates predicting a GDP of 10% by 2045 because of climate change. The agricultural sector, which accounts for approximately 85% of the Ethiopian population's livelihoods is heavily reliant on rainfall. However, predictions in Ethiopia suppose erratic rainfall and increased unpredictability of seasonal rains. Projections also note an increased incidence of drought and other extreme events, posing risks to human health and water quality, in addition to impacting agriculture and livestock. Additionally, climate change is linked to an increase in the frequency of water and food-borne infectious diseases because of the inadequate supply of clean drinking water. Higher temperatures, erratic rainfall, and more frequent extreme weather events will continue to stress Ethiopia's adaptive capacity to respond efficiently and effectively to the climate risks posed.

2.1.10 ENVIRONMENTAL DEGRADATION DRIVERS AND THREATS

USAID/Ethiopia Mission recently (2016) completed a 118/119 assessment as part of its new CDCS preparation. This section documents direct threats to the environment as they relate to USAID programming, biodiversity, and tropical forests. Environmental threats are defined as "threats to processes and actions that may diminish biological diversity, including conversion of natural habitats; overexploitation of valuable species; introduction of invasive species; and environmental change, such as climate change, desertification, and pollution" (USAID 2015a). It also documents the drivers (i.e., root causes) of environmental threats for the purposes of FAA 118/119 analysis. The threats and root causes were identified based on reviewed literature, stakeholder consultations, and the expertise of the Assessment Team and are intended to capture the recent, current, and reasonably foreseeable issues relevant to USAID's 5- to 7-year planning timeline. The threats and drivers include those that are ecological (e.g., climate change, fire, pests), related to human use (e.g., agriculture), or institutional (e.g., failed policy, lack of enforcement) or transboundary issues. Annex 5 includes a list of Drivers and Threats

identified in the 118 119 Analysis.
(https://www.usaidgems.org/Documents/FAA&Regs/FAA118119/Ethiopia2016.pdf).

2.1.11 WATER RESOURCE

According to USAID's Water and Sanitation Factsheet for Ethiopia, Ethiopia it is considered 'water stressed' despite having relatively abundant water resources. This is largely due to rapid population growth over the last decade. Estimates of renewable annual groundwater per year range from 13.5 to 28 billion m^3, of which only about 2.6 billion m^3 are currently exploitable. Natural variability in rainfall patterns and distribution, punctuated by extreme climatic events, has thrust many regions of the country into conditions of extreme water scarcity, degraded water quality and chronic food insecurity. At the other extreme, flooding is a significant problem in the eastern parts of the HRA geography regions. Compounding the unpredictable nature of the country's rainfall is the shortage of existing water related infrastructure.

Ethiopia is divided into 12 basins, eight of which are river basins and one of which is a lake basin. The remaining three are dry and without stream flow. Most of these basins extend from the country's central plateau and are drained by rivers originating from the highlands. The northwestern portion of the highlands covers the Tigray and Amhara regions while the southeastern portion of Ethiopia's highlands is in the Oromia region. Ethiopia has a massive surface water potential of 124.4 billion cubic meters, but 97% of estimated annual stream flows out of Ethiopia into neighboring countries because most of the rivers are transboundary. Ethiopia's rivers originating in the western highlands (Abbay, Baro-Akobo, Mereb, and Tekeze basins in the Amhara and Tigray regions) flow to the west and join the Nile, contributing about 85% of its total volume. Rivers originating in the Eastern highlands flow eastwards while two other sections with basins along the Great Rift Valley in the Oromia region flow to the south and north. The Awash River Basin in the Amhara, Oromia, Somali and Afar regions cover 10% of Ethiopia's land mass and 4% of surface flow and is Ethiopia's most highly utilized basin. Additionally, Ethiopia's lake, wetland, and flood plains systems store a great deal of water.

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

NATIONAL ENVIRONMENTAL POLICIES AND PROCEDURES

The overall policy goal of the National Environmental Policy of Ethiopia (NEPE) is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through sound management and use of natural, human-made, and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

The concept of sustainable development and environmental rights are enshrined in article 43, 44 and 92 of the Constitution of the Federal Democratic Republic of Ethiopia (FDRE).

- **In Article 43:** The Right to Development, where peoples' right to: improved living standards and to sustainable development, participate in national development and to be consulted with respect to policies and projects affecting their community, and the enhancement of their capacities for development and to meet their basic needs, are boldly recognized.

- **In Article 44:** Environmental Rights, all persons are entitled to: live in a clean and healthy environment, Compensation, including relocation with adequate state assistance.
- **In Article 92**: Environmental Objectives it is declared that the government shall ensure that all Ethiopians live in a clean and healthy environment, programs and projects design shall not damage or destroy the environment, peoples have the right to full consultation and expression of views, and government and citizens have the duty to protect the environment.

The Environmental Policy of Ethiopia (EPE, 1997) provides several guiding principles that indicate and require a strong adherence to sustainable development. Environment assessment (EA) policies of the EPE include, among other things, the need to ensure that EA: considers impacts on human and natural environments, provides for an early consideration of environmental impacts in projects and programs design, recognizes public consultation, includes mitigation plans and contingency plans, provides for auditing and monitoring, are a legally binding requirement,

The corresponding main policy documents and regulations are summarized in the following section.

ENVIRONMENTAL IMPACT ASSESSMENT PROCLAMATION (NUMBER 299, DATED 2002)

The "Environmental Pollution Control Proclamation (Proc. no. 300/2002)" is promulgated with a view to eliminate or, when not possible to mitigate pollution as an undesirable consequence of social and economic development activities. This proclamation is one of the basic legal documents, which need to be observed as corresponding to effective EA administration. The main reasons for enacting this Proclamation are indicated below. Environmental Impact Assessment serves to bring about thoughtful development by predicting and mitigating the adverse environmental impacts that a proposed development activity is likely to cause because of its design, location, construction, operation, modification, and cessation. A careful assessment and consideration of the environmental impacts of public documents prior to their approval, provides an effective means of harmonizing and integrating environmental, economic, social, and cultural considerations and aspirations into the decision-making process in a manner that promotes sustainable development. Implementation of the environmental rights and objectives enshrined in the Constitution requires the prediction and management of likely adverse environmental impacts, ways in which the benefits might be maximized, and the balancing of socio-economic benefits with environmental costs. Environmental impact assessment serves to bring about administrative transparency and accountability, as well as involve the public and communities in development planning decisions which may affect them and their environment.

The enactment of these Proclamations will help much in the effort to bring about sustainable development in the country by ensuring that development programs, projects and activities do not cause negative impacts on the natural resource base and the environment in general.

NATIONAL BIOSAFETY FRAMEWORK (ENVIRONMENTAL PROTECTION AUTHORITY, 2007)

The National Biosafety Framework aims at raising public awareness and building technical and scientific capacity as well as in the development of a legal framework that deals with risks emanating from GMOs and products thereof, and in making informed decisions on biosafety. It

is a combination of: Government policy provisions on Biosafety in various policy documents. The current policy direction to the framework is in the Environmental Policy of Ethiopia. The policy incorporates sectoral as well as cross sectoral environmental policy provisions which are set in place to ensure the sound management and use of natural resources and the environment. This Environmental Policy is based on the Constitution and the Conservation Strategy. The National Biotechnology Policy and the Science and Technology policy are also consistent with the Environmental Policy.

A regulatory regime which is based on the Precautionary Principle set to protect human and animal health, biological diversity, and the environment at large by preventing or managing down to levels of insignificance the adverse effects of GMOs and products thereof. This includes a biosafety law and directives governing the movement of GMOs and their products. An administrative system to handle notification or request for authorization from the designated Authority after applying along with a risk assessment report for all research and development activities, import, export, transit, handling, release, contained use, transport, placing on the ETHIOPIA HIGHLAND RESILIENCE IEE 19 market, use as a pharmaceutical for humans or animals, or use as food, feed or for processing of any GMO or products thereof. A mechanism for enforcement and monitoring that needs to be incorporated on any application to be engaged in GMO related activities. This includes a clear and sequential description of all the steps to be taken during the implementation of a project that uses GMOs or their products, monitoring and evaluation that will be made at the end of each step, methods of waste disposal as well as emergency measures in cases of accidental release. This is a mechanism for public awareness and participation which ensures that the public is made aware and takes part in decision making for any application of a GMO or products thereof.

PRODUCTIVE SAFETY NET PROJECT PHASE 5:

PSNP has evolved through several phases, and the program has witnessed significant expansion and some important improvements in its design and implementation over the years. Building on the lessons learned from PSNP4 (2015–2020) and the historical evolution of the program, PSNP5 will continue to focus on building the resilience of extremely poor and vulnerable households. The cornerstone of PSNP5's strategy is a strong emphasis on system building, modernization, and transparent accountable structures with key outputs of

1. Timely and adequate transfers received by eligible core caseload of clients.
2. Shock-responsive transfers received by eligible clients when needed.
3. Public Works responds to community livelihoods needs and contribute to disaster risk reduction, climate change adaptation, and mitigation.
4. Linkages to available social services facilitated for core PSNP clients with an emphasis on PDS and TDS.
5. Tailored livelihood options accessed by eligible PSNP clients, and
6. PSNP management and capacity enhanced.

A program provides a source of food or cash income to food insecure households. The PSNP 5 aligns with the 10-year strategic development plan and directly contributes to the realization of three of the strategic directions: ***ensuring quality economic growth***, ***ensuring that women and youth are properly benefited***, and ***building a climate change resilient green economy***. The Sustainable Development Goals (SDGs), a collection of 17 global goals designed to be a

"blueprint to achieve a better and more sustainable future for all, were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. The 2030 Sustainable Development agenda aims at alleviating poverty and hunger for all people, saving the world from climate change, fostering all-inclusive peace and freedom, and ensuring well-being and prosperity for all humanity. It is 'well in harmony with the development needs of the people of Ethiopia,' according to a document by the National Planning Commission. It accelerates the broad-based, all-inclusive, and rapid economic growth, social and economic development, environmental development, and the building of a democratic system. PSNP5 contributes toward the realization of most of the 17 Sustainable Development Goals (SDGs). It has direct relevance to at least 12 of the 17 SDGs, namely: no poverty; zero hunger; good health and well-being; quality of education; gender equality; clean water and sanitation; decent work and economic growth; industry, innovation, and infrastructure; reduced inequality; climate action; life on land; and partnerships. In all target woredas, activities will be coordinated with PSNP efforts.

PSNP5 is a part of the national effort to reduce poverty from its current rate of 26%, and the Goal statement is Extreme poverty reduced in PSNP woredas and links the program to that wider effort. This linkage in PSNP5 is sharpened by the shift in focus from chronic food insecurity to extreme poverty as the overarching targeting criterion. There are several expected transmission channels between PSNP5 efforts and poverty reduction in PSNP woredas:

1. **Direct transfer effect**. Depending on the level of support provided and the extent to which it tops up existing resources, some households will move above the poverty line as a direct result of PSNP transfers received supporting their incomes and consumption. It is estimated that PSNP transfers cover up to 25% of the total annual consumption needs of extremely poor households.
2. **Livelihood transformation and graduation**. The livelihood support provided by PSNP is likely to enable some participants in PSNP to move out of poverty based on the more successful livelihood strategies they adopt.
3. **Resilience to shock**. Further households in receipt of PSNP transitory support are likely to remain above the poverty line in the event of any shocks, where they might otherwise have fallen below it without PSNP support.
4. **Indirect impacts**. Some non-participant poor households in PSNP woredas may benefit from the multiplier effects of PSNP benefits – since the local growth multiplier ratio from PSNP transfers is estimated at 1.72 - and use the opportunity to move above the poverty line.

PSNP 5 maintains the key outputs, principles, and number of clients of its previous phases; and at the same time has introduced new outputs focusing on response to shocks and strengthening of linkages to social services for relevant PSNP clients. Phase five expand geographic coverage and enhance service delivery of Ethiopia's adaptive rural safety net to improve the well-being of extremely poor and vulnerable households in drought-prone communities with further strengthened elements and strategies. As described in the Project Implementation Manual, the PSNP5 is structured so that households with able-bodied adult labor may engage in public works and receive commodity or cash transfers. Public works focus on integrated community-based watershed development, covering activities such as soil and water conservation measures and the development of community assets such as roads, water infrastructure,

schools, and clinics. The program also seeks to increase the use of health and nutrition services by offering temporary direct support to pregnant and lactating women. In addition, public works clients may participate in behavioral change communication (BCC) sessions that also count towards hours given to public works. Within the framework of PSNP, the government developed the Environment and Social Management Framework (ESMF) and reviews the implications of the framework for the PSNP5 ESMF. ESMF is designed to address potential environmental and social issues arising from a solicited project that falls under both public works and livelihoods.

For public works, the ESMF serves as a screening tool to disqualify projects that are too damaging environmentally or socially, and it also serves as a referral tool for projects that require adherence to mitigation measures. This screening initiates at the community level during the public works planning process and is applied by the Environment Protection and Land Authority office. For the livelihood's component, the risk is less from the livelihood choice of an individual household and more the potential cumulative effects if livelihood investments become popular and are taken up at scale.

The Program Implementation Manual (PIM) requires that to be eligible for financing under the PSNP, the subprojects must be environmentally sound. It specifies that projects should be adapted to local conditions and protect the environment. They should be based on sound technical advice, and adequate technical supervision should be available to ensure the quality of work. The ESMF for livelihood options is applied for livelihood activities within PSNP must be vetted by the ESMF and follow any additional recommended mitigation measures.

Climate Change Vulnerability

Agriculture

Climate change poses huge challenges to the global economy and to social development. Its impacts will disproportionately affect sub-Saharan African countries such as Ethiopia. In Ethiopia, it is predicted that changes in climate lead to frequent droughts and heavy rainfall that leads to reducing the amount of land that can be used for agriculture and decreasing crop productivity. Climate change vulnerability is intensified due to the country's high level of poverty and its dependence on key sectors most likely affected by climate change: agriculture, water, and forestry. The agricultural sector is dominated by mixed rain-fed smallscale farming based on traditional technologies, minimal application of fertilizer, weak extension services, and low use of improved seeds. Ethiopia's economy is dependent on agriculture, which accounts for 40 percent of the GDP, 80 percent of exports, and an estimated 75 percent of the country's workforce. However, just five percent of the land is irrigated and crop yields from small farms are below regional averages. Market linkages are weak, and the use of improved seeds, fertilizers, and pesticides remains limited. Despite these challenges, agriculture-led economic growth that is linked to improved livelihoods and nutrition can become a long-lasting solution to Ethiopia's chronic poverty and food insecurity.

Irrigation development is vital to sustainable and reliable agricultural developments in Ethiopia. Subsistence-dominated smallholder farmers' economy can be improved through the use of irrigation in Ethiopian agriculture. Irrigation development in Ethiopia can be considered a cornerstone of food security and poverty reduction tools as it has the power to stimulate economic growth and rural developments. However, a different study showed that less than 20% percent of the potentially irrigable land area was irrigated. Farmland holdings are highly fragmented with less than 1 hectare/household. Land degradation due to inappropriate use of

land such as the cultivation of steep slopes, cultivation, and overgrazing; tenure insecurity; weak agricultural research; lack of agricultural marketing; an inadequate transport network; poor nutrition of livestock; low levels of veterinary care; and livestock diseases are constraints facing the agriculture sector.

Productivity remains low despite the support of the government and development partners. Poor rainfall exasperates food deficiency. Farmers are vulnerable to weather-induced shocks and their lack of coping mechanisms, (e.g., low asset level and lack of formal insurances) makes them increasingly vulnerable to climatic variability. GoE is strongly committed to agricultural growth and has lately increased its investments, while promoting the sector.

Water

Water shortages are becoming a global issue, due to an increasing population, economic growth, and climate change. A lack of clean, fresh water can hinder the efforts to reduce poverty and progress in national development, resulting in poor health, low productivity, food insecurity, and restricted economic development. Though agriculture is the dominant sector, most of Ethiopia's cultivated land is under rain-fed agriculture. Due to a lack of water storage and large spatial and temporal variations in rainfall, there is not enough water for most farmers to produce more than one crop per year and hence there are frequent crop failures due to dry spells and droughts. Climate change impacts on the water cycle can severely affect intervention woredas that rely on groundwater to meet their water demands. Climate change manifests itself primarily through changes in average temperature and precipitation, which are important drivers of the water cycle and hence seasonal occurrences and volume of water in groundwater, aquifers, soils, lakes, rivers, and wetlands. This adds a new dimension to the already high variability of precipitation and the water cycle and presents a challenge to water resource development planners and managers who are used to basing their forecast on and designs solely on historical information. In addition to finding enough water at the right time for all economic sectors and the environment, there is also a struggle to appropriately respond to destructive nature and sometimes cumulative impacts of water-related natural calamities brought about by climate change. Water storage is vital to guard against the effects of high climate volatility and ensure that water is available where and when it is needed. In general, the economy of Ethiopia mainly depends on agriculture, and this in turn largely depends on available water resources. A major effect of climate change is likely to be alterations in hydrologic cycles and changes in water availability.

Forestry

Climate change may decrease the natural adaptability of forests. Forest ecosystems, especially biodiversity, (90 percent of terrestrial biodiversity is found in forests) are threatened in a number of ways by climate change variability and change. Changing temperature and precipitation pattern and increasing concentrations of atmospheric CO2 are likely to drive significant modifications in natural and modified forests. For example, increases in temperature and decreases in precipitation diminish the natural adaptability of the forest ecosystem, induce changes in species composition, increase the risk of fire and increase vulnerability to pests. Climate change-induced modifications of frequency and intensity of forest wildfires, outbreaks of insects and pathogens, and extreme events such as high winds, may be more important than the direct impact of higher temperatures and elevated CO2. In the intervention woredas climate

change has impacts on forestry sector by reducing the survival rate of plantation, reduce the composition, structure, and diversity of natural forest.

Health

According to The World Health Organization, climate change contributes to the deaths of people each year worldwide with the highest impact on Africa where there is a poor capacity to respond. Climate is a key variable in managing the overall burden of disease, particularly in developing countries where the ability to control climate-sensitive disease constrains the prospects of achieving the United Nations Millennium Development Goals. To mitigate their adverse effects, the health sector needs to understand and quantify the specific effects of climate change variability and change both the overall disease burden and on opportunities and effectiveness of public health response.

The most urgent risks of the climate crisis to human health in Ethiopia, are the spread and increased incidence of climate-sensitive vector-borne diseases such as Malaria and the increased risk of diarrheal diseases, and the risk of undernutrition due to food shortages as a result of droughts and crop failures, especially in the eastern regions. Climatic stresses and shocks will also influence displacement as the majority of the population depend on agriculture and pastoralism. Droughts have historically led to displacement and migration and have been linked with exacerbating pre-existing tensions leading to conflict. Water scarcity due to droughts has also been shown to negatively impact mental health. In addition, stressors on livelihoods, food supplies, and access to water for hygiene purposes are all associated with challenges in the interventions woredas too.

In general climate variability is a factor in initiating malaria epidemics in the highlands of Ethiopia. Despite the government spray campaign intended to combat the mosquitoes that transmit the disease. Since people are already chronically undernourished, their immune systems are weaker, so they are more susceptible to disease. Women tend to bear the burden of taking care of ill family members, which diminishes their own food intake to feed their children during times of drought and food scarcity. It has also been suggested water shortages caused by climate variability led to malnutrition, poor sanitation, and diarrhea in the intervention woredas.

Infrastructure

Increased weather variability and greater weather extremes, heavier rains, and longer more pronounced droughts are expected to create greater stress on already fragile infrastructure, and road networks. Flood damage could potentially have dramatic impacts on mobility, both in terms of commerce and in terms of escaping from extreme weather events and other life-threatening events. It is estimated repairing flood damage could increase costs by $250-340M per year. General maintenance costs could also increase by $20-30M per year from temperature and net rainfall increases.

GOE's Strategic approach to climate change adaptation and mitigation

The Ethiopian Environmental Protection Authority (EEPA) is the Federal institution for managing the Environment of Ethiopia. EEPA is responsible for ensuring the realization of the environmental rights, goals, objectives, and basic principles enshrined in the Constitution. As well as the Environment Policy of Ethiopia through coordinating appropriate measures, establishing systems, developing programs and mechanisms for the welfare of humans and the

safety of the environment. It is mandated to formulate or initiate and coordinate the formulation of strategies, policies, laws, and standards as well as procedures and up on approval monitor and enforce their implementation (https://www.epa.gov.et/about-us/background-history.html).

The Ethiopian Environmental Protection Authority (EEPA) is the focal point for both the international climate negotiations as well as the coordinating body for climate-related activity within Ethiopia. To address appropriately, the cross-cutting nature of climate change GoE has established an Environmental Council composed of line ministers and representatives of the regions and the private sector environment units. GoE's response to climate focuses on three key strategy elements.

- The Climate Resilient Green Economy (CRGE) plan,
- Ethiopia's Program of Adaptation to Climate Change (EPA–CC), and
- Nationally Appropriate Mitigation Actions (NAMA)

A. Climate Resilient Green Economy (CRGE)

Ethiopia's Climate-resilient Green Economy Strategy is the key climate policy framework in the country. It lays out the vision for 2025 of achieving middle-income status in a climate-resilient economy and the strategy recognizes Ethiopia's role in mitigating greenhouse gas emissions as it seeks a sustainable model of growth. The green economy plan is based on four pillars such as improving crop and livestock production practices for higher food security and farmer income, while reducing emissions, protecting, and re-establishing forests for their economic and ecosystem services, including carbon stocks, expanding electricity generation from renewable sources of energy for domestic and regional markets, and leapfrogging to modern and energy-efficient technologies in transport, industrial sectors, and buildings. It builds upon the Growth and Transformation Plan (GTP) by creating sector-based and regionally based adaptation assessments and program plans.

Under the CRGE, a regional and sector-based analysis is being conducted to determine the cost of climate change adaptation. The CRGE proposes to establish a facility by the end of 2011, to prioritize climate policy, monitor and evaluate climate adaptation programs and manage climate finance.

B. Ethiopia's Program of Adaptation to Climate Change (EPA–CC)

The objective of the EPA CC is to contribute to the elimination of poverty and to lay the foundation for a climate resilient path towards sustainable development. EPA-CC is a grassroots initiative intended to put in place the local building blocks of adaptation, which will be reinforced by action at the federal and regional levels. EPA–CC will identify opportunities for mainstreaming climate change into the sector and regional development strategies. EPA -- CC is a program of action to build a climate resilient economy through adaptation at the sector-based, regional, and local community levels. The EPA –CC updates and replaces Ethiopia's National Adaptation Program for Action (NAPA), which was formulated in 2007 and submitted to the UNFCC Secretariat and has prioritized the actions in response to current and projected climate variability and change such as promoting drought/crop insurance programs, strengthening/enhancing drought and flood early warning systems, developing small-scale irrigation and water harvesting schemes in arid, semi-arid, and dry sub-humid areas, improving/enhancing rangeland resource management practices in pastoral areas, establishing a capacity building program for climate change adaptation; and realizing food security

C. The Nationally Appropriate Mitigation Actions (NAMA)

Nationally Appropriate Mitigation Actions (NAMAs) are voluntary country engagement proposals to the United Nations Framework Convention on Climate Change (UNFCCC). They are a set of government prioritized actions aimed at reducing or limiting Green House Gas (GHG) emissions. They can be policies directed at transformational change within an economic sector, or actions across sectors for a broader national focus. NAMAs are supported and enabled by technology, financing, and capacity-building and are aimed at achieving a reduction in emissions relative to 'business as usual emissions in 2020. Ethiopia has prepared and submitted nationally appropriate mitigation actions (NAMAs), i.e., voluntary emission reduction measures undertaken by developing country Parties, and reported to the UNFCCC. Ethiopia's NAMA outlines targets for climate mitigation action, which GoE aspires to meet, under commitments made within the Copenhagen Accord. The Ethiopian NAMA comprises projects in the energy, transport, forestry, agriculture, and urban waste management sectors.

D. Donors Supported Climate Change Adaptation efforts.

Climate change is a key issue among the development community; however, to date donor coordination on climate has been limited. Climate change adaptation and mitigation strategies are being integrated into all aspects of donor work either through the formal mechanism, such as DFID's Strategic Climate Institutions Program (SCIP), or through the Donor Working Group (DAG), which recently published the "Donor Working Group Paper on Mainstreaming Climate into the Productive Safety Net Program (PSNP) and the Household Asset Building Program (HABP).

2.2.3 POLITICAL INSTABILITY

Over the past two years, conflict, violence, and frequent drought have led to a humanitarian crisis in northern Ethiopia of increased need. In and around the conflict area thousands of civilians have been killed and displaced. Civil infrastructure such as schools, universities, health services (hospitals, health posts, and clinics), and other government institutions and NGO assets in the area have been damaged alarmingly. Currently, more than 8 million of people are waiting for humanitarian support in the form of food and nutrition, HRA Ethiopia operational woredas in the Ahmara region are affected by this war.

2.3 COUNTRY/MINISTRY/MUNICIPALITY ENVIRONMENTAL CAPACITY ANALYSIS (AS APPROPRIATE)

The system of Government of the Federal Democratic Republic of (GFDRE) is quite decentralized. The country follows a parliamentary form of government. The Federal GFDRE consists of nine National Regional States (NRSs) delimited based on the settlement patterns, language, identity, and consent of the concerned communities (Articles 45, 46, 47 of the Federal Constitution). Within the NRSs there are zonal and woreda (District) administrative levels, with the Woredas being the important levels where local self-government is exercised.

According to the Federal Constitution, all powers not given expressly to the Federal government alone or concurrently with the NRSs are reserved to the states. Thus, the states have the power to enact and execute their own constitution and other laws as well as formulate and execute their economic, social and development policies, strategies, and plans. However, they can only administer land and other natural resources in accordance with Federal laws (Article 52). They

have the power to collect royalty from forest resources as well as share royalty from mining, gas, and petroleum operations with the federal government.

The woredas' powers include examining and approving draft economic development, social services as well as working plans and programs. They are responsible for following up on agricultural development activities that are undertaken consistent with the appropriate season and that conservation and care of natural resources is carried out with special attention. In general, the decentralized system is expected to facilitate environmental management through ensuring the political, economic, and social empowerment of citizens at all levels. This is particularly important for community and village levels to enable them to lead developments in their areas.

ETHIOPIAN MINISTRY OF ENVIRONMENT, FOREST, AND CLIMATE CHANGE (MEFCC)

MEF was established in 2012 to oversee the rights and obligations of the Environmental Protection Authority (EPA) of Ethiopia which was re-established under the existing proclamation No. 295/2002, and the forest sector which used to be under Ministry of Agriculture (MOA).

The new ministry is developing policies and strategies to undertake multi-pronged activities to protect the environment and boost forest coverage at all levels of the government structure together with various stakeholders. MEF's plans will be in line with the country's Growth and Transformation Plan (GTP). The ministry will also give due attention to climate change related threats to contribute to the realization of a truly climate resilient green economy (CRGE). The green economy may not happen only via forest development, but the ministry believes that forest development can play a significant role in realizing green economy when undertaken together with environmental protection schemes. MEFCC objective is formulating policies, strategies, laws, and standards which foster social and economic development in a manner that enhances the welfare of humans and the safety of the environment sustainably and to spearhead their implementation.

MINISTRY OF AGRICULTURE (MOA)

The MOA, which has been recently combined with the Ministry of Rural Development, is a major lead organization at the Federal level in terms of (renewable) natural resources management since it has mandates regarding the management of forest and wildlife resources as well as the protection and conservation of soil resources. Moreover, it is also responsible for land use planning. The fact that this part of the MOA's mandate is dominated by agriculture has been pointed out on many occasions by natural resources management experts. Indeed, all major natural resources management activities are lumped together under a single department. Such major activity areas as forestry, soil conservation, and land use planning have been reduced to team levels.

THE ETHIOPIAN INSTITUTE FOR AGRICULTURAL RESEARCH (EIAR)

This organization both carries out research and coordinates research activities carried out at the NRS levels. The research it carries out to improve agricultural production also has relevance to natural resources management (e.g., better soil conservation measures).

MINISTRY OF WATER RESOURCES

The Ministry of Water Resources was established under Article 4 (15) of Proclamation No 256 of the year 2000. Unlike some other ministries and other types of federal executing agencies,

the Ministry of water development is not under another super ministry. The Ministry has under it several departments and units. The Ministry functions through these departments and units to attain its mandates. There are also autonomous entities operating under the Ministry. An example is the Water Works Design and Supervision Enterprise established by virtue of the Council of Ministers Regulations No. 42 of the year 1998. The Water Works Design and Supervision Enterprise are governed by the Public Enterprises Proclamation No. 25/1992 and the Ministry of Water Resources is its supervising body.

3.0 ANALYSIS OF POTENTIAL ENVIRONMENTAL RISK

The purpose of this section is to discuss potential environmental & health effects, and climate risks of activity interventions approved in Highland Resilience Activity (HRA). Regulation 216 defines "effect" as being adverse based on activities nature and baseline situations stated under above session. This IEE has closely reviewed interventions proposed by HRA consortium members, taking into consideration the environmental and social context within which approved HRA activities will be carried out. A discussion of potential environmental effects and climate risk for each intervention is presented below under each intermediate results.

3.1 STRATEGIC OBJECTIVE 1: IMPROVED RESILIENCE AMONG PSNP HOUSEHOLDS

To ensure that PSNP households gain maximum benefit from the systems-level work in IRs 5, 6, and 7, HRA will implement targeted interventions through IRs 1, 2, 3, and 4 that strengthen PSNP household skills and capacities to improve and expand on-farm, off-farm, and employment livelihoods and access to and consumption of nutritious diets. While still working in partnership with private sector and government actors, these IRs use a combination of targeted action and creative modalities, like value chain financing, to reach HRA's PSNP households.

INTERMEDIATE RESULT 1: **INCREASED PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP ON-FARM ENTERPRISES**

To ensure that the interventions and private sector investments in IRs 5 and 6 reach and benefit PSNP households, HRA will link PSNP households directly to improved and expanded on-farm inputs, services, information, and buying channels.

Sub-IR 1.1: Improved production of agricultural commodities among PSNP on-farm enterprises:

Environmental Risks – Medium

Potential Environmental Effect – HRA will conduct localized barrier analyses for subsets of PSNP on-farm production, provide technical information and create market linkages which has no foreseeable environmental effect, but the provision and utilization of high-quality agricultural inputs and technology by private sector partners may affect the environment and human health.

Potential Climate Risks – Moderate

On- farm productivity will be affected by the impact of climate change like extreme weather events, drought, erratic rain falls, flooding.

TABLE 3A. POTENTIAL IMPACTS – IR1. INCREASED PROUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP ON-FARM ENTERRIESES

Project/Activity	Potential environmental and social impacts
Sub-IR 1.1: Improved production of agricultural commodities among PSNP on-farm enterprises	Activities that directly or indirectly support Improved production of agricultural commodity may contribute to the following adverse impacts: ***Land Conversion*** - Clearing of land for agricultural production can degrade and fragment landscapes, isolating animal populations, altering microclimates at forest edges, and disrupting ecosystem services. ***Change of Landscapes***

	- Agricultural crop production that requires land expansion may require clearing of forests or brush or conversion of grasslands. ***Loss of Natural habitat and Biodiversity*** - Land conversion can adversely affect natural habitats with impacts on all live organisms and biodiversity. ***Introduction of non-native species*** - Introduced exotic species may spread diseases, out-compete native species for resources, become feral, become pests, or interbreed with native species. - Lack of technical capacity and use of uncertified Agricultural inputs - Seed diversification and quality assurance involve technical assistance and capacity building to improve the seed certification and multiplication systems that make seeds and planting materials higher quality and more consistent. ***Soil Erosion*** - improper Crop production practices can cause soil erosion, over-tillage, growing crops in the wrong way or place, not vegetating or otherwise stabilizing the banks of irrigation ditches, deforestation, or draining of wetlands. ***Reduction in Soil Fertility*** - Soil fertility is dependent on three major crop nutrients (nitrogen (N), phosphorus (P), and potassium (K)), as well as other macro-nutrients (e.g., calcium, sulfur), various trace elements, and organic matter content. ***Surface water and groundwater contamination*** - Misapplication of pesticide, fertilizer or manure can result in the migration of nutrients or harmful residues from a farmer's field to local surface and groundwater water sources, causing environmental harm and adversely impacting human health. ***Pollution and reduction in surface and ground water quality*** - Agricultural intensification allows farmers to obtain greater yields per unit of land and time, but it also requires higher amounts of external agricultural inputs and technologies which could have adverse impacts on ecosystem services such as soil fertility, water quality, biodiversity, air quality, and climate. - If chemicals, not encouraged by the donor, are provided, and improperly used, handle and stored by users and providers. - The mismanagement of poultry manure may affect human health and methane released contributes to global warming. - In certain conditions, even small amounts of over-application of phosphorus can lead to harmful algal blooms in waterways that reduce oxygen and kill in-stream flora and fauna.

	- Particulate matter emissions of solid fertilizer compounds are primarily generated as windblown dust during broadcast application, and this may cause cardiovascular and respiratory diseases. ***Worker Health and safety*** - Agricultural workers face occupational health and safety risks, including physical injuries and exposure to agricultural chemicals. - Fertilizer contact with bare hands may cause skin irritation and ingestion may be poisonous. - Inappropriately stored fertilizer is a health hazard, as some can release toxic fumes. - **Improper use of pesticides** (defined in A.4.6), by contrast, can present very significant environmental and human health risks. These risks include: o **Human health**. Acute poisoning, which can be fatal; and chronic effects resulting from sub-acute exposures, including but not limited to cancer, reproductive and developmental harm, and damage to organs and the nervous system. o **Environmental**. Acute and chronic effects on non-target organisms, including beneficial species such as pollinators. ***Social Impacts*** - Agricultural production systems have social impacts that may particularly affect women and children. These may include labor issues such as underpaid or underrepresented labor force, land ownership and water use issues and related conflicts. ***Climate change and GHG Emissions*** - Globally, agriculture is one of the largest contributors to greenhouse gas emissions, including methane emissions from animal manure, N2O emissions from fertilizer application and CO2 emissions from land use change and reduced carbon sequestration in soils from tillage practices. ***Health Impact from Commercialization of Agriculture*** - Commercialization of agriculture and the resulting shift away from staples to cash crops have not necessarily resulted in improvements in children's nutritional status and can, in fact, have negative nutritional consequences (FAO, n.d. (d)).
Sub-IR 1.2: Increased sales among targeted PSNP on-farm enterprises:	**Complement increased production – Link on farm enterprises with output market:** To complement increased production, HRA will link on-farm enterprises to output markets that sustainably increase sales and promote nutrition sensitive sales. Impacts from supporting micro enterprise and improving marketing are indirect, in that, the types of impacts depend upon the nature of interventions that they support. The interventions includes creation or expansion of a small business

	that generates environmental impacts (e.g., livestock trading, butcheries, small-scale poultry production, milk and its product collection and selling, goat aggerate, collection and sales of pulse, oilseed and cereals crops etc.).While many of the activities under this category will likely have relatively minor impacts due to their limited scale, others can cause environmental and related public health difficulties, such as: - The generation of solid and liquid wastes by household and hazardous waste, - Inappropriate inputs or products introduction by agriculture/ livestock value actors contribute for air and water pollutions, and might have adverse health impacts. - Introduction of innovative and endogenous approaches to food storage that have potential harm to the ecosystem. - Lack of sanitation and hygiene during storage; processing and packaging, including the materials, may lead to health problems for the children. - Inappropriate waste handling from agro-businesses contribute to soil and water degradation, and have adverse health impacts. - Inappropriate waste handling from on-farm products/ livestock processing facilities contribute to soil and water degradation, and have adverse health impacts. - Feed and fodder processing can contribute to air and water pollution, increase solid waste, and degrade land. **Increased profitability of Agriculture:** Increases in the profitability of agriculture via increased access to finance and markets can result in increases in land under cultivation, shift cultivation from less to more profitable crops, and/or to push subsistence agriculture into more marginal lands. All can have significant adverse environmental effects, including land degradation, over-abstraction of scarce water resources, and/or degradation of water quality and soil health because of overuse or misuse of agrochemicals.
[*Add rows as needed*]	

INTERMIDIATE RESULT 2: INCREASED PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP OFF-FARM ENTERPRISES

A key component of this IR is to support PSNP households, especially women and youth, to take advantage of increased entrepreneurship opportunities in local agriculture value chains. HRA will also support enterprise development in the consumer goods and services sectors. One opportunity is in this year' **Kazana** Group launch of a kiosk-based rural digital-services agent model to help households connect to increasingly digitized payment, financial services, and government services. HRA will proactively link women and young people enterprise opportunities created under see IR 5.

Sub-IR 2.1: Increased capacity in targeted off-farm enterprises:

Environmental Risk – low

Potential Environmental Effects- HRA will focus on building the system of actors that support PSNP off-farm enterprises with a range of support services, including training, BDS, FSPs, and

government activities (linked to IRs 5, 6, and 7).

- While direct impacts from training assistance are limited, in the absence of effective environmental and social safeguard policies, training can lead to cumulative environmental or social impacts.

Potential Climate Risk –Low

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.

TABLE 3B. POTENTIAL IMPACTS – INCREASED PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP OFF-FARM ENTERPRISES

Sub intervention	Potential environmental and social impacts
Sub intervention 2.1: Increased capacity in targeted off-farm enterprises. -	**Support Services-Training, BDS, FSP** While direct impacts from training assistance are limited, in the absence of effective environmental and social safeguard policies, training can lead to cumulative environmental or social impacts. Overall, adverse impacts are often caused by poor practices that go uncorrected because people do not have the right technical information or outdated inefficient practices and equipment. **BRUH Enterprise Competition Model** Although many MSEs do relatively little direct environmental damage, and some may even have beneficial effects, others can cause significant environmental and related public health difficulties, which vary as broadly as the types of enterprises. Depending upon their individual characteristics, MSEs can have quite a variety of environmental problems. Here are some of the most common and significant ones: - **Chemical and hazardous waste**. Production processes may use chemicals such as acids and metals. - **Air pollution. Air pollutants**—such as chemicals, dust, or smoke—can be created by burning fuel (such as wood, charcoal, gasoline, or oil), by evaporation of chemicals such as solvents, or from by-products of a production process. - **Water pollution**. Chemicals used in production processes may be present in the firm's wastewater. If untreated wastewater is released into the environment, the chemicals can contaminate community water sources and poison irrigated crops. - **Soil erosion**. Mining, land-clearing, or digging can leave an area vulnerable to soil erosion, leading to damaging landslides or floods. - **Natural resource depletion**. Fuelwood use creates deforestation, which degrades arable lands. Excessive or wasteful extraction of water from surface and groundwater sources can deplete water sources for future production or community use.

	- **Solid waste/garbage**. Inefficient production techniques reduce productivity and create excessive solid waste. - **Odor**. Waste from MSEs' 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 family members who live on the premises, **Form Enterprise Business Saving Groups** Business groups may invest in activities that could harm the environment and neighboring community members.
Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises:	**Support New Off-Farm Enterprises** Financial investment has both the positive and negative impact of boosting engagement with different funded sectors. Sector-dependent, but increased engagement and funding can lead to overconsumption of the resource. Increased agricultural production is likely to lead to the conversion of new lands for crop and livestock production and the construction of processing facilities. ***The potential environmental and social impacts of this intervention is adem as sub-IR 2.1*** **Smart subsidies** Smart subsidy to an enterprise with the goal of spurring (encouraging) the uptake of new products and services may result in market distortion and aid dependency if the positive impact on the market/target group will be greater than the negative impact on competing firms. **Post harvest management and off farm enterprises.** The harvest and post-harvest segments of the crop production value chain are critical to the safety and quality of crop-based food. They also present a set of environmental and occupational health and safety risks. These risks vary according to the methods and technologies being used/supported, but may include all of the following: - **Solid Waste Production**. Processing can result in the generation of solid organic and inorganic wastes that must be handled properly. - **Generation of Wastewater/Liquid Waste**. Liquid wastes from processing can contain significant quantities of organic and inorganic matter. These wastes, if improperly disposed of, can generate.

	○ standing water that may become a breeding ground for disease vectors. ○ changes to water pH and temperature, increased nitrogen and phosphorus load that led to eutrophication, and long-term problems resulting from the discharge of organic compounds and heavy metals. - **Water use**. Excess abstraction of fresh water for processing may adversely affect other users and ecosystems. - Beyond emissions from energy use, air pollution can result from refrigeration equipment, which uses refrigerants that contribute to ozone depletion and from combustion or landfilling of waste materials. Some refrigerants may also be potent GHGs, contributing to climate change. - **Consumer Health Risks**. Actors along the harvest and post-harvest segments of the value chain -- particularly smallholders and MSMEs, may have limited availability of safety equipment and limited knowledge of required food-safety procedures. ○ poor storage conditions can result in ***aflatoxin-producing*** Aspergillus molds spreading within a storage facility. - **Noise Pollution and Odors**. Food processing facilities may create noise pollution and odors; impacts may range from the nuisance level to significant physical and psychological health consequences for regularly exposed individuals and communities. - **Occupational Health Hazards, Worker Health, and Safet.** Farmworkers and post-harvest food processors are typically exposed to numerous safeties, health, environmental, biological, and respiratory hazards, ○ Hazards may include physical injury, respiratory injury, and exposure to toxic chemicals including pesticides. - **Unlawful or Unfair Labor Practices**. Enterprises may not provide equal employment opportunities for women and minorities and/or may utilize child labor.

INTERMIDIATE RESULT 3: INCREASED EMPLOYMENT AND WAGE LABOR AMONG TARGETED PSNP CLIENTS

HRA sees potential to increase employment opportunities by expanding the agribusiness sector, supporting business development in/near secondary cities, and connecting individuals to opportunities created with other investments, such as Transforming Agriculture and MS4G. HRA will stimulate job creation through the IF by supporting firms with high potential to create jobs for PSNP clients. HRA will also ensure that PSNP clients, especially youth and the landless, have the information and skills needed to fill labor roles in areas that offer sustainable employment opportunities.

Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households:

Environmental Risk – low

Potential Environmental Effect – Sub-IR 3.1 and 3.2 have no significant environmental effects There are no significant environmental concerns with regard to training of improving life skills in self-confidence, problem solving, decision-making and financial literacy skills targeting youth and women.

Potential Climate Risks- Low

TABLE 3C. POTENTIAL IMPACTS – INCREASED EMPLOYMENT AND WAGE LABOR AMONG TARGETED PSNP CLIENTS

Project/Activity	Potential environmental and social impacts
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households: -	**Categorical Exclusion** **Minimal Environmental and Social Impacts** **This intervention** prioritizes and equips youth with the skills, information, and linkages to successfully navigate pathway to safe and meaningful employment. Lack of integrating environmental mitigation strategy/clean production approach and work readiness in market relevant and life skills training modules could increase risks to employee's and the environment. - Lack of environmental knowledge and skill may negatively affect the environment.
Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households	**imel as sub-IR 3.1**

INTERMIDIATE RESULT 4: IMPROVED DIETS, PARTICULARLY AMONG WOMEN AND YOUNG CHILDREN

The underlying drivers of malnutrition in the Highlands are both multi-dimensional and multi-sectoral. HRA will focus on nutrition-sensitive activities delivered primarily through the private sector and collaborate with a wide range of nutrition-specific activities that thoughtfully envelop PSNP households and communities. HRA will pull market levers that influence the availability of, access to, and utilization of nutrient dense food to improve targeted PSNP participants' diets and nutrition, with a focus on the First 1,000 Days.

Sub-IR 4.1: Increased production of nutritious foods:

Environmental Risk – Medium

Potential Climate Risks: HRA will partner with market actors to enable PSNP households to sustainably intensify and diversify nutrition sensitive production which in turn will increase sales and availability in markets. To increase production farmers may use agricultural inputs, which has an advert impact on the environment, human health, and biodiversity.

Potential Climate Risk- Moderate
Extreme weather events like drought, erratic rain fall, flooding may affect the production of nutrition foods.

TABLE 3D. POTENTIAL IMPACTS 4– IMPROVED DIETS, PARTICULARLY AMONG WOMEN AND YOUNG CHILDREN

Project/Activity	Potential environmental and social impacts
Sub-IR 4.1: Increased production of nutritious foods:	**Intensify and diversify nutrition sensitive production to increase sales and availability.**

-	- Household agricultural production has direct and important linkages with household dietary patterns and nutrition. The main pathways through which expanded agricultural production can influence nutrition at the farm-level include: ○ **Income from agriculture** - commercialization of agriculture and the resulting shift away from staples to cash crops have not necessarily resulted in improvements in children's nutritional status and can, in fact, have *negative nutritional consequences* (FAO, n.d. (d)). ○ **Consumption of own production**. The typical dependence of smallholders on a small number of cereal crops raises concerns about their diets being energy-rich but nutrient-deficient. ***Increased production*** can address caloric deficits—but may not address micronutrient and amino acid deficiencies unless production is diverse. ○ **Biofortification.** Biofortification is the "process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology" as opposed to traditional fortification in which nutrients are added during processing (WHO, n.d.). "*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."* **Increase and improve the availability of inputs for nutritious crops through the input supply**: - **Seeds and Planting Materials**. Developing-area producers and particularly smallholders often use or purchase poor quality seed and planting materials from uncertified sources. ○ Introduction of invasive and weed seed varieties. - **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. - **Fertilizer.** Impacts of fertilizers on the environment vary depending on the type, application, and storage of the fertilizers. Pollution from the use of fertilizers and other chemicals impacting human and animal health. - **Pesticides** Most crop protection methods other than pesticides, IPM present little environmental or health risk. Improper use of pesticides, by contrast, can present very significant environmental and human health risks. These risks include: ○ **Human health**. Acute poisoning, which can be fatal; and chronic effects resulting from sub-acute exposures, including but not limited to cancer, reproductive and developmental harm, and damage to organs and the nervous system. ○ **Environmental.** Acute and chronic effects on non-target organisms, including beneficial species such as pollinators
Sub-IR 4.2: Increased last-mile supply of nutritious foods:	**Expand gender-sensitive post-harvest management and off-farm enterprises:**

- Considering food insecurity, -	The harvest and post-harvest segments of the crop production value chain are critical to the safety and quality of crop-based food. They also present a set of environmental and occupational health and safety risks. These risks vary according to the methods and technologies being used/supported but may include all of the following**:(adem as IR 2.)** ○ Solid Waste Production. ○ Generation of Wastewater/Liquid Waste. ○ Energy Consumption, GHG Emissions, and Air Pollution. ○ Excessive water use. ○ Noise pollution and odors. ○ Consumer health risks
Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers	Categorical Exclusion pursuant to 22 CFR 216.2(c)(2)(viii) for interventions involving nutrition, health care or population and family planning services is recommended

Strategic Objective 2: **IMPROVED PRO-POOR, INCLUSIVE, AND RESILIENT MARKET SYSTEMS, AND INSTITUTIONS IN TARGETED PSNP REGIONS**

Strengthening market systems to better work for PSNP households is embedded into every HRA intervention. Through foundational IRs 5, 6 and 7, HRA addresses constraints in on-farm, offfarm, and employment systems and related public services, facilitating supporting functions and norms to develop inclusive, pro-poor, and shock-responsive goods and services. Leveraging private sector partnerships where HRA's and market actors' incentive align, as well as modalities like the Innovation Fund and cash transfers for economic recovery, IRs 5, 6 and 7 catalyze market system changes that "pull" PSNP households into an enabling market ecosystem.

INTERMEDIATE RESULT 5: IMPROVED MARKET SYSTEMS AND COMMERCIALIZATION

Agriculture value chains and highland consumer markets must be more inclusive of PSNP households and better linked to regional, national, and international markets. This was repeatedly noted by farmers in stakeholder consultations – farmers need stronger market linkages for more reliable and profitable sales, as well as a range of services to increase their farm production. HRA will partner with Ethiopian firms to increase and diversify suppliers and buyers while improving upstream and downstream input and supply chains. HRA will also collaborate closely with Transforming Agriculture to develop production aggregation and sales channels to link to upstream processors and traders. HRA will also collaborate with MS4G to connect to new employment opportunities.

Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households**:**

Environmental Risk- Medium

Potential Environmental Effects: HRA will partner with private sector actors, associations, and government to increase diversity and competition in local agriculture value chains and expand the range of services available to PSNP on-farm enterprises, such as seed production, tillage, have an advert impact on the environment, human and biodiversity.

Potential Climate Risk: Low
affected by extreme weather events.

TABLE 3A. POTENTIAL IMPACTS – IMPROVED MARKET SYSTEMS AND COMMERCIALIZATION

Project/Activity	Potential environmental and social impacts
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households:	**Strengthen Value Chanin:** **"Soft support" to value chains**. Many typical value chain support activities have minimal direct impact on the environment, such as business literacy training for farmers and small processors, linkage, and partnership development between actors in different value chain segments, building farmer and water user associations, and marketing support. However, these activities have the potential to result in cumulative, indirect beneficial or adverse effects as production or economic activity under targeted segments of the value chain increase. - **Direct support to value-added activities**. Strengthening value chains can include direct support to actors and enterprises providing ***logistics, transportation, packaging, food processing, and storage.*** - They also present a set of **environmental and occupational health and safety risks.** These risks vary according to the methods and technologies being used/supported, amed as IR 2. **Agricultural Extension and Training**. Agricultural extension services are known to be critical to successful crop production outcomes. - Agricultural education and extension provide high-leverage channels to address appropriate environmental and occupational safety and health practices. Conversely, failing to address these practices in education and training will almost certainly result in the prevalence of poor practices. - **Extension services.** If focused on intensification or adoption of cash crops, can involve increased use of fertilizers, pesticides, or mechanization, or stimulating land conversion and displacement of subsistence-farmer tenants. - In countries where capacity to enforce environmental management standards is low, more input-intensive production can lead to adverse environmental impacts.
Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households.	**Expansion of Agriculture Value Chains – directly link to HRA Push activities:** The expansion of privet firms/enterprises in the highland area do relatively little direct environmental damage, some may have beneficial effects, other can cause significant environmental and related public health difficulties, which vary as broadly as the type of the enterprises/firms. **Some of the potential environment and social effects are listed under IR 2.** HRA will promote the expansion of a number of different kinds of enterprises/firms environmentally helpful like Green Scene, although even these should be managed carefully to avoid unintentional adverse impacts. "Green" enterprises" offer a wide range of goods and services including the following: • Solar energy • Sustainable agriculture • Promotion of organic fertilizer from organic wastes

INTERMEDIATE RESULT 6: INCREASED PRIVATE INVESTMENT AND FINANCE IN HIGHLANDS COMMUNITIES

HRA will facilitate national, regional, and local private sector partnerships and investments that spur market actors to support income, entrepreneurship, and employment. A main focus will be to expand the availability and appropriateness of financial services for PSNP households. As part of the baseline assessment, HRA will better understand PSNP households' level of economic activity, existing assets, and debt burdens to focus and refine financial services.

Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas:

Environmental Risk: low

Potential Environmental Effects: HRA will leverage these new opportunities to partner with Ethiopian FSPs who have launched new loan products and services and have a demonstrated commitment to MSMEs and PSNP households.

Potential Climate Risks: Depends on the type of investment.

TABLE 3A. POTENTIAL IMPACTS – INCREASED PRIVATE INVESTMENT AND FINANCE IN HIGHLANDS COMMUNITIES

Project/Activity	Potential environmental and social impacts

Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas.	**Increasing Investment by FSPs in the PSN areas.**
	- MSMEs and PSNP Households benefiting from the financial service may use the loan on potentially harmful goods or activities and at the same time, involves on harmful to the environment, including:
	  ○ Livestock manure may pollute residence areas and affect human health.
	  ○ Exchange of disease pathogens
	  ○ Increased food-borne illnesses
	  ○ Increased parasitism
	  ○ Water contamination
	  ○ Livestock manure increases in methane that contributes to global warming gases.
	  ○ Overgrazing, if free grazing practiced
	- Lack of integrating environmental awareness into all training modules for HRA interventions that have a potential environmental effect, could increase environmental damage, human health problem, biodiversity.
	  ○ Lack of environmental knowledge and skill may negatively affect the environment, human health, and biodiversity.

Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas: -	- ***idem as IR 5. 1 and 5.2*** - Lack of integrating environmental awareness into all training modules for HRA interventions that have a potential environmental effect, could increase environmental damage, human health problem, biodiversity.

	○ Lack of environmental knowledge and skill may negatively affect the environment, human health, and biodiversity.

INTERMEDIATE RESULT 7: CLIENT-RESPONSIVE PUBLIC AND PRIVATE SOCIAL SERVICES IMPROVED AND EXPANDED

Extensive work has been done by the Consortium's local NGO partners utilizing community accountability mechanisms and the Community Score Card tool to develop priorities and engage local government to resource and deliver responsive services. Building on this, HRA will take the process a step further to focus on communal risk mitigation and management through an inclusive and participatory process. This community analysis and planning process will help HRA, and partners contextualize business contingency planning, prioritize services from private sector partners, strengthen linkages for PSNP households to public services, and better direct PSNP5 public works projects.

Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies**:**

Environmental Risk: low

Potential Environmental Effects: HRA will conduct participatory community-based risk mitigation planning related to livelihoods and local economies.

Potential Climate Risks: no foreseeable risks

TABLE 3A. POTENTIAL IMPACTS – CLIENT-RESPONSIVE PUBLIC AND PRIVATE SOCIAL SERVICES IMPROVED AND EXPANDED

Project/Activity	Potential environmental and social impacts
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies:	The intervention has a positive impact on the environment and society. - Community challenges, needs, and opportunities will be identified. - Community mobilized to actively prepare for shocks and prioritize support needed from public and private actors. - Support the preparation of climate risk management plan for the community. The intervention itself has no direct impact on the environment. Rether, it has a positive environmental effect. The do nothing approach also has no direct environmental impact, but the social impact could be quite devastating if the risk mitigating planning related to livelihood and local economy are not properly planned and implemented. The community-based risk mitigating measures may include interventions that will have an impact on the environment. - HRA local partners awareness on the environmental sound management and design concept determine the effectiveness of community-based risk mitigation planning process.
Sub-IR 7.2: Improved	- HRA local partners awareness on the environmental sound

responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies: - .	management and design concept determine the effectiveness of community-based risk mitigation planning process.
Sub-activity 1.2:	
[*Add rows as needed*]	

4.0 ENVIRONMENTAL DETERMINATIONS

4.1 RECOMMENDED ENVIRONMENTAL DETERMINATIONS

The following table summarizes the recommended determinations based on the environmental analysis conducted. Upon approval, these determinations become affirmed, per 22 CFR 216. Specified conditions, detailed in Section 5, become mandatory obligations of implementation, per ADS 204.

TABLE 4: ENVIRONMENTAL DETERMINATIONS

Sub-Intermediate Result	Categorical Exclusion Citation (if applicable)	Negative Determination	Positive Determination[4]	Deferral[5]
Sub-IR 1.1: Improved production of agricultural commodities among PSNP on-farm enterprises	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 1.2: Increased sales among targeted PSNP on-farm enterprises:	22CFR216.2(c)(2)(iii)	☒	☐	☐
Sub-IR 2.1: Increased capacity in targeted off-farm enterprises:		☒	☐	☐
Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises	22CFR216.2(c)(2)(i)	☒	☐	☐
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households	22CFR216.2(c)(2)(i)	☒	☐	☐
Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households	22CFR216.2(c)(2)(i)	☒	☐	☐
Sub-IR 4.1: Increased production of nutritious foods	22CFR216.2(c)(2)(viii) & (iii)	☒	☐	☐
Sub-IR 4.2: Increased last-mile supply of nutritious foods	22 CFR216.2(c)(2)(viii)	☒	☐	☐
Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods	22 CFR216.2(c)(2)(viii)	☒	☐	☐

[4] Positive Determinations require preparation of a Scoping Statement and Environmental Assessment.
[5] Deferrals must be cleared through an Amendment to this IEE prior to implementation of any deferred activities.

and behaviors among PSNP consumers				
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households	22CFR216.2(c)(2)(iii)	☒	☐	☐
Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas	22CFR216.3(a)(2)(iii)	☒	☐	☐
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies	22 CFR 216.2(a)(2)(iii)	☒	☐	☐
Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies	22 CFR 216.2(c)(2)(i)	☒	☐	☐

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 1 for the compete CRM table.

Ethiopia is one of the most vulnerable countries to climate variability and climate change due to its high dependence on rain-fed agriculture and natural resources, and relatively low adaptive capacity to deal with these expected changes. Challenges include the under-development of water resources, low health service coverage, a high population growth rate, low economic development, inadequate road infrastructure in drought prone areas, weak institutional structures, and lack of awareness. Ethiopia has frequently experienced extreme events like droughts and floods, in addition to rainfall variability and increasing temperature which contribute to adverse impacts to livelihoods. Primary environmental problems are soil erosion, deforestation, recurrent droughts, desertification, land degradation, and loss of biodiversity and wildlife.

Therefore, any development intervention must take into consideration potential climate risks during planning processes to proactively respond to and build community resilience. According to USAID 201 ADS, it is mandatory to screen all the proposed activities with respect to climate risks. 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 climate risk management (CRM) assessment for the HRA 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, shade
- Small Grants
- 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.

5.0 CONDITIONS AND MITIGATION MEASURES

5.1 CONDITIONS

The environmental determinations in this IEE are contingent upon full implementation of the following 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 with 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.

5.3 MITIGATION MEASURES

The mitigation measures presented in this section constitute the minimum required based on available information at the time of this IEE and the environmental analysis in Section 4. These measures shall provide general direction for completing the project/activity Environmental Mitigation and Monitoring Plan (EMMP) and/or the EA and PERSUAP, if required.

INTERMEDIATE RESULT 1: INCREASED PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP ON-FARM ENTERPRISES

TABLE 5A. SUMMARY OF MITIGATION MEASURES FOR INCREASES PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP ON-FARM ENTERPRISES

SUB INTERVENSION RESULT	Mitigation Measure(s)
SUB IR 1.1: Improved production of agricultural commodities among PSNP on-farm enterprises	**General:** Provide technical support to identified firms/MSEs to conduct comprehensive assessment of their business against a “cleaner production” model, particular in relation to use of appropriate type and standard of pesticide and fertilizer. **Category: Preserving land and landscape:** Provide capacity building training for local partners on agronomic practices, post-harvest management – soil fertility management, composting, soil, and water conservation measures implementation. Minimize agricultural land expansion by intensifying production- (*NB: Intensification should be environmentally sound).* • Use land in conformity with its capability. • Support land clearing only with detailed assessment and thorough mitigation. • Promote integrated soil fertility management practices (ISFM) • Implement erosion/runoff control measures and riparian buffers.

- Consider community-based watershed management approach.

Category: Preserving Biodiversity, Control Pollution, and leaching

- Provide training for local partners and firms to comply with regulatory requirement including PERSUAP, proper application and handling of agricultural inputs like improved seeds, fertilizer, and pesticides.
- Use only seeds and planting materials that meet host country sanitary and phytosanitary standards.
- Prevent introduction of invasive species
- Promote crops/varieties and approaches that are proven in practice to be appropriate to the agro-ecological zone.

Category: Social, Human Health and Safety

- Include Occupational and Community Health and Safety in the training curriculum.
- Address land tenure, gender, and vulnerable groups issues
- Undertake pre-implementation gender and related social analyses.

Mitigate based on the actions being promoted. Extension services focused on intensification.

- The adoption of cash crops or other endpoints that involve increased use of fertilizers, pesticides, or mechanization should incorporate/promote mitigations, and also incorporate appropriate social mitigation actions being promoted.

Mitigate impact from Fertilizer Procurement and/or use:

- **Use/Promote Fertilizers Consistent with 4R** Principles and, Whenever Possible, Within an Integrated Soil Fertility Management (ISFM) Framework or assistance to address these deficits. The “4R” principles of nutrient stewardship are: Right source, Right rate, Right time, and Right place.

For example, applying fertilizers in the proper amount, at the right time of year, and with the right method with no overapplication significantly reduces the potential for soil degradation, and for pollution of ground and surface waters. It is better if Fertilizer application is integrated with ISFM and agronomic practice.

Provide Training. Support for producer use of fertilizers must include training on safe and appropriate fertilizer use, including:

- understanding the nature of fertilizers used,
- the methods of application,
- the proper timing of application
- health and environmental risks of fertilizers, and
- appropriate storage and handling, including use of PPE.

Provide and Require PPE. Farmers should always wear appropriate PPE when handling fertilizers.

Time Application Correctly Fertilizers should not be applied during periods of heavy rain, waterlogging, or unusual climatic conditions when the dangers of leaching, or other barriers to immediate take-up, are high.

Maintain Distance. Application or storage of agrochemicals

	should be a suitable distance from any watercourse including ditches (e.g., 10m) or drinking water supplies (e.g., 50m), especially when handling or applying fertilizers, organic wastes, pesticides, or other chemicals. **Procure Quality Products**. Procuring legal, reputable, well-labeled products helps to best assure that nutrient (N, P, K) concentrations are as advertised, and that the fertilizers do not have hazardous constituents. **Mitigate impact from Crop Protection, particularly Pesticide:** Crop production requires crop protection. Crop protection often requires the use of pesticides, incurring a set of environmental and human health risks. Safer Pesticide Use, which includes IPM, is the mitigation approach to these risks. **Safer pesticide use requires at least all the following**: • Use of pesticides within an IPM framework (see below). • Procurement of quality product labeled in a manner compliant with FAO-WHO guidance (at minimum) in a language that can read by the applicator (FAO-WHO 2015). • Use of non-expired product that is legal in the host country. • Use per label, including: • Use of well-maintained, properly calibrated, leak-free application equipment employed with proper technique. • Practices to reduce spray drift, volatilization, and water pollution, including but not limited to application in morning or evening and in minimum-wind conditions, • Transport, storage, handling, mixing, clean-up, and disposal conducted in a manner to minimize spills, human and environmental exposure. If spills occur, they are contained. • Individuals trained in pesticide exposure first aid close at hand, and access to medical facilities whose personnel are trained and equipped to respond to pesticide poisoning; and • Communication of risks to bystanders, including warning signage.
Sub IR 1.2 Increased sales among targeted PSNP on-farm enterprises	**Categories: Capacity Building:** • Incorporate general environmental management skills into training provided to MSEs. • Ensure capacity building activities to livestock/Agriculture value chain actors safe use of inputs and introduction of products of the required quality standard, • Provide training and technical supports for market actors. • Screen Livestock/Agriculture value chain actors for appropriate waste handling and introduction of good management practices • Ensure capacity building activities with livestock processing service providers include solid waste management, including through training and on-site mentoring. • Screen livestock processing service providers for appropriate waste handling practices • Provide oversight on all MSE development activities, to reduce environmental impacts and abide by Regulation 216 • Facilitate coordination between different development actors, local partners, VESA, Cooperative, MSE and MFI,

	and environmental and resource efficiency experts. • Require or encourage selected environmental mitigation measures before certain MSEs get assistance. • Conduct rapid screening for Cooperatives /MFI/VSLA/SACCO on environmental impact level of the business. • Include training on environmental screening as part of Banks/MFI/VSLA capacity building. • Develop or modify formats for customized environmental screening process for use by Banks/MFI as part of eligibility criteria to access products/services. • Screen MSMEs eligible for loans using environmental compliance formats. • Train or support local partners to evaluate and incorporate sector-specific guidelines for environmental mitigation. • Provide support for institutions to integrate environmental consideration in normal operating procedure

INTERMIDIATE RESULT 2: INCREASED PRODUCTIVITY AND COMPETITIVENESS OF TARGETED PSNP OFF-FARM ENTERPRISES

TABLE 5B. SUMMARY OF MITIGATION MEASURES FOR intermidiate result 2.

Project/Activity	Mitigation Measure(s)
Sub-IR 2.1: Increased capacity in targeted off-farm enterprises.	**Category: Capacity Building** Support government authority to identify/design and promote appropriate environmental mitigation plans with incentives that encourages enterprise to adopt practical environmental management plans. Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs) MSE, BDS and FSP 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. To address this gap train government partners, MES, FSP and local partners on the following topics: • General facts about MSEs and the occupational health and environmental issues associated with them. • Clean Production approaches and tools, particularly focusing on the business benefits to clients. • Clean technologies and methods for preventing and mitigating adverse environmental impacts. • Use of environmental screening, guided questions, and classification procedures in the environmental review of MSEs For support to FSP, financial institutions, or small grants, activities will be screened to categorize the SME's work to the types and significance of environmental impacts they generate. The goal of the screening phase is to determine quickly and easily assess if an assistance request from an SME (for a loan,

	business planning, accounting training, etc.) will need environmental review before it can be approved. Assistance for SME must comply with local, national, USAID, or its own organizational environmental policies. 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. Involve relevant government bureaus to identify and promote regulatory and financial incentives to encourage implementation of environmental mitigation plan by SMEs to support environmental mitigation strategy like • pollution control and • clean production approaches. **Category: BRUH Enterprise Model award** Promote GREEN ENTERPRISES - MSEs may be environmentally helpful, although even these should be managed carefully to avoid unintentional adverse impacts. Develop criteria that helps to select business that have no or minimal environmental impact for partnership and requesting Environment Impact Analysis and mitigation plan for selected partners. Award BRUH enterprises that offer a wide range of goods and services including the following: • Promote solar energy for small holders -irrigation, cooking, and lighting. • Sustainable agriculture/forestry • Ecotourism • Production of fertilizer from organic waste • Waste collection and disposal • Recycling, repair, and remanufacturing On the promotion of GREEN enterprises, supplier companies will be conducted feasibility study coupled with environmental impact assessment. Utilize media and influential community groups to raise awareness in operational areas and enterprises groups
Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises	**Categories: Support New Off-farm Enterprises:** Grant making will comply with host-government environmental requirements, legislation, and standards. Furthermore, where appropriate, technical assistance and training will include environmental awareness and sensitivity components, including exposure to the principles and procedures of Environmental Impact Assessment (EIA). ***Idem as Sub IR 2.1*** ERF/ERR: All sub-grants under this activity will trigger an additional screening process. unless an alternative screening approach is otherwise agreed upon with the BEO. The ERF should be customized to fit the activities covered in this IEE and should consider the potential environmental impacts and relevant mitigations for the activities. Each new off-farm

	enterprise will have its separate review. The ERF/ERR will be completed and approved by the AOR/COR, MEO, and REA prior to awards for sub-grants. • Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs) • The new off-farm activities will be screened to determine quickly and easily assess if an assistance requested from MSE will need environmental review before it can be approved. • Assistance for SME must comply with local, national, USAID, Mercy Corps, and its local partners organizational environmental policies. • 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. • Involve relevant government bureaus to identify and promote regulatory and financial incentives to encourage implementation of environmental mitigation plan by SMEs to support use of new technology. • Develop criteria that helps to select business that have no or minimal environmental impact for partnership and requesting environmental impact analysis and mitigation plan for selected partners. • If the identified off-farm enterprise has a moderate/high risk, the HRA will prepare a full Environmental report before implementation. • Any off-farm enterprises categorized as high-risk or unknown risk will be sent to the A/COR for review and the BEO as an additional level of clearance before approval. Increase awareness on regulations that Support food safety, cleaner and hygienic environments for sustainable production systems and practices

INTERMIDIATE RESULT 3 : INCREASED EMPLOYMENT AND WAGE LABOR AMONG TARGETED PSNP CLIENTS

TABLE 5C. SUMMARY OF MITIGATION MEASURES FOR INTERMIDIATE RESULT 3

Project/Activity	Mitigation Measure(s)
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households:	**Category Capacity building** • Incorporate environmental management strategy into work readiness and life skill training manual of TVET. • Ensure capacity building activities with MSEs engaged on Crop production business to address good agronomic practices, including provision of training and on-site mentoring. • Screen MSEs to engaged on crop production related for appropriate waste handling and management practices. • Screen MSEs to engaged on animal production related for appropriate waste handling and management practices. • Ensure capacity building activities with MSEs engaged on Livestock business addressed good animal husbandry

	practices, including through training and on-site mentoring. • Support Government authorities to identify/design and promote appropriate environmental mitigation plans with incentives that encourage enterprises to adopt practical management plans. • Utilize media and influential community groups to raise awareness in operational areas and enterprises groups
Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households	Idem as 3.1

INTERMIDIATE RESULT 4: IMPROVED DIETS, PARTICULARLY AMONG WOMEN AND YOUNG CHILDREN

TABLE 5D. SUMMARY OF MITIGATION MEASURES FOR INTERMIDIATE RESULT 4

Project/Activity	Mitigation Measure(s)
Sub-IR 4.1: Increased production of nutritious foods:	**Categories: Intensify Nutrition Sensitive Production:** Achieving nutritional benefits and avoiding unintended adverse effects on nutrition via support to crop production generally requires the following: • **Integrate a focus on nutritionally diverse production**, a focus on vegetable gardens could be incorporated to both diversify family diet and improve incomes. • **Integrate Nutritional Awareness and Education**. Beyond awareness of good nutrition and its importance, community, and household awareness about the connection between health, nutrition, and how food is grown is key to translating income gains to improved nutritional status. • **Assure benefits accrue to women,** as there is a direct link between women's control over income and better maternal and child nutrition. • **Focus on soil health and safer pesticide use** to maximize the nutritional content of crops produced and to avoid unhealthful pesticide residues. ***Idem as Sub-IR 1.1*** soil fertility management • Avoid Incentivizing Displacement- focus on cash crop, adverse nutritional consequences are likely. • HRA will embed nutrition information and messages in all training, sales, and information transfers, and will contract research institutions to create new information and products related to nutritious production practices as needed. • HRA will work with local universities and research institutes to ensures the seeds are suited and appropriate for agro-climate zone to which they are introduced. • Reputable seed companies, Research and Academic institutions will be the major source of seeds, as they are reliable sources. Trails for seed variety will be conducted. • Ensure that the technologies are obtained from reliable source. • Training guidelines for high value and nutritious crops will include environmental protection measures, including proper management and use of fertilizers
Sub-IR 4.2: Increased last-mile supply of nutritious foods:	**Categories: Expand gender-sensitive post-harvest management and off-farm enterprises-** The following mitigation measures are required to address the

	range of impacts presented by most support to the harvest and post-harvest segments of the crop production value chain. • **Research and Apply Relevant Innovations** in More Sustainable Harvest and Post-harvest Practices. • **Inspect to Identify EHS and Food Safety Deficits**, Make Support Conditional on Corrections- ***apply resource-efficient and cleaner production (RECP) approach.*** • **Review and Apply as Relevant the food processing RECP** briefing and resource guide. • **Promote Food Safety**. A consistent, robust focus on food safety is essential to mitigating the risks to public health intrinsic in crop harvest, handling, storage, and processing operations. - Building governmental capacity to establish and enforce standards. - Building and strengthening consumer and professional organizations that play a supporting role in informing policy. - Collaborating with academic institutions who engage in relevant research and education; and/or - Building awareness to make consumers cognizant of the level of safety associated with the foods they purchase and how they should store foods (FAO, n.d.(e)). • **Identify relevant aspects of the support** (infrastructure, pest control, transport etc) and consider the indicated mitigation measures. • **Screen New Tools and Technologies**. All introductions to new technologies and machinery should be reviewed for environmental and social impacts over the lifetime the equipment is to be used. - Research and academic institutions will be the major source of technologies, as they are reliable sources. - Training for selected HHs will include all environmental protection and food safety measures for the piloting. • Increase awareness on regulations that Support food safety, cleaner and hygienic environments for sustainable production systems and practices
Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers:	NA – Categorically Excluded

INTERMIDIATE RESULT 5: IMPROVED MARKET SYSTEMS AND COMMERCIALIZATION

TABLE 5E. SUMMARY OF MITIGATION MEASURES FOR INTERMIDIATE RESULT 5

Project/Activity	Mitigation Measure(s)
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households:	**Categories: Strengthen Value Chains:** Where "**soft support**" may result in indirect impacts associated with an increase in economic activity under one or more value chain segments, consideration must be given to mitigations that increase the general capacity of this value chain segment to operate in environmentally and socially sound ways – and/or of government to better support and enforce appropriate environmental and social performance. Where support has **direct environmental** or social impacts,

	mitigation measures will be needed to address these impacts. For example, strengthening food processing value chains via support to specific processors should include 1) identification of environmental/social compliance and performance deficits in the processors' operations and 2) training or assistance to address these deficits. • Inspect to Identify EHS and Food Safety Deficits, Make Support Conditional on Corrections. • Promote Food Safety. • Research and apply relevant innovations in more sustainable harvest and post-harvest practices. • Review and apply as relevant the Food Processing RECP Briefing and Resource Guide • Conduct environmental screening when introducing new tools and technologies. **Categories: Trade and Investment**: To be environmentally and socially sound, policies and interventions stimulating trade and investment must identify and address these consequences. **Categories: Agricultural Extension Service and Training** • Extension services should promote crops/varieties and approaches that are proven in practice to be appropriate to the agro-ecological zone and farmer capabilities. **Mitigate impact from Crop Protection, particularly Pesticide:** Crop production requires crop protection. Crop protection often requires the use of pesticides, incurring a set of environmental and human health risks. Safer Pesticide Use, which includes IPM, is the mitigation approach to these risks. **Safer pesticide use requires at least all the following**: • Use of pesticides within an IPM framework (see below). • Procurement of quality product labeled in a manner compliant with FAO-WHO guidance (at minimum) in a language that can read by the applicator (FAO-WHO 2015). • Use of non-expired product that is legal in the host country. • Use per label, including: • Use of well-maintained, properly calibrated, leak-free application equipment employed with proper technique. • Practices to reduce spray drift, volatilization, and water pollution, including but not limited to application in morning or evening and in minimum-wind conditions, • Transport, storage, handling, mixing, clean-up, and disposal conducted in a manner to minimize spills, human and environmental exposure. If spills occur, they are contained. • Individuals trained in pesticide exposure first aid close at hand, and access to medical facilities whose personnel are trained and equipped to respond to pesticide poisoning; and Communication of risks to bystanders, including warning signage.
Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households:	**Agricultural Value Chaine:** HRA will promote the expansion of a number of different kinds of enterprises/firms environmentally helpful like Green Scene, although even these should be managed carefully to avoid unintentional adverse impacts. "Green" enterprises" offer a wide

	range of goods and services including the following: • Solar energy • Sustainable agriculture • Promotion of organic fertilizer from organic wastes **Expansion of available business development services (BDS) for off-farm enterprises:** Promote environmental stewardship and environmental consciousness among targeted clients' entrepreneurs training includes key message and pictorials training on environmental impact identification and mitigation for trainee. ***idem as IR 2 (Sub- IR 2.1, 2.2 and Sub-IR 5.1),***
Sub-activity 1.2:	

INTERMIDIATE RESULT 6: PRIVATE INVESTMENT AND FINANCE IN HIGHLANDS COMMUNITIES

TABLE 5F. SUMMARY OF MITIGATION MEASURES FOR INTERMIDIATE RESULT 6

Project/Activity	Mitigation Measure(s)
Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas:	**Categories: Increasing Investment by FSPs in the PSNP areas:** In applying environmental oversight to enterprise in PSNP areas/MSE activities, one of the first steps is to categorize the MSEs they work with according to the types and seriousness of environmental impacts they generate. A BDS or FSP needs to ensure that assistance for an MSE complies with local, national, USAID, or its own organizational environmental policies. Support government authority to identify/design and promote appropriate environmental mitigation plans with incentives that encourages enterprise to adopt practical environmental management plans. Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs) MSE, BDS and FSP 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. To address this gap train government partners, MES, FSP and local partners on the following topics: • General facts about MSEs and the occupational health and environmental issues associated with them. • Clean Production approaches and tools, particularly focusing on the business benefits to clients. • Clean technologies and methods for preventing and mitigating adverse environmental impacts. • Use of environmental screening, guided questions, and classification procedures in the environmental review of MSEs ***Idem as Sub IR 2.1*** **Use MSE Screening tools:**

	To identify the proposed MSE interventions which may not be allowed or for which a mitigation is required by USAID Regulation 216, Conduct rapid screening for enterprises on environmental impact level of the business and prepare/require mitigation measures before certain enterprises get assistance. • (1) Those that are expected to have beneficial impacts on the environment, • (2) those expected to have minimal adverse environmental effects, and • (3) those that are expected to have potentially significant adverse effects. Develop or modify formats for customized environmental screening process for use by Banks/MFI as part of eligibility criteria to access products/services. **Capacity Building**: Incorporate general environmental management skills into training provided to MSEs. Creating/raising awareness of many of the cleaner production opportunities that could cost-effectively mitigate those impacts and improve financial viability of enterprises work on the mitigation measures.
Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas:	***Idem as Sub-IR 5.1 and 5.2*** Support government authorities to identify/design and promote appropriate environmental mitigation plans with incentives that encourages enterprise to adopt practical management plans. Utilize media and influential community groups to raise awareness in operational areas and enterprises groups. Incorporate general environmental management skills into training provided to MSEs. Creating/raising awareness of many of the cleaner production opportunities that could cost-effectively mitigate those impacts and improve financial viability of enterprises work on the mitigation measures. **Gender transformative and DRM and Conflict:** Support the development and application of environmental standards for different DRM activities for land and water resources. Activities selection will include identifying environmental risk screening as part of planning and implementation actions / practices. Ensure all project activities are designed to be fully conflict aware, sensitive, and responsive. Ensure gender / youth mainstreaming is effective through all project activities. Support specific women and youth group livelihood activities. Support transformation of environmentally degrading livelihoods activities

INTERMIDIATE RESULT 7: CLIENT-RESPONSIVE PUBLIC AND PRIVATE SOCIAL SERVICES IMPROVED AND EXPANDED

TABLE 6G. SUMMARY OF MITIGATION MEASURES FOR INTERMIDIATE RESULT 7

Project/Activity	Mitigation Measure(s)
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies:	**Capacity Building** • Train HRA local partners on the environmental sound management and design concept of community-based risk mitigation planning process. • Prepare community-based risk mitigation plan for livelihoods and local economy. • Support the development and application of environmental standards for livelihood and local economy risk mitigation plan. • Activities selection will include identifying environmental risk screening as part of planning and implementation actions / practices
Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies:	NA- Categorically Excluded

[*Add summary tables as needed for additional project/activity components*.]

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 HRA)

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

ATTACHEMENT 1. EMMP TABLE FOR HIGHLAND RESILIENCE ACTIVITY [HRA]

Project/Activity/Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Parties
Intermediate Result 1: Increased Productivity and Competitiveness of Targeted PSNP On-Farm Enterprises					
Sub IR 1.1 Improved production of agricultural commodities among PSNP on-farm enterprises	Activities that directly or indirectly support Improved production of agricultural commodity may contribute to: - 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 for the creation of food borne diseases. - Health impacts from operating machinery, spraying chemicals, and pesticide application	**General:** Provide technical support to identified firms/MSEs to conduct comprehensive assessment of their business against a "cleaner production" model, particular in relation to use of appropriate type and standard of pesticide and fertilizer. **Category: Preserving land and landscape:** Provide capacity building training for local partners on agronomic practices, post-harvest management – soil fertility management, composting, soil, and water conservation measures implementation. Minimize agricultural land expansion by intensifying production-(*NB: Intensification should be environmentally sound).*	# of firms/enterprises identified # of partners attend agronomic practice training # of PSNP HHs practice improved agricultural technology # of partners attained environmental compliance training # of HHs adopted integrated soil fertility management technology Hectar of land covered with soil conservation measures. # of firms trained on proper handling and application of agricultural inputs # of land tenure and gender issues addressed	Quarterly and annually	Environmentalist and Team leads

		• Use land in conformity with its capability. • Support land clearing only with detailed assessment and thorough mitigation. • Promote integrated soil fertility management practices (ISFM) • Implement erosion/runoff control measures and riparian buffers. • Consider community-based watershed management approach. **Category: Preserving Biodiversity, Control Pollution, and leaching** Provide training for local partners and firms to comply with regulatory requirement including PERSUAP, proper application and handling of agricultural inputs like improved seeds, fertilizer, and pesticides. Use only seeds and planting materials that meet host country sanitary and phytosanitary standards.			

		Prevent introduction of invasive species promote crops/varieties and approaches that are proven in practice to be appropriate to the agro-ecological zone. **Category: Social, Human Health and Safety** Include Occupational and Community Health and Safety in the training curriculum. Address land tenure, gender, and vulnerable groups issues Undertake pre-implementation gender and related social analyses			
Sub IR 1.2 Increased sales among targeted PSNP on-farm enterprises	**Link on-farm enterprises to output market:** Impacts from supporting/increasing sales of micro enterprise and improving marketing are indirect, in that, the types of impacts depend upon the nature of interventions that they support. - Inappropriate inputs or products introduction by agriculture/ livestock value actors contribute for air and water pollutions, and	Incorporate general environmental management skills into training provided to MSEs. Ensure capacity building activities to livestock/Agriculture value chain actors safe use of inputs and introduction of products of the required quality standard,	- Ensure training approaches for solid waste management are in place. - Verify training reports. - Conduct on-site visits to animal health service provider facilities, and conduct interviews. - Ensure training approaches for	Quarterly and annually	Environmentalist and Team lead

	might have adverse health impacts. - Lack of sanitation and hygiene during storage; processing and packaging, including the materials, may lead to health problems for the children. - Inappropriate waste handling from agro-businesses contribute to soil and water degradation, and have adverse health impacts. - Inappropriate waste handling from on-farm products/ livestock processing facilities contribute to soil and water degradation, and have adverse health impacts. - Feed and fodder processing can contribute to air and water pollution, increase solid waste, and degrade land. **Map and assess local aggregators/Cooperative**: Limited awareness and understanding of local partners on environmental compliance procedures may contribute to the selection of environmental unsound enterprises.	Provide training and technical supports for market actors. Screen Livestock/Agriculture value chain actors for appropriate waste handling and introduction of good management practices Ensure capacity building activities with livestock processing service providers include solid waste management, including through training and on-site mentoring. Screen livestock processing service providers for appropriate waste handling practices Provide oversight on all MSE development activities, to reduce environmental impacts and abide by Regulation 216 Facilitate coordination between different development actors, local partners, VESA, Cooperative, MSE and MFI, and environmental and resource efficiency experts.	solid waste management are in place. - Verify training reports. - Conduct on-site visits to agro service provider facilities, and conduct interviews. - Ensure training approaches for solid waste management are in place. - Verify training reports. - Conduct on-site visits to livestock processing service provider facilities, and conduct interviews. - Ensure training approaches for good management practices and waste management are in place.		

		Require or encourage selected environmental mitigation measures before certain MSEs get assistance. Conduct rapid screening for Cooperatives /MFI/VSLA/SACCO on environmental impact level of the business. Include training on environmental screening as part of Banks/MFI/VSLA capacity building. Develop or modify formats for customized environmental screening process for use by Banks/MFI as part of eligibility criteria to access products/services. Screen MSMEs eligible for loans using environmental compliance formats. Train or support local partners to evaluate and incorporate sector-specific guidelines for environmental mitigation. Provide support for institutions to integrate environmental consideration in normal operating procedure	- Verify training reports and training material addressing of subject matter. - Conduct on-site visits to market actor to verify adoption of practices and conduct interviews		

Intermediate Result 2: Increased Productivity and Competitiveness of Targeted PSNP Off-Farm Enterprises					
Sub-IR 2.1: Increased capacity in targeted off-farm enterprises	**Support Services-Training, BDS, FSP** While direct impacts from training assistance are limited, in the absence of effective environmental and social safeguard policies, training can lead to cumulative environmental or social impacts. Overall, adverse impacts are often caused by poor practices that go uncorrected because people do not have the right technical information or outdated inefficient practices and equipment. **BRUH Enterprise Competition Model** Although many MSEs do relatively little direct environmental damage, and some may even have beneficial effects, others can cause significant environmental and related public health difficulties, which vary as broadly as the types of enterprises. Depending upon their individual characteristics, MSEs can have quite a variety of environmental problems. Here are some of the most common and significant ones: - **Chemical and hazardous waste**. Production processes	**Category: Capacity Building** Support government authority to identify/design and promote appropriate environmental mitigation plans with incentives that encourages enterprise to adopt practical environmental management plans. Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs) MSE, BDS and FSP 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. To address this gap train government partners, MES, FSP and local partners on the following topics: • General facts about MSEs and the occupational health and environmental issues associated with them.	- # of regions supported the identification and promoted EMP - MSE environmental guidelines reviewed and applied. - # of MSE followed USAID SEG - # of local partners attained EMS training - Strategy for screening SME activities developed and implemented. - # of SME activities meet relevant environmental requirements. - # of MSE prepared SOPs - # of MSE implemented SOPs	Conduct bi-annual spot checks to verify activities follow MSE environmental guidelines Review of records documenting the SME screening activities and compliance with relevant environmental requirements. Review SOPs at least once prior to commencing activities. Conduct site visits at least once, or more frequently if appropriate	Environmentalist and Team lead

	may use chemicals such as acids and metals. - **Air pollution. Air pollutants**—such as chemicals, dust, or smoke—can be created by burning fuel (such as wood, charcoal, gasoline, or oil), by evaporation of chemicals such as solvents, or from by-products of a production process. - **Water pollution**. Chemicals used in production processes may be present in the firm's wastewater. If untreated wastewater is released into the environment, the chemicals can contaminate community water sources and poison irrigated crops. - **Soil erosion**. Mining, land-clearing, or digging can leave an area vulnerable to soil erosion, leading to damaging landslides or floods. - **Natural resource depletion**. Fuelwood use creates deforestation, which degrades arable lands. Excessive or wasteful extraction of water from surface and groundwater sources can deplete water sources for	• Clean Production approaches and tools, particularly focusing on the business benefits to clients. • Clean technologies and methods for preventing and mitigating adverse environmental impacts. • Use of environmental screening, guided questions, and classification procedures in the environmental review of MSEs For support to FSP, financial institutions, or small grants, activities will be screened to categorize the SME's work to the types and significance of environmental impacts they generate. The goal of the screening phase is to determine quickly and easily assess if an assistance request from an SME (for a loan, business planning, accounting training, etc.) will need environmental	- Conduct site visits to verify that SOPs were implemented. - Verify impact screening methodology is in place. - Verify impact screening has been conducted. - Best practices/success stories documented. - # of BRUH enterprises awarded – GREEN Enterprises		

	future production or community use. - **Solid waste/garbage**. Inefficient production techniques reduce productivity and create excessive solid waste. - **Odor**. Waste from MSEs' 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 family members who live on the premises, **Form Enterprise Business Saving Groups** Business groups may invest in activities that could harm the environment and neighboring community members.	review before it can be approved. Assistance for SME must comply with local, national, USAID, or its own organizational environmental policies. 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. Involve relevant government bureaus to identify and promote regulatory and financial incentives to encourage implementation of environmental mitigation plan by SMEs to support environmental mitigation strategy like • pollution control and • clean production approaches. **Category: BRUH Enterprise Model award** Promote GREEN ENTERPRISES - MSEs may be environmentally helpful, although even these should be managed carefully to			

		avoid unintentional adverse impacts. Develop criteria that helps to select business that have no or minimal environmental impact for partnership and requesting Environment Impact Analysis and mitigation plan for selected partners. Award BRUH enterprises that offer a wide range of goods and services including the following: • Promote solar energy for small holders -irrigation, cooking, and lighting. • Sustainable agriculture/forestry • Ecotourism • Production of fertilizer from organic waste • Waste collection and disposal • Recycling, repair, and remanufacturing On the promotion of GREEN enterprises, supplier companies will be conducted feasibility study couple coupled with environmental impact assessment.			

		Utilize media and influential community groups to raise awareness in operational areas and enterprises groups			
Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises	**Support New Off-Farm Enterprises** Financial investment has both the positive and negative impact of boosting engagement with different funded sectors. Sector-dependent, but increased engagement and funding can lead to overconsumption of the resource. Increased agricultural production is likely to lead to the conversion of new lands for crop and livestock production and the construction of processing facilities. ***The potential environmental and social impacts of this intervention is adem as sub-IR 2.1*** **Smart subsidies** Smart subsidy to an enterprise with the goal of spurring (encouraging) the uptake of new products and services may result in market distortion and aid dependency if the positive impact on the market/target group will be greater than the negative impact on competing firms.	**Categories: Support New Off-farm Enterprises:** Grant making will comply with host-government environmental requirements, legislation, and standards. Furthermore, where appropriate, technical assistance and training will include environmental awareness and sensitivity components, including exposure to the principles and procedures of Environmental Impact Assessment (EIA). ***Idem as Sub IR 2.1*** ERF/ERR: All sub-grants under this activity will trigger an additional screening process. unless an alternative screening approach is otherwise agreed upon with the BEO. The ERF should be customized to fit the activities covered in this IEE and should consider the potential environmental impacts	- # of off-farm enterprises meet the donor, host county and MC organizational environmental requirements & awarded. - # of MSE developed screening strategy for screening implemented - Review SME activities to ensure they meet relevant environmental requirements. - # of MSE implemented SOPs - # of MSE implemented SOPs - Strategy for screening SME activities	Conduct bi-annual spot checks to verify activities follow MSE environmental guidelines Review of records documenting the SME screening activities and compliance with relevant environmental requirements. Review SOPs at least once prior to commencing activities. Conduct site visits at least once, or more frequently if appropriate	Environmentalist and Team lead

	Post harvest management and off farm enterprises. The harvest and post-harvest segments of the crop production value chain are critical to the safety and quality of crop-based food. They also present a set of environmental and occupational health and safety risks. These risks vary according to the methods and technologies being used/supported, but may include all of the following: **Solid Waste Production**. - Processing can result in the generation of solid organic and inorganic wastes that must be handled properly. **Generation of Wastewater/Liquid Waste**. - Liquid wastes from processing can contain significant quantities of organic and inorganic matter. These wastes, if improperly disposed of, can generate. 〉 standing water that may become a breeding ground for disease vectors. 〉 changes to water pH and temperature, increased nitrogen and phosphorus load	and relevant mitigations for the activities. Each new off-farm enterprise will have its separate review. The ERF/ERR will be completed and approved by the AOR/COR, MEO, and REA prior to awards for sub-grants. - Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs) - The new off-farm activities will be screened to determine quickly and easily assess if an assistance requested from MSE will need environmental review before it can be approved. - Assistance for SME must comply with local, national, USAID, Mercy Corps, and its local partners organizational environmental policies. - For activities involving hazardous	developed and implemented - # of MSE identified as moderate/high risks and reported for the donor for approval		

	that led to eutrophication, and long-term problems resulting from the discharge of organic compounds and heavy metals. **Water use**. - Excess abstraction of fresh water for processing may adversely affect other users and ecosystems. - Beyond emissions from energy use, air pollution can result from refrigeration equipment, which uses refrigerants that contribute to ozone depletion and from combustion or landfilling of waste materials. Some refrigerants may also be potent GHGs, contributing to climate change. **Consumer Health Risks**. - Actors along the harvest and post-harvest segments of the value chain -- particularly smallholders and MSMEs, may have limited availability of safety equipment and limited knowledge of required food-safety procedures	materials, work with the business to develop SOPs for the safe and appropriate procurement, storage, management and/or disposal of these materials. - Involve relevant government bureaus to identify and promote regulatory and financial incentives to encourage implementation of environmental mitigation plan by SMEs to support use of new technology. - Develop criteria that helps to select business that have no or minimal environmental impact for partnership and requesting environmental impact analysis and mitigation plan for selected partners - If the identified off-farm enterprise has a moderate/high risk, the HRA will prepare a full Environmental			

		report before implementation. - Any off-farm enterprises categorized as high-risk or unknown risk will be sent to the A/COR for review and the BEO as an additional level of clearance before approval. - Increase awareness on regulations that Support food safety, cleaner and hygienic environments for sustainable production systems and practices			
Intermediate Result 3: Increased Employment and Wage Labor Among Targeted PSNP Clients					
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households:	**Improve job readiness** This intervention prioritizes and equips youth with the skills, information, and linkages to successfully navigate pathway to safe and meaningful employment. But lack of integrating environmental mitigation strategy/clean production approach and work readiness in market relevant and life skills training could have quite risks to the environment, air, water and human health and safety, - Lack of environmental knowledge and skill may negatively affect the	**Category Capacity building** - Incorporate environmental management strategy into work readiness and life skill training manual of TVET - Ensure capacity building activities with MSEs engaged on Crop production business to address good agronomic practices, including provision of training and on-site mentoring;	- # of TVET included EC procedure in their training module - Ensure training approaches for good agronomic practices and waste management are in place - Verify training reports - Conduct on-site visits of MSEs on	Once MSME support initiated, site visits conducted on a quarterly basis As per work plans, according to timing of activity Quarterly as part of program reports	Environmentalist and Team lead

	environment	- Screen MSEs to engaged on crop production related for appropriate waste handling and management practices - Screen MSEs to engaged on animal production related for appropriate waste handling and management practices - Ensure capacity building activities with MSEs engaged on Livestock business addressed good animal husbandry practices, including through training and on-site mentoring - Support Government authorities to identify/design and promote appropriate environmental mitigation plans with incentives that encourage enterprises to adopt practical management plans. - Utilize media and influential community groups to raise awareness in operational areas	good management practices, and conduct interviews - Ensure training approaches for good husbandry practices and waste management are in place - Verify impact screening methodology is in place and has been conducted - Best practices/success stories documented		

		and enterprises groups			
Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households	**imel as sub-IR 3.1**	**imel as sub-IR 3.1**	**imel as sub-IR 3.1**	**imel as sub-IR 3.1**	
Activity Category 4: Improved Diets, Particularly Among Women and Young Children					
Sub-IR 4.1: Increased production of nutritious foods:	**Intensify and diversify nutrition sensitive production to increase sales and availability:** Household agricultural production has direct and important linkages with household dietary patterns and nutrition. The main pathways through which expanded agricultural production can influence nutrition at the farm-level include **Income from agriculture** - commercialization of agriculture and the resulting shift away from staples to cash crops have not necessarily resulted in improvements in children's nutritional status and can, in fact, have *negative nutritional consequences.* **Consumption of own production**. - The typical dependence of smallholders on a small number of cereal crops raises concerns about their diets being energy-	**Categories: Intensify Nutrition Sensitive Production:** Achieving nutritional benefits and avoiding unintended adverse effects on nutrition via support to crop production generally requires the following: - **Integrate a focus on nutritionally diverse production**, a focus on vegetable gardens could be incorporated to both diversify family diet and improve incomes. - **Integrate Nutritional Awareness and Education**. Beyond awareness of good nutrition and its importance, community, and household awareness about the connection between health, nutrition, and how food is grown is	# of HHs practiced nutrition sensitive crop production # of HHs received integrated nutritional awareness and education Monitoring of research and academic institutions to verify appropriate sourcing and handling of veg seed. Verify that guidelines for conducting analysis and trainings are in place Verify crop and market assessments are conducted; review recommendations Review reports of community meetings to verify issues have been addressed	As per workplans, according to timing of engagement in activity Quarterly with program reports	Environmentalist and Team lead

	rich but nutrient-deficient. ***Increased production*** can address caloric deficits—but may not address micronutrient and amino acid deficiencies unless production is diverse. **Biofortification.** - Biofortification is the "process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology" as opposed to traditional fortification in which nutrients are added during processing (WHO, n.d.). "*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****"* Thus, achieving nutritional benefits impacts from support to crop production is dependent on careful design, with attention to issues such as crop diversity, gender, nutritional education, and farming practices. Absent this, nutritional benefits may be minor, and adverse effects on	key to translating income gains to improved nutritional status. - **Assure benefits accrue to women,** as there is a direct link between women's control over income and better maternal and child nutrition. - **Focus on soil health and safer pesticide use** to maximize the nutritional content of crops produced and to avoid unhealthful pesticide residues. ***Idem as Sub-IR 1.1*** soil fertility management - Avoid Incentivizing Displacement- focus on cash crop, adverse nutritional consequences are likely. - HRA will embed nutrition information and messages in all training, sales, and information transfers, and will contract research institutions to create new information and products related to nutritious production	Spot checks of HHs to identify any environmental, health and safety risks from high value and nutritious crops, Routine monitoring of local agri-input suppliers to verify appropriate sourcing and handling of seeds		

	nutrition are possible if households' production becomes less diverse or economic benefits accrue narrowly to men.	practices as needed. - HRA will work with local universities and research institutes to ensures the seeds are suited and appropriate for agro-climate zone to which they are introduced - Reputable seed companies, Research and Academic institutions will be the major source of seeds, as they are reliable sources. Trails for seed variety will be conducted - Ensure that the technologies are obtained from reliable source - Training guidelines for high value and nutritious crops will include environmental protection measures, including proper management and use of fertilizers			
Sub-IR 4.2: Increased last-mile supply of nutritious foods:	**Expand gender-sensitive post-harvest management and off-farm enterprises:** The harvest and post-harvest segments of the crop production value chain are	**Categories: Expand gender-sensitive post-harvest management and off-farm enterprises-**	Monitoring of research and	- As per workplans, according to timing of	Environmentalist and Team lead

	critical to the safety and quality of crop-based food. They also present a set of environmental and occupational health and safety risks. These risks vary according to the methods and technologies being used/supported but may include all of the following**:(*idem as IR 2*.)** - Solid Waste Production. - Generation of Wastewater/Liquid Waste. - Energy Consumption, GHG Emissions, and Air Pollution. - Excessive water use. - Noise pollution and odors. - Consumer health risks **Innovative Food Storage** - Introduction of innovative and endogenous approaches to food storage that have potential harm to the ecosystem - Lack of sanitation and hygiene during storage; processing and packaging, including the materials, may lead to health problems for the children - In a bid to produce high energy nutrient dense food, millers can use technologies that create a lot of waste material	The following mitigation measures are required to address the range of impacts presented by most support to the harvest and post-harvest segments of the crop production value chain. **a. Research and Apply Relevant Innovations** in More Sustainable Harvest and Post-harvest Practices. **b. Inspect to Identify EHS and Food Safety Deficits**, Make Support Conditional on Corrections- ***apply resource-efficient and cleaner production (RECP) approach.*** **c.Review and Apply as Relevant the food processing RECP** briefing and resource guide. **d.Promote Food Safety**. A consistent, robust focus on food safety is essential to mitigating the risks to public health intrinsic in crop harvest, handling, storage, and processing operations. - Building governmental capacity to establish and enforce standards;	academic institutions to verify appropriate sourcing and handling of technologies Spot check user HHs involved in the process for EHS risks Awareness created on regulation of food safety and clean production system # of SME trained on food safety and clean production system Support policy discussion on best practices promoting clean production systems. Facilitated food safety and clean production training	engagement in activity Quarterly with program reports	

	harmful to water, soil and humans	- Building and strengthening consumer and professional organizations that play a supporting role in informing policy; - Collaborating with academic institutions who engage in relevant research and education; and/or - Building awareness to make consumers cognizant of the level of safety associated with the foods they purchase and how they should store foods (FAO, n.d.(e)). **e. Identify relevant aspects of the support** (infrastructure, pest control, transport etc.) and consider the indicated mitigation measures **f. Screen New Tools and Technologies**. All introductions to new technologies and machinery should be reviewed for environmental and social impacts over the lifetime the equipment is to be used.			

		- Research and academic institutions will be the major source of technologies, as they are reliable sources - Training for selected HHs will include all environmental protection and food safety measures for the piloting Increase awareness on regulations that Support food safety, cleaner and hygienic environments for sustainable production systems and practices			
Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers:	***Categorical Exclusion pursuant*** to 22 CFR 216.2(c)(2)(viii) for interventions involving nutrition, health care or population and family planning services is recommended- NA	NA	NA	NA	NA
Intermediate Result 5: Improved Market Systems and Commercialization					
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households:	**Strengthen Value Chains**: A value chain is a set of linked activities that work to add value to a product, It consists of actors and actions that improve a product while linking commodity producers to processors and markets. "**Soft support" to value chains.** Many typical value chain	**Categories: Strengthen Value Chains: Soft Support** Where "**soft support**" may result in indirect impacts associated with an increase in economic activity under one or more value chain segments, consideration must be given to mitigations that increase	• Ensure training approaches for good management practices and waste management are in place • Verify training reports and training material	As per workplans, according to timing of engagement in activity Quarterly with program reports	Environmentalist and Team lead

	support activities have minimal direct impact on the environment, such as business literacy training for farmers and small processors, linkage, and partnership development between actors in different value chain segments, building farmer and water user associations, and marketing support. However, these activities have the potential to result in cumulative, indirect beneficial or adverse effects as production or economic activity under targeted segments of the value chain increase. As such, indirect impacts of these activities are the same as the impacts of direct support to production and to other specific value chain segments; **Direct support to value-added activities**. Strengthening value chains can include direct support to actors and enterprises providing logistics, transportation, packaging, food processing, and storage. - **Pest control** the potential for pest damage in stored commodities may necessitate the use of pesticides;	the general capacity of this value chain segment to operate in environmentally and socially sound ways – and/or of government to better support and enforce appropriate environmental and social performance **Direct Support:** Where support has **direct environmental** or social impacts, mitigation measures will be needed to address these impacts. For example, strengthening food processing value chains via support to specific processors should include - 1) identification of environmental/social compliance and performance deficits in the processors' operations and - 2) training or assistance to address these deficits. • Inspect to Identify EHS and Food Safety Deficits, Make Support Conditional on Corrections.	addressing of subject matter • Conduct on-site visits to market actor to verify adoption of practices and conduct interviews		

	- **Processing** presents a set of environment and occupational health and safety risks - **Energy supply and consumption** of energy for intensification of agricultural production contribute to pollution, environmental deterioration, and GHG emissions. **Trade and Investment**: when investment increases the scale of production or results in a switch to more input-intensive production without corresponding focus on environmentally sound production practices, adverse environmental and/or social impacts are likely. **Agricultural extension and training:** Strengthening and improving access to extension services and agricultural knowledge is intended to have positive impacts on farmers' income and/or food security. Whether extension services present environmental or human health concerns depends on the types of actions being promoted • Extension services can be focused on sustainable land and soil management techniques intended to	• Promote Food Safety. • Research and apply relevant innovations in more sustainable harvest and post-harvest practices. • Review and apply as relevant the Food Processing RECP Briefing and Resource Guide • Conduct environmental screening when introducing new tools and technologies To be environmentally and socially sound, policies and interventions stimulating trade and investment must identify and address these consequences. • Extension services should promote crops/varieties and approaches that are proven in practice to be appropriate to the agro-ecological zone and farmer capabilities. **Mitigate based on the actions being promoted**. Extension			

	sustain or increase long-term farm productivity. These are intended to be environmentally beneficial. However, they can present the set of concerns and considerations attendant to these practices, (For example, health risks presented by use of insufficiently composted manure; the risks of poorly designed, constructed or maintained terraces.) • Extension services can also be focused on intensification, adoption of cash crops or other endpoints that involve increased use of fertilizers, pesticides, or mechanization with a resulting set of impacts. Extension services with this orientation may also present the risk of stimulating land conversion and displacement of subsistence-farmer tenants. The failure of extension services to follow these basic requirements of good practice presents a potentially serious set of environmental risks. Farm extension to be delivered through ATI's 8028 platform. Data and information can help farmers make	services focused on intensification. • The adoption of cash crops or other endpoints that involve increased use of fertilizers, pesticides, or mechanization should incorporate/promote mitigations, and also incorporate appropriate social mitigation actions being promoted. **Mitigate impact from Fertilizer Procurement and/or use:** • **Use/Promote Fertilizers Consistent with 4R** Principles and, Whenever Possible, Within an Integrated Soil Fertility Management (ISFM) Framework or assistance to address these deficits. The "4R" principles of nutrient stewardship are: Right source, Right rate, Right time, and Right place Provide appropriate			

	decisions that lead to increased yields and profits. For example, market information allows producers to determine when and where to sell their crop and accurate weather and pest outbreak forecasts allow farmers to practice adaptive, rather than reactive, farm management. However, information can be provided that is likely to result in a response from a producer, and such responses may present environment or health risks.	information which recognized the information can be provided that is likely to result in a response from a producer, and such responses may present environment or health risks. For example, **Forecast – CI and pest outbreak** If the forecast is regarding a pest outbreak could foreseeably lead to preventative spraying. Failure to provide so provide information about how to safely and appropriately respond to the outbreak makes it more likely that environmental and health will be adversely impacted. Provide information/forecast which is tailored to the area with advisors to avoid human health and environmental impacts			
Sub-IR 5.2: Local market systems offer greater entrepreneurship and	**Expansion of Agriculture Value Chains – directly link to HRA Push activities:** The expansion of privet	**Agricultural Value Chaine:** HRA will promote the expansion of a number	***Idem as Sub IR 2.1, 2.2 and 5.1***	***Idem as Sub IR 2.1, 2.2 and 5.1***	Environmentalist and Team lead

employment opportunities for PSNP households:	firms/enterprises in the highland area do relatively little direct environmental damage, some may have beneficial effects, other can cause significant environmental and related public health difficulties, which vary as broadly as the type of the enterprises/firms. ***Some as the potential environment and social effects are listed under IR 2. Idem as IR 2.1 and 2.2***	of different kinds of enterprises/firms environmentally helpful like Green Scene, although even these should be managed carefully to avoid unintentional adverse impacts. "Green" enterprises" offer a wide range of goods and services including the following: • Solar energy • Sustainable agriculture • Promotion of organic fertilizer from organic wastes **Expansion of available business development services (BDS) for off-farm enterprises:** Promote environmental stewardship and environmental consciousness among targeted clients' entrepreneurs training includes key message and pictorials training on environmental impact identification and mitigation for trainee. ***idem as IR 2 (Sub- IR 2.1 and 2.2 and Sub-IR 5.1),***			

Intervention Result 6 Private Investment and Finance in Highlands Communities					
Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas:	**Increasing Investment by FSPs in the PSN areas:** MSMEs and PSNP Households benefiting from the financial service may use the loan on potentially harmful goods or activities and at the same time, involves on harmful to the environment, including: • Livestock manure may pollute residence areas and affect human health • Exchange of disease pathogens • Increased food-borne illnesses • Increased parasitism • Water contamination • Livestock manure increases in methane that contributes to global warming gases. • Overgrazing, if free grazing practiced Lack of integrating environmental awareness into all training modules for HRA interventions that have a potential environmental effect, could increase environmental damage, human health problem, biodiversity. • Lack of environmental knowledge and skill may negatively affect the	**Categories: Increasing Investment by FSPs in the PSNP areas:** In applying environmental oversight to enterprise in PSNP areas/MSE activities, one of the first steps is to categorize the MSEs they work with according to the types and seriousness of environmental impacts they generate. A BDS or FSP needs to ensure that assistance for an MSE complies with local, national, USAID, or its own organizational environmental policies. Support government authority to identify/design and promote appropriate environmental mitigation plan with incentives that encourages enterprise to adopt practical environmental management plans. Activities will be conducted following principles of USAID's Sector Environmental Guidelines for Micro- and Small Enterprises (MSEs)	# of environmentally sound enterprises support MSE followed USAID environmental regulation supported # MSE, BDA and FSP trained on environmental management skill # of Enterprises screened and prepared environmental mitigation measures and supported	As per workplans, according to timing of engagement in activity Quarterly with program reports	

	environment, human health, and biodiversity.	MSE, BDS and FSP 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. To address this gap train government partners, MES, FSP and local partners on the following topics: • General facts about MSEs and the occupational health and environmental issues associated with them • Clean Production approaches and tools, particularly focusing on the business benefits to clients • Clean technologies and methods for preventing and mitigating adverse environmental impacts. • Use of environmental screening, guided questions, and classification procedures in the environmental review of MSEs			

		Idem as Sub IR 2.1 **Use MSE Screening tools:** To identify the proposed MSE interventions which may not be allowed or for which a mitigation is required by USAID Regulation 216, Conduct rapid screening for enterprises on environmental impact level of the business and prepare/require mitigation measures before certain enterprises get assistance. • (1) Those that are expected to have beneficial impacts on the environment, • (2) those expected to have minimal adverse environmental effects, and • (3) those that are expected to have potentially significant adverse effects. Develop or modify formats for customized environmental screening process for use by Banks/MFI as part of eligibility criteria to			

		access products/services **Capacity Building**: Incorporate general environmental management skills into training provided to MSEs Creating/raise awareness of many of the cleaner production opportunities that could cost-effectively mitigate those impacts and improve financial viability of enterprises work on the mitigation measures.			
Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas:	***idem as sub-IR 5. 1 and 5.2*** Insufficient knowledge, skill gap, limited capital can lead to improper use of chemicals, inadequate treatment or disposal of solid and liquid waste, uncontrolled chemical air pollution, and production techniques that make intensive use of nonrenewable resources. Health and safety problems are compounded by ignorance of industrial safety and environmental standards, as well as by lack of awareness of protective devices that are generally inexpensive and easy to obtain. • Lack of environmental knowledge and skill may negatively affect the	***Idem as Sub-IR 5.1 and 5.2*** Support government authorities to identify/design and promote appropriate environmental mitigation plan with incentives that encourages enterprise to adopt practical management plans. Utilize media and influential community groups to raise awareness in operational areas and enterprises groups. Incorporate general environmental management skills into	***Idem as Sub-IR 5.1 and 5.2*** Project support for the establishment of conflict management and rapid response within Government and community institutions. Support set up of conflict incidence monitoring system in relation to project	Once MSME support initiated, site visits/interviews conducted on a quarterly basis Quarterly with program reports	Environmentalist and Team lead

	environment, human health, and biodiversity Lack of integrating environmental awareness into all training modules for HRA interventions that have a potential environmental effect, could increase environmental damage, human health problem, and biodiversity. **Gender transformative and DRM and Conflict:** Poor quality design, planning, and implementation of DRM activities at community level can have negative environmental impacts. Lack of awareness on conflict during project planning increases incidence of conflict and can result in highland areas significant natural resource and environmental damage. Exclusion of women, youth and marginalized groups from mainstream development processes result in women adopting resource exploitative unsustainable livelihoods activities, such as charcoal production and fuelwood collection. These livelihood pursuits are environmentally destructive.	training provided to MSEs Creating/raise awareness of many of the cleaner production opportunities that could cost-effectively mitigate those impacts and improve financial viability of enterprises work on the mitigation measures. **Gender transformative and DRM and Conflict:** Support the development and application of environmental standards for different DRM activities for land and water resources. Activities selection will include identifying environmental risk screening as part of planning and implementation actions / practices Ensure all project activities are designed to be fully conflict aware, sensitive, and responsive. Ensure gender / youth mainstreaming is effective through all project activities. Support specific women	activities and initiatives Tracking the set up and function of women and youth livelihoods groups		

		and youth group livelihood activities. Support transformation of environmentally degrading livelihoods activities			
Intermediate Result 7: Client-Responsive Public and Private Social Services Improved and Expanded					
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies:	The intervention has a positive impact on the environment and society. - Community challenges, needs, and opportunities will be identified - Community mobilized to actively prepare for shocks and prioritize support needed from public and private actors - Support the preparation of climate risk management plan for the community The intervention itself has no direct impact on the environment. Rether, it has a positive environmental effect. The do nothing approach also has no direct environmental impact, but the social impact could be quite devastating if the risk mitigating planning related to livelihood and local economy are not properly planned and implemented. The community-based risk mitigating measures may include interventions that will have an impact on the environment.	Train HRA local partners on the environmental sound management and design concept of community-based risk mitigation planning process. Prepare community-based risk mitigation plan for livelihoods and local economy Support the development and application of environmental standards for livelihood and local economy risk mitigation plan Activities selection will include identifying environmental risk screening as part of planning and implementation actions / practices	Local partners trained on environmental sound management and risk mitigation planning process Community representative participated in risk mitigation planning Environmentally sound community-based plan prepared	As per workplans, according to timing of engagement in activity Quarterly with program reports	Environmentalist and Team lead

	HRA local partners awareness on the environmental sound management and design concept determine the effectiveness of community-based risk mitigation planning process.				
Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies:	HRA local partners awareness on the environmental sound management and design concept determine the effectiveness of community-based risk mitigation planning process.	Idem as Sub-IR 7.1	Idem as Sub-IR 7.1	Idem as Sub-IR 7.1	Environmentalist and Team lead

ATTACHEMENT 2. CLIMATE RISK MANAGEMENT SUMMARY TABLE FOR HRA

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
Sub-IR 1.1 Improved production of agricultural commodities among PSNP on-farm enterprises	**LoA**	All intervention areas	Increased temperature as well as increased intensity, duration and/or frequency of extreme climate-related events like storm, floods, drought, land degradation, high wind may damage or negatively impact the production of agricultural commodity and negatively impact the location of trainings and other capacity building activities. *Climate Risks to Agricultural Productivity* Damage to crops and reduced productivity Increases economic losses Increased prevalence of parasites and diseases that affect livestock	**Moderate**	Increase Efficiency and Cost-Effectiveness of Agricultural Production: Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation Provide farmers with new cultivars that are drought and heat tolerant. Encourage mixed crop-livestock systems and water, feed, and animal management to increase livestock productivity	Encourage farmers to take advantage of changes in temperature and precipitation that will extend the growing season and allow for additional harvest 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. The promotion of livestock cooperative models could strengthen	Enhance food production and food security: Increase training and investment in more sustainable agricultural practices. Promote new public-private partnerships that will strengthen agriculture value chains. Encourage farmers to take advantage of changes in temperature or precipitation that will extend the growing season and allow for additional harvests. Encourage adoption of innovations in food processing, packaging, transport, and storage. Train farmers in basic techniques of sustainable agriculture, such as improving soil health,

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			Reduced animal feeding and decreased growth rates Reduced fertility, and reduced milk production due to prolonged heat stress. Reduced water availability for crops and livestock due to increased evaporative demand from higher temperatures. Reduced yields of staple cereal crops (wheat, rice, and maize) due to higher temperatures. Soil erosion and land degradation /lost topsoil and reduced soil fertility Reduced amount of quality forage for grazing livestock due to drought Reduced food availability Price volatility and price spikes		Promote adoption of breeds better adapted to the prevailing climate. Promote analysis of climate risks and assessment of climate impacts considering crop–weather interactions. Develop and provide advice to farmers and access to modern information and communication technologies. Support optimization of farm management practices conditioned by climate (for early and late onset of rainfall, good,	livelihoods, build social capital, and encourage successful livestock and mixed crop-livestock systems.	integrated pest management (IPM), and crop rotation. Train farmers in use of drip and micro-irrigation techniques for more efficient irrigation. Implement activities to enhance the natural resource base. Provide farmers with information on crops for which climate change has favorable effects.

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			Reduced willingness of farmers to invest in productivity-enhancing assets such as fertilizer Lower protein content in grains due to elevated temperature and CO2.		average, and bad seasons). Implement activities to enhance the natural resource base.		
Sub IR 1.2 Increased sales among targeted PSNP on-farm enterprises	**LoA**	All intervention areas	**Impact of climate risks to on-farm sales** Damage to crops, reduced productivity, and increased economic losses due to increased flooding in river basins. Reduced yields due to crop damage and field waterlogging from floods Reduced yields of staple cereal crops (wheat, rice, and maize) due to higher temperatures. Reduced food availability due to increased climate variability and the	**Moderate**	Build awareness of climate change implications for food security. 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). Support improvements in processing, marketing, and distribution of	Take advantage of financial services that are especially responsive to the needs of underserved and marginalized populations to reduce inequalities. Promote new public-private partnerships that will strengthen agriculture value chains. Encourage adoption of innovations in food processing, packaging, transport, and storage.	Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation Provide farmers with new cultivars that are drought and heat tolerant. Ensure equal opportunity access to such technologies for all farmers, especially marginalized populations. Help farmers adapt cropping practices to help ensure food production, food security, and

Defined or Anticipated Activity Interventions	Timeframe	Geography	Climate Risks	Risk Rating	Climate Risk Management Option	How are risks addressed	Opportunities to Strengthen Climate Resilience
			changed frequency and intensity of extreme weather events. Increased food price fluctuations due to variation in temperature and precipitation Reduced willingness of farmers to invest in productivity enhancing assets such as fertilizer due to price volatility and greater uncertainty about future prices. Reduced labor productivity due to impacts to health and wellbeing of the workforce caused by extreme heat events.		agricultural products. Help develop value chains for new agricultural products. Support investments in new technologies and management practices that will increase returns to land, labor, and capital. Provide extension services and training in climate-smart agriculture and sustainable fishing practices. Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops		sustainable livelihoods (e.g., altering cultivation and sowing times and crop cultivars). Support improvements in processing, marketing, and distribution of agricultural products. Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices. Support improvements in processing, marketing, and distribution of agricultural products.

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 agricultural practices.		
Sub IR 2.1: Increased capacity in targeted off-farm enterprises	**LoA**	**All intervention areas**	Increased temperature as well as increased frequency, intensity and/or duration of extreme weather events may impact the location of outreach and capacity building activities	**Low**	Train participants on how to effectively use weather information from the result of monitoring from early warning system Consider exposure to extreme weather events whenever plan for capacity building training and location	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.	Train participants on how to effectively use weather information from the result of monitoring from early warning system Consider exposure to extreme weather events whenever plan for capacity building training and location

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Sub-IR 2.2: Increased business activity among targeted PSNP off-farm enterprises:	**LoA**	All interventions areas	Extreme weather events may adversely impact off- farm activities.	**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 off-farm activities
Sub-IR 3.1: Improved job readiness among wage-seeking PSNP households:	**LoA**	All interventions areas	**No observable risk**	**Low**			
Sub-IR 3.2: Increased access to and availability of jobs for wage-seeking PSNP households	**LoA**	All interventions areas	**No observable risk**	**Low**			
Sub-IR 4.1: Increased production of nutritious foods:	**LoA**	All interventions areas	Direct impacts on agricultural productivity and availability of locally produced crops, including impacts on livestock and fisheries, due to temperature	**Moderate**	*Improve Nutrient Quality, Dietary Diversity, and Food Safety;* Encourage planting of crops with high nutrient value that are suitable for changing	Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation.	Promote markets for foods that are particularly important for nutrition and that smallholder farmers' produce. Discourage monoculture planting to reduce

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			increases and changes in rainfall. Reductions in access to and consumption of safe, nutritious foods, and increases in the prevalence of undernutrition (including stunting, acute malnutrition, and micronutrient deficiencies) due to increases in food insecurity, drought incidence, food contamination, post-harvest losses, and transportation challenges related to climate change. Reductions in food micronutrients due to higher temperatures and CO2 concentrations. Increased nutritional needs resulting from increased incidence of diarrhea due to higher temperatures and flood-induced spread of waterborne diseases.		climatic conditions. Help smallholders to diversify crops to increase resilience to variable climate conditions and to promote dietary diversity. Develop storage practices to protect food supplies under conditions of heat stress or excess moisture. Promote adoption of breeds better adapted to the prevailing climate.	Encourage farmers to take advantage of changes in temperature or precipitation that will extend the growing season and allow for additional harvests. Promote climate smart agriculture Promote polyculture to diversify farm income and to reduce the need for inputs such as nitrogen fertilizers that result in nitrous oxide emissions, a greenhouse gas.	susceptibility to catastrophic losses from pests and disease. Increase soil organic carbon to improve soil fertility and release nutrients for plant growth. Storing more organic carbon in the soil sequesters carbon from the atmosphere and helps to mitigate climate change. Implement activities to enhance the natural resource base.

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Sub-IR 4.2: Increased last-mile supply of nutritious foods:	**LoA**	**All intervention areas**	Reductions in access to and consumption of safe, nutritious foods, and increases in the prevalence of undernutrition (including stunting, acute malnutrition, and micronutrient deficiencies) due to increases in food insecurity, drought incidence, food contamination, post-harvest losses, and transportation challenges related to climate change. Increase in the risk of food contamination (e.g., from aflatoxins and mycotoxins) due to higher air temperatures, and humidity.	**Moderate**	Strengthen early warning system Build awareness of climate change implications for food security. Support improvements in processing, marketing, and distribution of agricultural products. Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices. Develop storage practices to protect food supplies under conditions of heat stress or excess moisture.	Support improvements in processing, marketing, and distribution of agricultural products Develop storage practices to protect food supplies under conditions of heat stress or excess moisture. Support optimization of farm management practices conditioned by climate (for early and late onset of rainfall, good, average, and bad seasons). Help develop value chains for new agricultural products.	Capacity building on post-harvest management and food preservation against climate risks. Consider exposure to extreme weather events whenever plan for improved food preservation, storage, value addition, and processing and post-harvest management Support improvements in processing, marketing, and distribution of agricultural products. Develop storage practices to protect food supplies under conditions of heat stress or excess moisture.

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Sub-IR 4.3: Increased awareness and promotion of targeted nutritious foods and behaviors among PSNP consumers	**LoA**	All interventions area	No observable risk	**Low**			
Sub-IR 5.1: Increased diversity of suppliers and buyers in agriculture value chains better serving PSNP households:	**LoA**	All intervention areas	Extreme weather events may adversely affect local agriculture value chains and services to on-farm enterprises **Impact of climate risks to agriculture value chains and on-farm enterprises** Damage to crops, reduced productivity, and increased economic losses due to increased flooding in river basins. Reduced yields due to crop damage and field waterlogging from floods	**Moderate**	Build awareness of climate change implications for agriculture value chains and on-farm enterprises 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). Support improvements in processing, marketing, and	Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices. Promote new public-private partnerships that will strengthen agriculture value chains. Encourage adoption of innovations in food processing, packaging, transport, and storage.	Train farmers in basic techniques of sustainable agriculture, such as improving soil health, integrated pest management (IPM), and crop rotation Provide farmers with new cultivars that are drought and heat tolerant. 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).

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			Reduced yields of staple cereal crops (wheat, rice, and maize) due to higher temperatures. Reduced food availability due to increased climate variability and the changed frequency and intensity of extreme weather events. Increased food price fluctuations due to variation in temperature and precipitation Reduced willingness of farmers to invest in productivity enhancing assets such as fertilizer due to price volatility and greater uncertainty about future prices. Reduced labor productivity due to impacts to health and wellbeing of the workforce caused by extreme heat events.		distribution of agricultural products Help develop value chains for new agricultural products. Support investments in new technologies and management practices that will increase returns to land, labor, and capital. Provide extension services and training in climate-smart agriculture and sustainable practices	Promote climate smart agricultural technology Ensure equal opportunity access to such technologies for all farmers, especially marginalized populations.	Support improvements in processing, marketing, and distribution of agricultural products. Expand access to markets and credit to encourage farmers to adopt new, climate-resilient crops and agricultural practices.

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Sub-IR 5.2: Local market systems offer greater entrepreneurship and employment opportunities for PSNP households	**LoA**	All intervention areas	No observable risk	**Low**			
Sub-IR 6.1: Increased investment by financial service providers (FSPs) in PSNP areas.	**LoA**	All Intervention areas	Increased unreliability of rains, especially the belg, recurrent drought and increased temperature may adversely affect the selected on-farm and off-farm activities	**Moderate**	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.	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.	Investing in climate-smart agriculture and greener off-farm activities

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Sub-IR 6.2: Increased investment by private firms in the agriculture value chain and consumer goods subsectors in PSNP areas:	**LoA**	**All intervention areas**	Extreme weather events may adversely affect local agriculture value chains and services to on-farm enterprises *Idem as sub-IR 5.1*	**Moderate**	*Idem as sub-IR 5.1*	*Idem as sub-IR 5.1*	*Idem as sub-IR 5.1*
Sub-IR 7.1: Improved community engagement in structures and processes to enhance their local economies:	**LoA**	All intervention areas.	No observable risks But the impact of climate change could be quite devastating if the risk mitigating planning related to livelihood and local economy are not properly planned and implemented. The community-based risk mitigating measures may include interventions that could be adversely affected by climate risks.	**Low**	Conduct community-based risk assessment Conduct participatory community-based risk mitigation planning related to livelihoods and local economies.	Include climate risk management tools in the analysis of community risks. Community mobilized to actively prepare for shocks and prioritize support needed from public and private actors Support the preparation of climate risk management plan for the community.	seeks to better understand specific community challenges, needs, and opportunities, and mobilize communities to actively prepare for shocks and prioritize support needed from public and private actors

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Sub-IR 7.2: Improved responsiveness, quality, and accessibility of citizen-demanded public and private services to improve local economies:	**LoA**	All intervention areas	No observable risks	**Low**	Capacity building training on climate risk management for local partners and targeted community members to ensure the effectiveness of community-based risk mitigation planning process	Include climate risk management tools during the assessment	Capacity building training on climate risk management for local partners and targeted community members to ensure the effectiveness of community-based risk mitigation planning process.