FULLY DEVELOPED PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	**Transforming Communities:** A Nexus of Climate-Smart Agriculture, Livelihood Diversification, and Women's Economic Empowerment
Country:	Ethiopia
Thematic Focal Area:	
Type of Implementing Entity:	National Implementing Entity (NIE)
Implementing Entity:	Ministry of Finance
Executing Entities:	Ministry of Water and Energy, Ministry of Agriculture
Amount of Financing Requested:	**9,999,725.13** (in U.S Dollars Equivalent)
Letter of Endorsement (LOE) signed:	Yes ☐ ☐No ☐ ☐

NOTE: The LOE should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☐☐ This proposal has been submitted before including at a different stage (concept, fully-developed proposal)

X This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

Please note that fully-developed proposal documents should not exceed 100 pages for the main document, and 100 pages for the annexes.

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Project/Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

1. Background

Ethiopia, home to over 115 million people, ranks as the second most populous country in Africa. The majority of its population resides in rural areas, with only approximately 20 percent living in urban centers (World Bank, 2023). The nation's economy predominantly relies on agriculture, with coffee as the primary export. Additionally, cereals, pulses, oilseeds, and fruits play crucial roles in its agricultural production. However, Ethiopia has also made noteworthy strides in diversifying its economy, with manufacturing and services gaining prominence in recent years (Central Statistical Agency of Ethiopia, 2020).

Over the past decade, Ethiopia has witnessed significant economic growth, emerging as one of the fastest-growing economies in Africa. The impact of fast economic growth is reflected in the improvement in the monetary welfare levels of Ethiopian households. Based on the most recent Household Living Standards survey, Ethiopia's poverty levels fell by around 20 percent between 2011 and 2016 although they remain high especially in the rural areas and for the bottom 40 percent of the population[1]. The country's Gross Domestic Product (GDP) has been expanding at an impressive rate, driven by robust growth in various sectors such as agriculture, manufacturing, construction, and services. Government-led initiatives and strategic investments in infrastructure development, industrialization, and human capital have played a pivotal role in propelling Ethiopia's economic advancement. Moreover, the country's strategic geographical location, conducive investment environment, and a large and youthful population have attracted foreign investments and bolstered trade opportunities. As a result, Ethiopia has been able to sustain steady GDP growth, with the reform agenda expected to support growth that is projected to be slightly below or above 6.4 percent FY 2021/22 in the near term paving the way for improved living standards, poverty reduction, and increased access to essential services for its population[2]. However, challenges remain in ensuring inclusive and sustainable growth, addressing income disparities, and enhancing economic diversification to further consolidate and expand Ethiopia's position as a thriving economy in the region.

The country has witnessed remarkable progress in education accessibility, as primary school enrollment increased from 40 percent in 1994 to an impressive 95 percent in 2019. Despite this progress, challenges persist, particularly in rural regions[3]. Healthcare outcomes have shown improvement, with life expectancy rising from 49 years in 1990 to 66 years in 2019. Nevertheless, Ethiopia still faces significant health challenges, including high rates of maternal and child mortality[4].

Despite its potential, Ethiopia grapples with various hurdles. It is one of the world's poorest nations, with 23.9 percent of its population living below the national poverty line, necessitating continued efforts to reduce poverty through government programs and interventions[5]. The country's youthful and expanding population, coupled with abundant natural resources and a government committed to development, offer promise. However, addressing issues of poverty, inequality, and climate change will require sustained investment in education, healthcare, and infrastructure to achieve development goals.

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[1] *Seventh Ethiopia Economic Update : Special Topic : Poverty and Household Welfare in Ethiopia, 2011-2016 (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/432421554200542956/Special-Topic-Poverty-and-Household-Welfare-in-Ethiopia-2011-2016*

[2] *https://www.worldbank.org/en/country/ethiopia/overview*

[3] *UNESCO Institute for Statistics, 2021*

[4] *World Health Organization, 2021*

[5] *World Bank, 2023*

Furthermore, Ethiopia faces a series of additional challenges. Ongoing conflicts, such as the one in the Tigray region, have resulted in widespread displacement and a humanitarian crisis (UN Office for the Coordination of Humanitarian Affairs, 2022). As one of the most vulnerable countries to climate change, Ethiopia is already grappling with the impacts of droughts, floods, and crop failures (United Nations Framework Convention on Climate Change, 2022). Moreover, high levels of inequality persist, with the wealthiest 10 percent controlling over 40 percent of the country's wealth (Oxfam International, 2021).

Despite these multifaceted challenges, Ethiopia's resilience and determination have led to significant progress. The country is well-positioned to continue advancing towards its development goals in the years ahead. With concerted efforts and strategic initiatives, Ethiopia can harness its potential and build a more sustainable and prosperous future for its people.

1.1 Socio-economic and development context

1. **Population and Demographics:** Ethiopia's population is diverse, with over 80 ethnic groups and numerous languages spoken throughout the country. The population continues to grow rapidly, presenting challenges and opportunities for development efforts.
2. **Agriculture-Based Economy:** Ethiopia's economy is primarily agrarian, with agriculture being the main livelihood for a significant portion of the population. Major crops include coffee, cereals, oilseeds, and pulses. However, the reliance on rain-fed agriculture makes the country vulnerable to climate variability and recurrent droughts.
3. **Poverty and Inequality:** Ethiopia faces high levels of poverty, particularly in rural areas. There are significant disparities in income and access to basic services between urban and rural populations. Efforts to reduce poverty and inequality have been ongoing, but they remain significant challenges.
4. **Infrastructure and Connectivity:** Infrastructure development is a priority for Ethiopia. The government has invested in improving transportation networks, including roads, railways, and airports, to enhance connectivity within the country and with neighbouring regions.
5. **Industrialization and Manufacturing:** Ethiopia has been striving to promote industrialization and attract foreign investment in manufacturing sectors. Industrial parks have been established to encourage export-oriented industries, particularly in textiles and garments.
6. **Health and Education:** Ethiopia has made significant strides in improving healthcare and education, with the expansion of health facilities, the reduction of child mortality rates, and increased school enrolment. However, challenges remain in providing quality healthcare and education services, especially in rural and remote areas.
7. **Environmental and Climate Challenges:** Ethiopia is susceptible to climate-related challenges, including droughts and floods. These events can have severe impacts on agriculture, food security, and livelihoods, making climate change adaptation and resilience-building crucial components of development efforts.
8. **Urbanization:** Ethiopia is experiencing rapid urbanization, with a growing number of people migrating to cities in search of better economic opportunities. Managing this urbanization process is essential to ensure sustainable urban development.
9. **Political Landscape:** Ethiopia has experienced political changes and challenges over the years, with the government working towards political reforms and democratization. However, there have been ethnic tensions and conflicts that have affected stability and development progress in some regions.

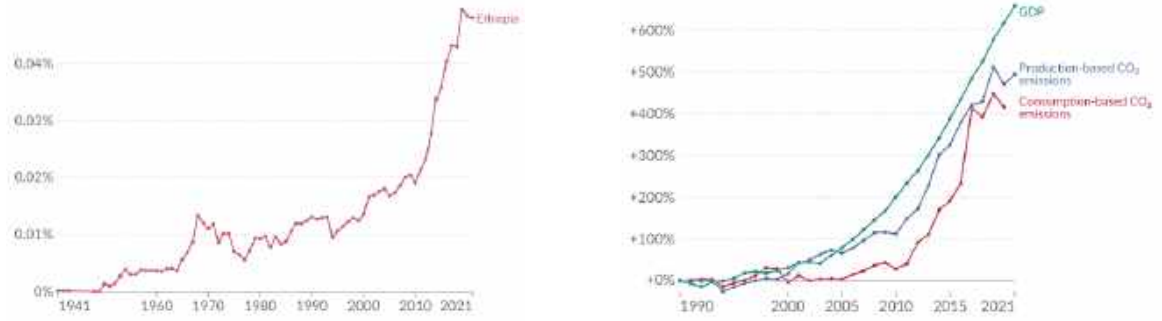
1.2 Access to Climate Finance

Ethiopia's contribution to the global GHG emission is infinitesimal (currently estimated at 0.37 percent)[6] but growing in par with the national GDP at +495 percent for production based and +416 percent for

[6] *World Bank (2023), https://www.climatewatchdata.org/ghg-emissions*

consumption based carbon emissions since 1990[7], see figure 1 below. Despite the commendable growth of Ethiopia's economy and the government's successful efforts to uplift the livelihoods of millions of the most impoverished, there is a concerning correlation between the growth of Ethiopia's carbon emissions and its national GDP. The government of Ethiopia having recognized the debilitating effect of climate change to its economic agenda and the well-being of its population, remains committed to the ambition of the Paris accord. Accordingly, progressive and integrated climate policies have been issued, proactively allocates resources from its limited budget to address climate challenge and fosters international cooperation to building resilience and sustainability in the face of a changing climate. However, Ethiopia's ambitious vision to meet with its climate ambition is conditional and requires mobilization of increased climate finance to meet with its NDC.

Figure 1 Ethiopia's share of global carbon emissions (Left) and Ethiopia's change in carbon emissions vs GDP (Right)



Ethiopia's capacity to access climate funds in comparison to other Least Developed Countries (LDCs) presents a mix of opportunities and challenges. As an LDC, Ethiopia benefits from being prioritized in international climate finance mechanisms due to its vulnerable status and high exposure to climate change impacts. The international community recognizes the urgent need to support countries like Ethiopia in their efforts to mitigate and adapt to climate change. This prioritization increases Ethiopia's chances of accessing various climate funds, which can provide critical financial resources for climate-related projects and initiatives.

However, accessing climate funds and reversing its growing emissions is not without its challenges. Ethiopia faces complex application procedures and strict eligibility criteria set by international climate finance institutions. The requirements demands specific technical expertise and detailed project proposals, which can be daunting for a country with limited resources and capacity. In addition, competition among LDCs for limited climate finance resources poses a significant obstacle. Ethiopia must compete with other developing nations in the same category, each vying for a share of available funds, each to address their unique climate-related challenges. Economic conditions and shifting priorities in donor countries also directly impact the availability and allocation of climate finance to developing nations.

1.3 Environmental context

Ethiopia's environmental context is characterized by a diverse range of ecosystems, natural resources, and environmental challenges. The country's topography is marked by high mountains, plateaus, fertile valleys, and arid lowlands, contributing to its rich ecological diversity. This diversity sustains a wide array of plant and animal species, making Ethiopia one of the most biodiverse countries in Africa. The country is renowned for its unique endemic species, including the Ethiopian wolf and the Gelada baboon, which require conservation efforts to protect their habitats and ensure their survival.

[7] *Hannah Ritchie, Max Roser and Pablo Rosado (2020) - "CO_2 and Greenhouse Gas Emissions". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/co2-and-greenhouse-gas-emissions'*

Ethiopia's topography is characterized by large regional differences; it is considered an arid country, but precipitation trends exhibit high annual variability. Ethiopia has three rainy seasons: June–September (kiremt), October–January (bega), and February–May (belg). Kiremt rains account for 50–80 percent of the annual rainfall totals, and most severe droughts usually result from failure of the kiremt. The lowlands in the southeast and northeast are tropical, with average temperatures of 25°–30°C, while the central highlands are cooler, with average temperatures of 15°–20°C. Lowlands are vulnerable to rising temperatures and prolonged droughts, while highlands are prone to intense and irregular rainfall[8]. These climate-related events significantly affect agricultural productivity, water resources, and food security, particularly for communities heavily reliant on rain-fed agriculture and pastoralist that rely heavily on livestock for their livelihoods.

Ethiopia's environmental context is not without challenges. Deforestation remains a significant issue, driven by encroachment for agriculture, fuelwood collection, and illegal logging. The loss of forest cover poses a threat to biodiversity and contributes to soil erosion and land degradation in various regions. Unsustainable land use practices, such as overgrazing and improper agricultural methods, exacerbate soil erosion, leading to reduced agricultural productivity.

Water scarcity is another pressing concern. Ethiopia's major rivers, such as the Blue Nile and the Omo, play a crucial role in supporting agriculture and hydropower generation. However, climate change, deforestation, and over-extraction of water resources pose risks to their availability and quality, impacting both rural and urban communities.

Despite these challenges, Ethiopia possesses significant potential for renewable energy sources, including hydropower, solar, and wind energy. Developing and harnessing these renewable resources can play a pivotal role in meeting the country's energy needs while reducing dependence on fossil fuels and mitigating carbon emissions.

To address these environmental challenges, the Ethiopian government has developed various climate adaptation and resilience building policies and implemented various initiatives, including reforestation programs and sustainable land management projects. International cooperation and partnerships also support conservation and sustainable development efforts in the country.

Balancing economic development with environmental conservation is critical for Ethiopia's future. Strengthening efforts to protect biodiversity, manage water resources sustainably, combat deforestation, and promote climate resilience are essential to preserve the country's unique environmental context and safeguard the well-being of its people and ecosystems.

1.3.1 Policies and strategies:

The climate context for Ethiopia highlights the pressing need for climate adaptation measures to tackle the challenges posed by climate change in various sectors of the economy and the welfare of its population. Integrated climate policies and international cooperation are essential for building resilience and sustainability in the face of a changing climate.

Figure 2 Ethiopia's share of global GHG emission, climate vulnerability, human development and NDC reduction target

[8] *Netherlands Commission for Environmental Assessment. 2015. Ethiopia Climate Change Profile.*

National Adaptation Program of Action (2007): Ethiopia's National Adaptation Program of Action (NAPA) was established in 2007 to address the country's vulnerability to climate change impacts. The NAPA outlines urgent and immediate adaptation measures, focusing on priority sectors like agriculture, water resources, health, and human settlement. It aims to enhance the adaptive capacity of communities and integrate climate change considerations into national development planning. Through extensive consultations with various stakeholders, the NAPA identifies specific adaptation projects, such as water management systems, climate-resilient agriculture, and early warning systems for extreme weather events. The document serves as a foundation for Ethiopia's climate adaptation efforts and has influenced subsequent strategies like the Climate-Resilient Green Economy (CRGE) Strategy. Ethiopia continues to advance its climate resilience initiatives through inclusive and targeted adaptation measures.

Climate Resilient Green Economy Strategy (2011): Ethiopia's Climate Resilient Green Economy (CRGE) strategy, introduced in 2011, outlines the country's commitment to pursuing sustainable economic growth while mitigating climate change impacts. The CRGE strategy presents a visionary and integrated approach to achieving a green economy by 2025, emphasizing the reduction of greenhouse gas emissions while ensuring climate resilience across all sectors. The strategy focuses on enhancing energy efficiency, promoting renewable energy sources, and implementing climate-smart agricultural practices. It also includes measures to expand sustainable forest management, conserve biodiversity, and improve water resource management. By aligning its development goals with climate resilience, Ethiopia aims to reduce poverty, build the adaptive capacity of vulnerable communities, and transition towards a low-carbon and environmentally sustainable economy. The CRGE strategy emphasizes the importance of international collaboration and climate finance to support the country's ambitious climate goals and pave the way towards a climate-resilient and green future for Ethiopia. Please note that further developments and updates may have occurred since my last update, and I recommend consulting official government sources for the most current information on Ethiopia's Climate Resilient Green Economy strategy.

Climate Resilient Strategies (2011 - 2018): Ethiopia has further unpacked the CGRE strategy and developed sector and region specific Climate Resilient (CR) strategies to address the challenges posed by climate change. These strategies aim to enhance adaptive capacity and promote sustainable resource management in the face of climate impacts. In the agriculture sector, the focus is on adopting climate-smart practices to improve productivity and food security. Water resource management strategies emphasize water conservation and efficient use to cope with changing rainfall patterns. In the health sector, efforts are made to strengthen disease surveillance and healthcare services. The energy sector targets the promotion of renewable energy sources. Forestry strategies revolve around sustainable forest management and conservation. Urban planning incorporates climate-resilient infrastructure development, while community-based adaptation ensures localized and inclusive resilience measures. These CR strategies are region-specific and developed through inclusive processes involving stakeholders.

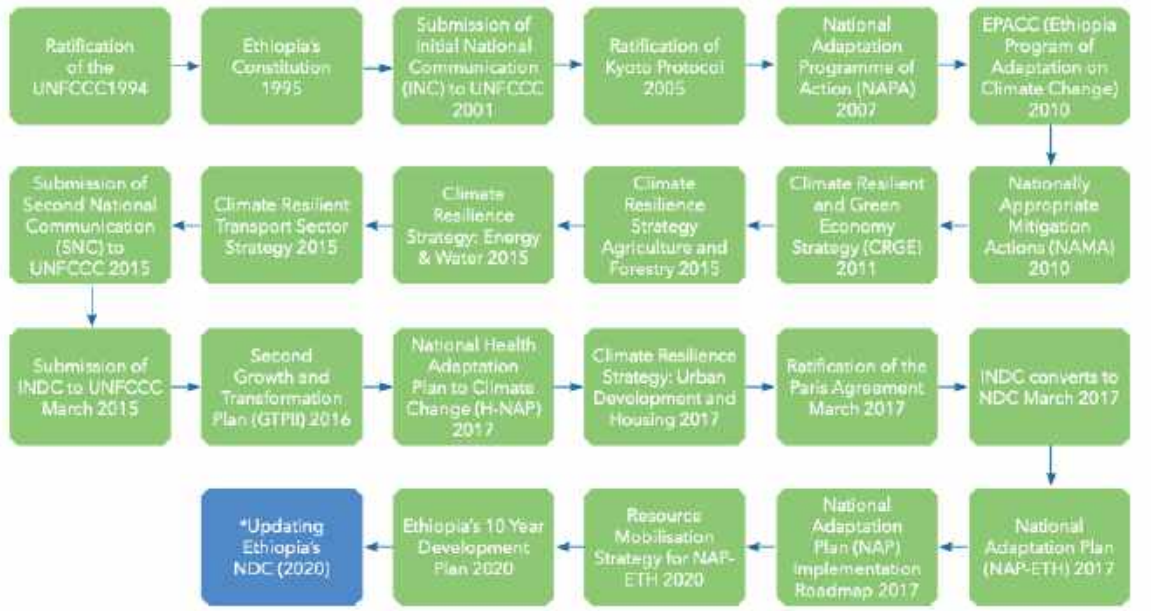
National Adaptation Plan (2017): Ethiopia has developed its National Adaptation Plan (NAP) to address the challenges posed by climate change and enhance the country's resilience to its impacts. The NAP is a comprehensive framework that outlines priority adaptation measures and strategies across various sectors, aiming to safeguard vulnerable communities and critical ecosystems. The plan focuses on integrating climate change considerations into national development policies and programs, aiming for a coherent and coordinated approach to climate adaptation. Through the NAP, Ethiopia aims to enhance the adaptive capacity of communities, promote sustainable resource management, and build climate resilience in sectors such as agriculture, water resources, health, and infrastructure. The

plan emphasizes the importance of participatory approaches, engaging stakeholders at all levels, including local communities, to ensure inclusivity and ownership in the implementation process. By adopting the NAP, Ethiopia has demonstrated its commitment to building a climate-resilient future, ensuring that climate change considerations are integrated into the country's development pathway to better protect its people and environment from the impacts of a changing climate.

Nationally Determined Contributions (2021): Ethiopia had initially submitted an ambitious Nationally Determined Contributions (NDC) to the UNFCCC in 2015. The NDC outlines Ethiopia's commitments to reduce greenhouse gas emissions by 64 percent below business-as-usual levels by 2030, increase forest cover to 40 percent of the country's land area by 2030, and enhance the resilience of its communities and ecosystems to the impacts of climate change. Ethiopia will achieve these targets by increasing the share of renewable energy in the country's energy mix, improving energy efficiency, reducing deforestation and forest degradation, promoting sustainable forest management practices, afforestation and reforestation, strengthening early warning systems for climate-related disasters, promoting climate-smart agriculture, and investing in infrastructure to reduce the impacts of climate change.

Ethiopia updated its NDC and submitted it to the UNFCCC in 2021. The updated NDC showcases noteworthy improvements compared to its previous submission in 2015. Building on the ambitious vision of the Climate Resilient and Green Economy (CRGE) Strategy, the latest NDC aligns greenhouse gas (GHG) emissions projections with national development priorities and commits to reducing economy-wide emissions by at least 68.8 percent by 2030, going beyond its earlier commitments. Notably, the NDC specifies 40 adaptation interventions, recognizing Ethiopia's vulnerability to climate change due to its dependence on rain-fed agriculture and limited adaptive capacity. The NDC ensures monitoring and reporting align with international standards and Ethiopia's 10-year development plan, promoting integrated progress tracking. It also distinguishes between domestic and international financing, with a meaningful financial commitment from domestic resources and an expectation of international support to cover the majority of the implementation costs. Overall, Ethiopia's updated NDC reflects an enhanced commitment to climate action and a robust strategy for climate-resilient development.

Figure 3 Ethiopia's climate change policy road map[9]



[9] *Environment, Forest and Climate Change Commission, Federal Republic of Ethiopia (2021). Updated Nationally Determined Contribution*

1.3.2 Initiatives to action the climate policies and strategies:

Ethiopia has been actively engaging in climate adaptation and resilience-building initiatives[10]. In order to address the challenges posed by climate change, the Ethiopian government has launched a number of climate adaptation and resilience-building initiatives to adapt to the impacts of climate change and to build a more sustainable future for its people. These initiatives include the implementation of sustainable land and water management practices, the establishment of early warning systems for extreme weather events, and the promotion of climate-smart agricultural techniques[11]. Ethiopia has also been working to improve access to climate finance and to build partnerships with international organizations and donors to support its climate adaptation efforts[12]. These initiatives aim to enhance the country's capacity to cope with and adapt to the impacts of climate change on various sectors. Some of the key climate adaptation and resilience-building initiatives in Ethiopia include:

1. Climate-Smart Agriculture: Climate-smart agriculture (CSA) programs and projects in Ethiopia are designed to enhance agricultural productivity, sustainability, and resilience while mitigating the impacts of climate change. These initiatives recognize the challenges brought about by climate change and aim to promote practices that reduce greenhouse gas emissions, conserve natural resources, and improve the livelihoods of smallholder farmers. Examples of CSA projects in Ethiopia include the adoption of conservation agriculture practices like minimum tillage and crop rotation to reduce soil erosion and conserve moisture. Agroforestry initiatives integrate trees into agricultural landscapes to provide multiple benefits, such as carbon sequestration and improved soil fertility. Additionally, the promotion of climate-resilient crop varieties, efficient water management techniques, and the use of renewable energy for agriculture contribute to building a more climate-resilient and sustainable agricultural sector. Capacity-building and climate finance programs support the dissemination of knowledge and provide necessary resources for successful implementation. Through these efforts, Ethiopia aims to create a more resilient agricultural sector that can adapt to climate change challenges and ensure food security and rural development.

2. **Water Resource Management:** Water resource management programs and projects in Ethiopia are designed to promoting sustainable and efficient water use, addressing water scarcity, and improving water access for agriculture and communities. Given Ethiopia's reliance on agriculture and vulnerability to climate change, effective water management is crucial for the country's development. These initiatives encompass a range of strategies, including rainwater harvesting and water storage, irrigation development, integrated water resources management, watershed conservation, and community-based water management. Projects also focus on enhancing water infrastructure, groundwater management, water conservation, and water quality monitoring. Additionally, climate-resilient approaches are integrated into water management practices to adapt to changing environmental conditions. Through the collaborative efforts of the government, NGOs, development partners, and local communities, Ethiopia aims to ensure sustainable water use, enhance agricultural productivity, protect the environment, and improve access to clean water, ultimately supporting the well-being and prosperity of its people.

3. **Afforestation and Reforestation:** Ethiopia has undertaken large-scale afforestation and reforestation programs to increase forest cover and combat deforestation. Tree planting initiatives have been carried out to restore degraded landscapes and sequester carbon dioxide, contributing to climate change mitigation and adaptation. For instance, the "Green Legacy" initiative that was launched in 2019

[10] *Ethiopian Ministry of Environment, Forests and Climate Change (MEFCC) (2019). Ethiopia National Adaptation Plan. Addis Ababa: MEFCC.*
[11] *Sustainable Development Goals Knowledge Platform (SDG-KP) (2020). Ethiopia Climate Change. New York: SDG-KP.*
[12] *World Bank (2018). Ethiopia Climate Resilient Green Economy Project. Washington, DC: World Bank.*

aims to increase forest cover, mitigate the impacts of climate change, and promote sustainable environmental practices. One of the significant milestones of the campaign was set in 2019 when Ethiopia broke a world record by planting over 350 million trees in a single day. The "Green Legacy" initiative has garnered widespread participation from citizens, government agencies, and various organizations, with a focus on engaging local communities in tree planting and environmental conservation efforts.

4. **Early Warning Systems:** Early Warning Systems (EWS) projects and programs in Ethiopia aim to strengthen the country's capacity to detect and respond promptly to potential disasters and emergencies. Ethiopia faces various hazards, including droughts, floods, and food crises, making effective early warning systems essential for disaster risk reduction and response. These initiatives include drought, flood, and food security early warning systems that monitor relevant indicators and issue timely alerts to vulnerable communities and authorities. Additionally, climate-driven risks, livelihood assessments, and community engagement are integrated into the EWS projects. Technological solutions, capacity building, and collaboration among stakeholders further enhance the efficiency and effectiveness of these systems. By providing accurate and timely information, the EWS projects empower communities and decision-makers to take proactive measures, saving lives, safeguarding livelihoods, and enhancing overall resilience to disasters and emergencies in Ethiopia.

5. **Community-Based Adaptation:** In Ethiopia, Community-Based Adaptation (CBA) programs and projects are designed to empower local communities to effectively cope with the impacts of climate change and enhance their resilience. These initiatives prioritize community involvement in decision-making processes and customize adaptation strategies to suit the specific needs and circumstances of each community. Climate-smart agricultural practices, sustainable natural resource management, and disaster risk reduction efforts are implemented to improve agricultural productivity, preserve natural resources, and enhance disaster preparedness. Additionally, CBA projects focus on diversifying livelihood options, improving water and sanitation access, building climate-resilient infrastructure, and empowering women in adaptation activities. Capacity building, knowledge sharing, and collaboration among stakeholders play vital roles in these programs, fostering sustainable development and climate resilience at the local level in Ethiopia.

6. **Climate-Resilient Irrigation systems:** In Ethiopia, climate-resilient irrigation systems programs and projects aim to enhance water management practices and strengthen the adaptability of irrigation infrastructure to climate change impacts. Given the country's susceptibility to droughts and fluctuating rainfall patterns, these initiatives play a crucial role in supporting agricultural productivity and ensuring food security. These efforts include the promotion of water-efficient technologies like drip and sprinkler irrigation and solar-powered pumps to optimize water usage and reduce reliance on fossil fuels. Additionally, water harvesting and storage components are integrated into irrigation systems to capture rainwater during periods of abundance, providing a buffer against water scarcity. Targeting smallholder farmers and involving local communities in water management decisions further strengthens the effectiveness and sustainability of these climate-resilient irrigation projects. By adopting an integrated water resources management approach and investing in capacity building and research, Ethiopia aims to create a more resilient and productive agricultural sector while safeguarding the livelihoods of farmers.

7. **National Adaptation Programs:** Ethiopia has developed the National Adaptation Programs of Action (NAPAs) to identify priority areas and strategies for climate adaptation. These programs focus on

sectors vulnerable to climate change, such as agriculture, water, and health, and outline specific actions to build resilience[13].

8. **International Climate Finance:** Ethiopia has been accessing international climate finance from various sources, including the Green Climate Fund (GCF), Adaptation Fund and other bilateral and multilateral climate funds. These funds have been supporting the implementation of climate adaptation projects and initiatives across the country[14].

Some of the initiatives currently being implemented to build the country's resilience to the impacts of climate change and promote sustainable development include:

1. **Ethiopia Resilient Landscapes for Biodiversity and Climate Change Adaptation Project (RLCA):** The RLCA is a US$ 50M project funded by the Green Climate Fund (GCF) and implemented by the Environment Protection Authority (EPA). The project aims to improve the resilience of Ethiopia's natural ecosystems and communities to the impacts of climate change. The project focuses on three key areas:

- Reducing deforestation and forest degradation
- Promoting sustainable land management practices
- Strengthening climate change adaptation and disaster risk reduction
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2. **Ethiopia Sustainable Forest Management Project (SFMP)**: The SFMP is a US$ 60M project also funded by the GCF and is implemented by the Ethiopian Forest Development Authority. The project aims to improve the management of Ethiopia's forests and to reduce deforestation and forest degradation. The project focuses on three key areas:

- Strengthening forest governance and institutions
- Promoting sustainable forest management practices
- Increasing the benefits of forests for local communities

3. **Distributed Renewable Energy-Agriculture Modalities (DREAM) project**: The DREAM project will facilitate the implementation and private sector operation of nine renewable energy mini-grids and irrigation systems across Ethiopia. The project is one of the first initiatives supported under the Global Energy Alliance for People and Planet, a joint initiative by Rockefeller Foundation, IKEA Foundation and Bezos Earth Fund launched at COP26 in Glasgow. The project's key partners are the Ministry of Water and Energy (MoWE) of Ethiopia, the African Development Bank (AfDB) and the Agricultural Transformation Energy (ATA). The project will run from November 1, 2021, to October 31, 2023.

This is anticipated to provide reliable year-round irrigation for all farmers in the communities (1,545 hectares of irrigated farmland), making this the largest mini-grid powered irrigation project in Africa. It is expected to impact an estimated 11,500 people (2,500 households), seven schools and three health clinics/outposts. In addition, the project will implement various productive use activities to support a range of micro, small and medium enterprises (MSMEs), specifically electric vehicles for transporting goods and persons.

The project will make a comprehensive suite of detailed information and economic analysis, technical assistance facilities, grant funding, concessional debt, and risk mitigation facilities available to selected private sector companies. These companies will develop, deploy, and operate each of the nine identified sites. The project consists of three distinct components:

[13] *Ministry of Finance and Economic Development (MoFED). (2011). Ethiopia's Climate Resilience Green Economy*
[14] *UNDP (United Nations Development Programme). (2017). Ethiopia Climate Change Funding Framework*

Mini-grids: Renewable energy generation and distribution to households, MSMEs and agricultural/irrigation anchor customers;
Irrigation services: implementation of large-scale water pumping and distribution systems to farmers;
Productive use of energy (PUE): Operation of electric vehicles and other productive use activities such as agricultural processing.

4. **Ethiopia Adaptation to Climate Change and Resilience Project (ACCR):** The ACCR is a US$ 10M project funded by the United Nations Development Programme (UNDP) and is implemented by the Ethiopian Ministry of Agriculture and Natural Resources. The project aims to support Ethiopia's efforts to adapt to the impacts of climate change. The project focuses on three key areas:

- Strengthening climate change adaptation planning and capacity
- Mainstreaming climate change adaptation into development policies and programs
- Supporting climate-smart agriculture

5. **Ethiopia Climate Change, Land Degradation, and Drought Risk Reduction Project (CCLD):** The CCLD is a US$ 40M project funded by the Global Environment Facility (GEF) and implemented by the Ethiopian Ministry of Agriculture and Natural Resources. The project aims to reduce the impacts of climate change, land degradation, and drought on Ethiopia's agriculture sector. The project focuses on three key areas:

- Improving land management practices
- Promoting drought-resistant crops
- Strengthening early warning systems and disaster risk management

1.4 Problem Statement

Ethiopia faces a distinct set of challenges and vulnerabilities due to its geographical location and socio-economic conditions. The irregularity of rainfall patterns leads to frequent droughts and floods, posing significant risks to various sectors of the economy and society. Consequently, adapting to climate variability becomes a crucial task for farmers struggling to maintain productivity and food stability.

a) **Droughts and floods:** Ethiopia is one of the most vulnerable countries to climate change. The country experiences frequent droughts and floods, which have severe impacts on agriculture, water resources, and food security[15]. In 2015, a severe drought affected over 10 million people in Ethiopia, leading to crop failures and food shortages[16]. In 2016, a series of floods caused widespread damage to infrastructure and crops, displacing over 200,000 people[17].

b) **Water scarcity:** Climate change is also exacerbating water scarcity in Ethiopia. The country's water resources are already under pressure due to rapid population growth and increasing demand for potable water and irrigation[18]. Prolonged droughts are further reducing water availability, particularly in rural areas[19]. In 2018, the Ethiopian government declared a national water crisis, warning that the country was facing its worst drought in 50 years[20].

c) **Biodiversity and natural ecosystems:** Climate change is also threatening Ethiopia's rich biodiversity and natural ecosystems[21]. Rising temperatures and changing rainfall patterns are disrupting the balance of ecosystems, affecting wildlife, plant species, and essential ecosystem services that support human well-being[22]. For example, a recent study found that the number of bird species in Ethiopia has declined by 12 percent since 1990, largely due to climate change[23].

d) **Health risks:** Climate change is also increasing health risks in Ethiopia[24]. Changing weather patterns are leading to the spread of vector-borne diseases such as malaria and dengue fever. In 2019, Ethiopia reported over 2.5 million cases of malaria, the highest number in the country's history[25]. Climate change is also increasing the risk of waterborne diseases such as cholera and typhoid[26].

e) **Internal migration and displacement:** Climate-induced disasters such as droughts and floods are also leading to internal migration and displacement in Ethiopia[27]. In 2019, an estimated 2.4 million people were displaced due to climate-related disasters. This displacement has put a strain on resources in host communities and has made it difficult for people to access basic services such as food, water, and shelter.[28,29]

The impact of climate change on Ethiopia's agriculture, water resources, and food security is considerable, especially in rural areas heavily reliant on rain-fed farming as their primary means of sustenance. The irregularity of rainfall patterns, rising temperatures, and more frequent extreme weather events, such as droughts and floods, pose considerable challenges to crop yields and productivity thus negatively affecting the progress made thus far. Reduced agricultural output and food insecurity result from these climate-induced impacts, negatively impacting rural communities[30].

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[15] *World Bank (2023). Ethiopia - Country Climate Risk Profile. Washington, DC: World Bank.*
[16] *Food and Agriculture Organization of the United Nations (FAO) (2020). Ethiopia Country Profile. Rome: FAO.*
[17] *United Nations Office for the Coordination of Humanitarian Affairs (OCHA) (2016). Ethiopia Drought Response. New York: OCHA.*
[18] *International Water Management Institute (IWMI) (2019). Ethiopia Water Sector Performance Report. Colombo: IWMI.*
[19] *United Nations Development Programme (UNDP) (2018). Ethiopia Water Security Assessment. New York: UNDP.*
[20] *Ethiopian Ministry of Water, Irrigation and Energy (MoWIE) (2017). Ethiopia Water Sector Master Plan. Addis Ababa: MoWIE.*
[21] *Ethiopian Environmental Protection Authority (EPA) (2019). Ethiopia State of the Environment Report 2019. Addis Ababa: EPA.*
[22] *International Union for Conservation of Nature (IUCN) (2018). Ethiopia Biodiversity Profile. Gland: IUCN.*
[23] *Global Environment Facility (GEF) (2017). Ethiopia Resilient Landscapes for Biodiversity and Climate Change Adaptation Project. Washington, DC: GEF.*
[24] *World Health Organization (WHO) (2020). Ethiopia Country Cooperation Strategy 2020-2024. Geneva: WHO.*
[25] *Ethiopian Public Health Institute (EPHI) (2018). Ethiopia Malaria Situation Report. Addis Ababa: EPHI.*
[26] *Centers for Disease Control and Prevention (CDC) (2019). Ethiopia Dengue Fever Outbreak. Atlanta, GA: CDC.*
[27] *Internal Displacement Monitoring Centre (IDMC) (2020). Ethiopia Internal Displacement Report 2020. Geneva: IDMC.*
[28] *United Nations High Commissioner for Refugees (UNHCR) (2019). Ethiopia Country Operations Profile. Geneva: UNHCR.*
[29] *Ethiopian Disaster Risk Management Agency (DRMA) (2018). Ethiopia Disaster Risk Management Report 2018. Addis Ababa: DRMA.*
[30] *United Nations Development Programme (UNDP) - "Climate Resilient Green Economy Strategy" (2011)*

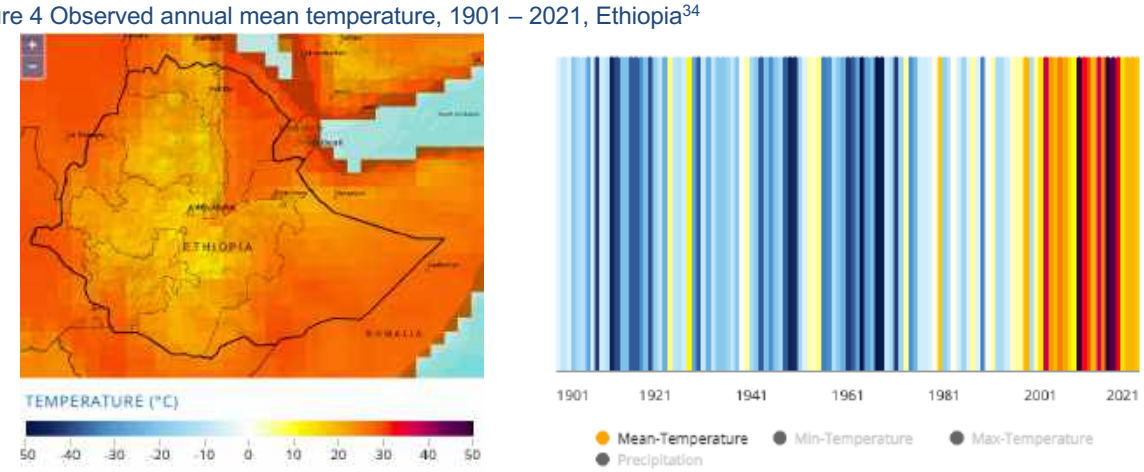
Moreover, Ethiopia's water resources face vulnerability due to changes in precipitation patterns, leading to water scarcity and diminished availability for agriculture and domestic use. Prolonged droughts exacerbate the strain on water supplies, both surface water and groundwater sources[31]. Consequently, food security is compromised, leaving communities vulnerable to hunger and malnutrition[32]. The challenges extend to pastoralist communities that rely heavily on livestock for their livelihoods. Changes in temperature and rainfall patterns affect grazing land availability and water access, posing risks to livestock health and productivity[33]. Addressing these impacts necessitates adaptive measures and resilient strategies to ensure sustainable development and safeguard the well-being of Ethiopia's population.

1.4.1 Ethiopia's climatology and trend

Ethiopia's climate context for the current climatology (1901 – 2021), derived from observed and historical data provides a strong understanding of current climate conditions and also appreciate future climate scenarios and projected change. Climate data visualization and analysis for both annual and seasonal data for the current climatology through spatial variation, the seasonal cycle, or as a time series has been presented below.

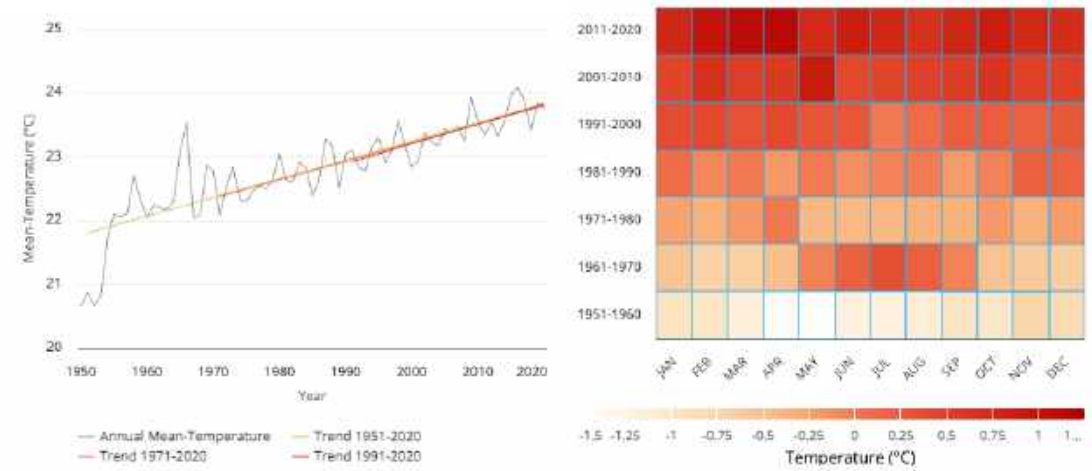
Ethiopia's vast land area and varied topography give rise to diverse climates throughout the country, resulting in significant differences in temperature and precipitation across its regions. The southern and southwestern regions, which encompass equatorial rainforests, experience high levels of rainfall and humidity. In contrast, the northern and northeastern lowlands, as well as the Afro-Alpine areas on the summits of the Semien and Bale mountains, face desert-like conditions. The central and northern highland regions of Ethiopia generally have cooler climates. On the eastern side of the country, the climate is extremely arid, with minimal rainfall. Ethiopia experiences a wide range of temperature profile, from as low as –15°C in the highlands to temperatures exceeding 25°C in the lowland areas.

Figure 4 Observed annual mean temperature, 1901 – 2021, Ethiopia[34]



[31] *Intergovernmental Panel on Climate Change (IPCC) - "Climate Change 2014: Impacts, Adaptation, and Vulnerability" (2014)*
[32] *Food and Agriculture Organization (FAO) - "Climate Change and Food Security in Ethiopia" (2016)*
[33] *United Nations Environment Programme (UNEP) - "Climate Change and Pastoralism: Impacts and Mitigation" (2010)*
[34] *World Bank, Climate Change Knowledge Portal, 2021*

Figure 5 Observed average annual and monthly mean temperature of Ethiopia for 1901 - 2021[35]



The seasonal rainfall patterns in Ethiopia are largely influenced by the movement of the Inter-Tropical Convergence Zone (ITCZ), leading to substantial variations in rainfall from one year to another. Ethiopia observes three main rainfall seasons: Kiremt, Belg, and Bega. The primary rainy season, Kiremt, takes place from mid-June to mid-September and accounts for a significant portion of the annual rainfall (50–80 percent). Some central and northern parts of Ethiopia experience a secondary wet-season, Belg, which occurs from February to May and typically receives less rainfall. However, in the southern regions of the country, there are two distinct wet seasons: Belg (February to May) and Bega (October to December), with the latter being characterized by drier and colder conditions.

Figure 6 Observed average annual and monthly mean precipitation of Ethiopia for 1950 - 2020

The distribution of mean annual rainfall varies widely across the country. The southwestern highlands receive an average of approximately 2,000 mm of rainfall, whereas the southeastern and northeastern lowlands receive less than 300 mm.

The recorded rising temperatures have led to reduced crop yields, increased water scarcity, and the proliferation of pests and diseases. Furthermore, the erratic rainfall patterns have disrupted agriculture and heightened the risk of crop failure. Observations indicate that Ethiopia's average temperature has already risen by approximately 1 degree Celsius since the late 19th century, and further warming of 1-

[35] *World Bank, Climate Change Knowledge Portal, 2021*

2 degrees Celsius is projected by the century's end. Rainfall has decreased, especially in the north and east, and is anticipated to decline by 10-20 percent by the end of the century[36]. More frequent and intense extreme weather events, like droughts, floods, and heat waves, are causing significant disruptions to communities and the environment.

1.4.2 Climate change and food security

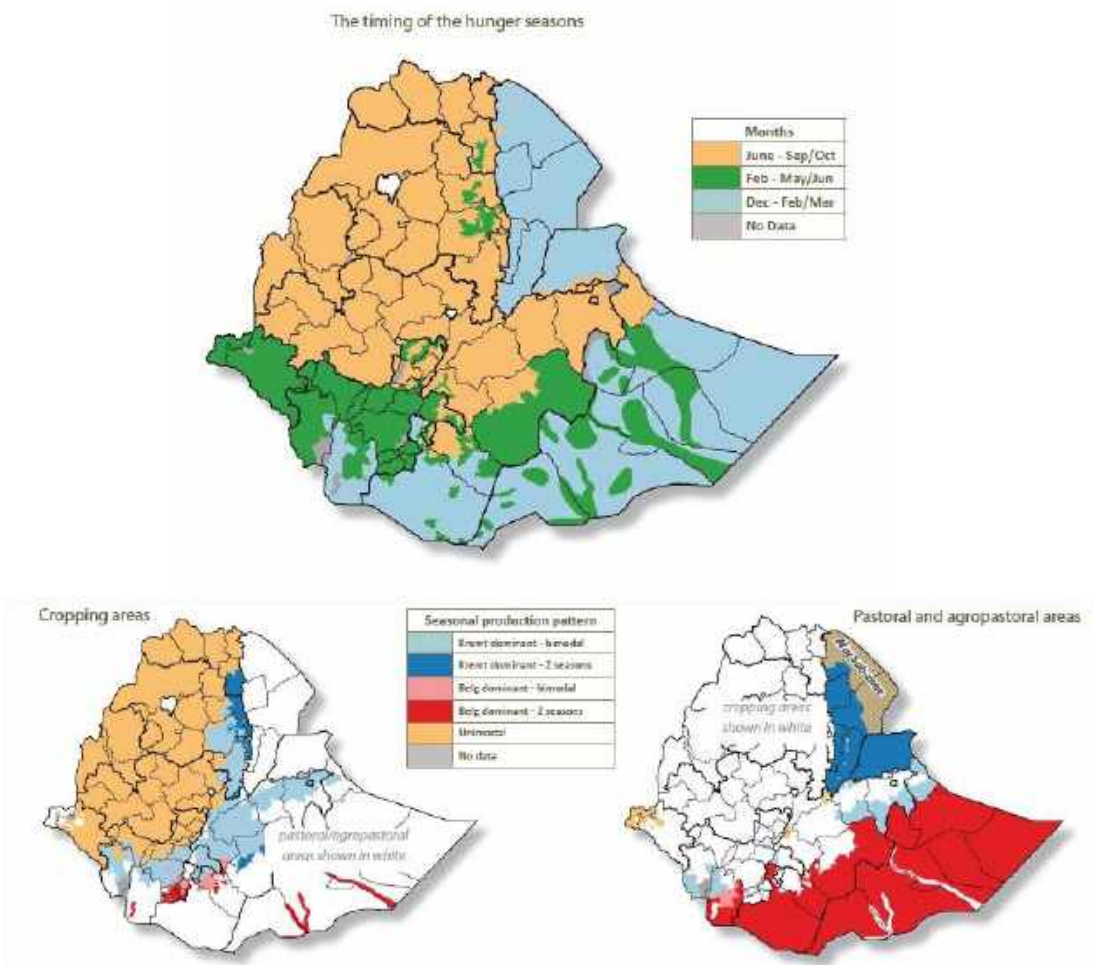
The rural livelihood systems in Ethiopia, which encompass crop cultivation, pastoralism, and agro-pastoralism, are highly susceptible to climate influences. Food insecurity is closely tied to rainfall patterns, with hunger trends showing significant improvements after the rainy seasons. However, the increasing year-to-year climate variability, coupled with more frequent droughts and heavy precipitation events, negatively impact agricultural production and food security. Climate-related shocks further hinder productivity, especially considering the limited access to technology and widespread poverty, leaving communities with scarce resources to adapt. The effects of sudden or recurring shocks, such as droughts, are exacerbated by persistent long-term stresses. Consequently, economic growth is hampered, and existing social and economic issues are worsened. As a result, prolonged stresses erode household resilience to the point where traditional coping strategies are no longer viable[37].

The rural parts of Ethiopia face common challenges such as population pressure, environmental degradation, and unreliable water supplies, which worsen the impacts of climate change. Factors contributing to the vulnerability of the agricultural sector in the rural parts of Ethiopia to climate variability and change include limited technical resources for improved farm and pasture management, scarce assets and limited alternative sources of income, small farm sizes with poor pasture, dependence on rain-fed crop production and rangelands with few water points, and lack of access to credit.

The adverse effects of climate change, climate vulnerability, and climate shocks negatively affect food production. Rising temperatures, erratic rainfall, shortened rainy seasons, and reduced seasonal rain amounts are leading to decreased crop production (Figure below). High temperatures and low rainfall are diminishing pasture and water availability for livestock. Floods and droughts damage crops and farmlands, injure and kill livestock, and can result in the complete loss of annual production. Recurrent and prolonged droughts indicate the potential for cumulative impacts, where the effects of recurring shocks are compounded[38].

[36] *United Nations Framework Convention on Climate Change (UNFCCC), 2021*
[37] *Adisu Mekonnen et al., (December 2020). Climate change impacts on household food security and adaptation strategies in southern Ethiopia*
[38] *USAID and DRMFSS (2010). Food security and rainfall dynamics in Ethiopia*

Figure 7 Food security and rainfall dynamics in Ethiopia.[39]



Exposure to climate risks is increasing in many parts of Ethiopia. Both belg and kiremt rainy seasons are contracting, reducing the amount of seasonal rain available for crop production. Unpredictable belg rains lead farmers to make risk-averse planting decisions, resulting in below-average yields and income losses. Analyses of regional trends indicate a decline in March-September rains in the northeast since the mid-1960s; rainfall declines in the southeast since the 1980s, with recent years particularly dry; and rainfall declines in the southwest rainfall since the 1960s, accelerating since the mid-1990s and floods and droughts becoming more intense and frequent[40].

An analysis of past climate trends in Ethiopia for the period 1981 to 2014 offers valuable insights into the current direction of different climate variables, particularly for short-term planning. Researchers examined changes in Ethiopia's seasonal climate for the mentioned periods, focusing on the three main rainy seasons: kiremt (June to September), bega (October to December), and belg (March to May). Rainfall and temperature data from Climate Hazards Group Infrared Precipitation with Stations (CHIRPS) was used and Climate Research Unit Time Series (CRU TS) datasets to conduct this study[41]. The result of this study revealed:

1. **Gradual temperature increases**, alongside more frequent and intense heatwaves and higher rates of evapotranspiration, have significant implications for local economic development

[39] *USAID and DRMFSS (2010). Food security and rainfall dynamics in Ethiopia*
[40] *Funk et al., 2012*
[41] *Peterson et al., 2013*

and agricultural productivity. Warmer temperatures and increased evapotranspiration will exacerbate existing tensions between agricultural and livestock interests and other water uses, especially during the dry season, leading to heightened conflicts. Moreover, the quality of available water may be compromised as rising temperatures could promote the proliferation of waterborne pathogens in surface water from rivers and streams and groundwater from wells. Additionally, the agricultural sector will face challenges due to plant stress and reduced crop yields caused by greater evaporation and increased pressure from pests. These climate-related impacts on temperature and water resources necessitate careful planning and adaptive measures to ensure sustainable development and food security in affected regions.

2. The **potential rise in extreme events** is a notable concern. The uncertainty surrounding future precipitation in Ethiopia, influenced by projections from global circulation models with limited spatial resolution, makes it challenging to predict with certainty. Nevertheless, it is evident that increased climate variability and a higher frequency of extreme events, including droughts and floods, are likely to occur in the future. The impacts of these changes are already substantial, resulting not only in significant human costs but also significant economic and financial implications. Despite uncertainties, preparing for and mitigating the effects of these extreme events is crucial to safeguard communities and economies in the country.

3. **Changes in precipitation patterns**, marked by reduced reliability and increased unpredictability (**refer to Figure below** Areas where lack of rain or erratic rain is considered to be a key factor in contributing to vulnerability[42], are key factors contributing to vulnerability. Analysis of rainfall trends from 1981 to 2015, using the CHIPRS rainfall data, considered annual totals and other relevant characteristics such as intensity and duration. Notably, a significant portion of Ethiopia's agricultural production relies on regions where more rainfall is received during the belg season compared to the meher season. However, the erratic and delayed arrival of the belg rains, occurring between February and May, poses considerable challenges to food security. This phenomenon exhibits the following implications:

a) There is a positive correlation with cereal yields, as wetter years with abundant belg rains are associated with higher yields, particularly during April and May, underscoring the importance of the belg season for ensuring food security.

b) Conversely, there is a negative correlation with food prices. Lower production during the belg season is linked to higher food prices, particularly in the aftermath of the belg period. As such, addressing the impacts of these rainfall changes becomes crucial to maintain stable agricultural yields and mitigate the effects on food prices in Ethiopia.

[42] *USAID and DRMFSS, 2010*

Figure 8 Correlation of importance of rain or erratic rain in contributing to vulnerability

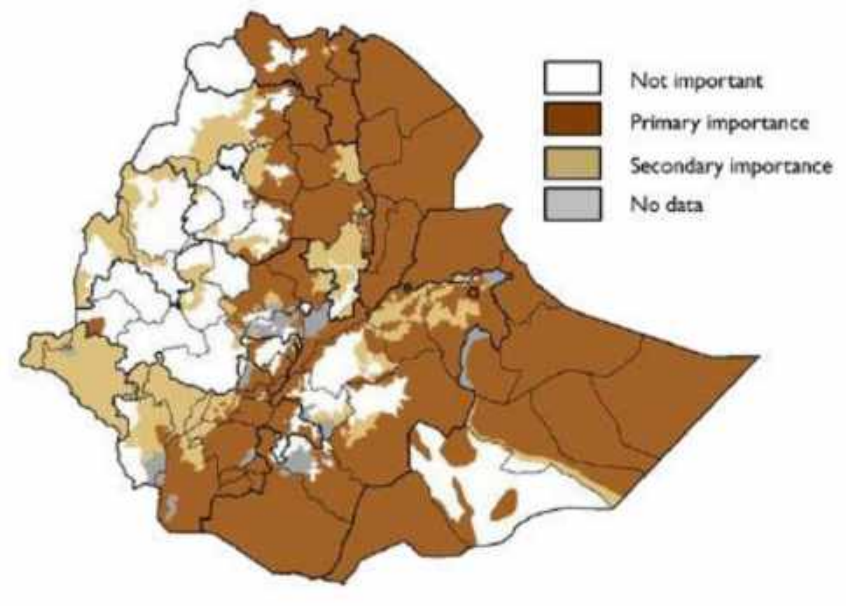


Table 1 Summary of climate hazards, impacts, and consequences in the various regions of Ethiopia[43]

REGION	CLIMATE HAZARDS	IMPACTS	CONSEQUENCES
Northeastern Tigray region	• Drought (low rainfall, late onset) • Heavy rainfall • Early cessation of rainfall	• Extensive crop damage • Decreased yield • Loss of water points and pastures	• Food shortages • Reliance on the need to purchase food • Vulnerability to malnutrition, financial stress, inflation, labor migrations and social unrest
Central Amhara region	• Increase in the frequency of droughts • Hail storms and heavy rain/floods • Erratic rainfall • Changes to timing and duration of seasonal rains	• Crop damage/low production, livestock disease, loss of grazing land • Damaged crops and dwellings/properties • Soil erosion, loss of soil fertility and water-logging of fields	• Loss of assets and income
Dire Dawa region & northeastern Oromia Region	• Low seasonal rains and recurrent droughts • Erratic rainfall • Flash floods	• Major food shortage • Depleted water sources	• Sale of household assets including oxen and other livestock • Migration in search of non-far labor opportunities • Water and sanitation crisis • Major loss in life and an increase • the number of homeless individuals

[43] *USAID (2015). Climate Variability and Change In Ethiopia: Summary of Findings*

Southern Oromia Region & Southern Nations, Nationalities and Peoples' Region	• Frequent droughts	• Decreased livestock production • Farmers revert to selling livestock • Migration in search of pastures and water	• Milk shortages, poor nutrition among children and lactating mothers • Total dependence on external food assistance • Depletion in herds, reduction i short term productivity and longterm genetic diversity • Conflict among neighboring clans

The data presented in table 2 below is sourced from Ethiopia's Disaster Information System, which meticulously documented over 14,000 disasters that occurred nationwide between 1957 and 2012. The analysis examines the impact of climate-related events on crops and livestock, categorizing the damage by region and identifying specific periods when these hazards occur. It provides the historical and temporal patterns of these shocks which sheds light on their implications for the food system and guides the timing of potential interventions.

Table 2 Crop damage and loss of cattle by geographic area and source of hazard[44]

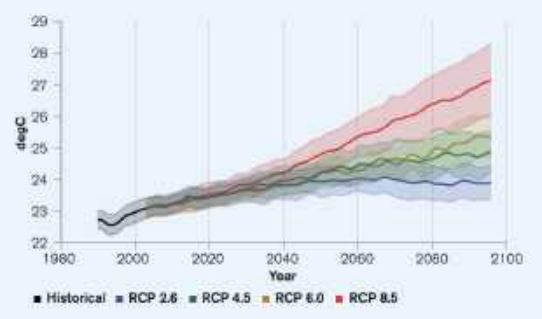
REGION	CROP DAMAGE (HAS)	DOMINANT HAZARD IN CROP LAND DAMAGE	SEASONAL DYNAMICS OF HAZARD	DOMINANT HAZARD CONTRIBUTING TO LOSS OF CATTLE
Amhara		Flood 100 percent	August-September Corresponding to kiremt season	Hailstorms
Oromia		Fire 82 percent Floods 14 percent	Fires: September Floods: March September (peaking April, August and September during kiremt rains)	Drought
SNNPR		Drought 13 percent Flood 12 percent	Floods: September to December	Flood
Afar		Drought 53 percent Floods 47 percent	Drought: March and September Floods: July-November (peaking in September)	Floods
Tigray		Drought 58 percent Flood 35 percent Hailstorms 8 percent	Drought: September Flood: June-December (peaking July and August) Hailstorm: July-September (August peak)	Hailstorms

1.4.3 Climate change projections for Ethiopia

Temperature: According to the World Banks Climate trends and variability analysis results, temperatures in East Africa, particularly in Ethiopia, are expected to rise significantly in the coming decades. Mean monthly temperature changes are projected to increase by 1.8°C by the 2050s and by 3.7°C by the end of the century, assuming a high-emission scenario. This warming trend will lead to a substantial increase in the frequency of 'hot' days and nights in the future climate. Projections indicate that by the 2060s, 'hot' days will occur on 19–40 percent of days, and by the 2090s, they will be experienced on 26–69 percent of days annually. The most rapid temperature increases are expected during the July, August, and September season, figure 6 below.

[44] http://www.desinventar.net/, *Ethiopia's Disaster Information System*

Figure 9 Historical and projected average temperature for Ethiopia from 1986 to 2099 (Left) and Projected change in Summer Days (Tmax> 25°C) (Right)

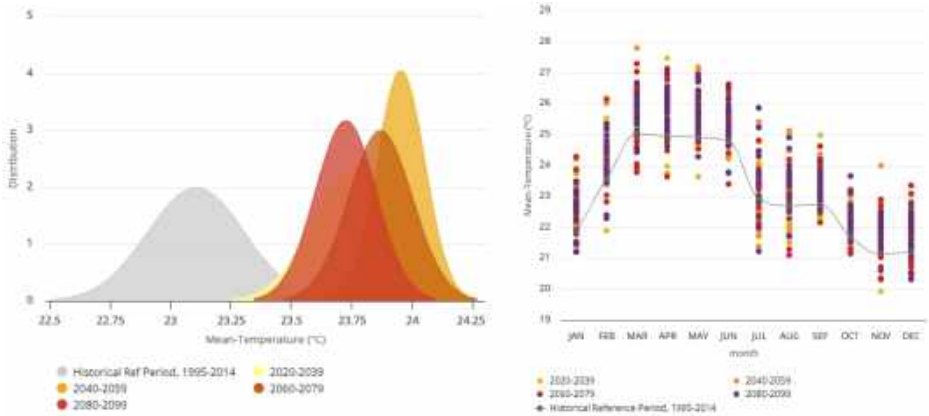


Furthermore, hot nights are projected to increase more rapidly than hot days, particularly during the July, August, and September season. These temperature rises will also contribute to more intense heatwaves and higher rates of evapotranspiration, impacting various aspects of local economic development and agricultural productivity. As a result, crop yields are likely to decrease, leading to livestock losses, which will significantly affect food security.

Throughout the rest of the century, regardless of the emission scenarios considered, temperatures in Ethiopia are expected to continue rising. Under a high-emission scenario, average temperatures will increase rapidly by the mid-century. Across the seasonal cycle, temperature increases will be most pronounced from January to June, see figure 7 below.

The escalation in heat and extreme heat conditions will have significant implications for human and animal health, agriculture, water resources, and ecosystems in Ethiopia. Adapting to these changing climate conditions and implementing strategies to mitigate their impacts will be crucial for the country's future well-being and resilience.

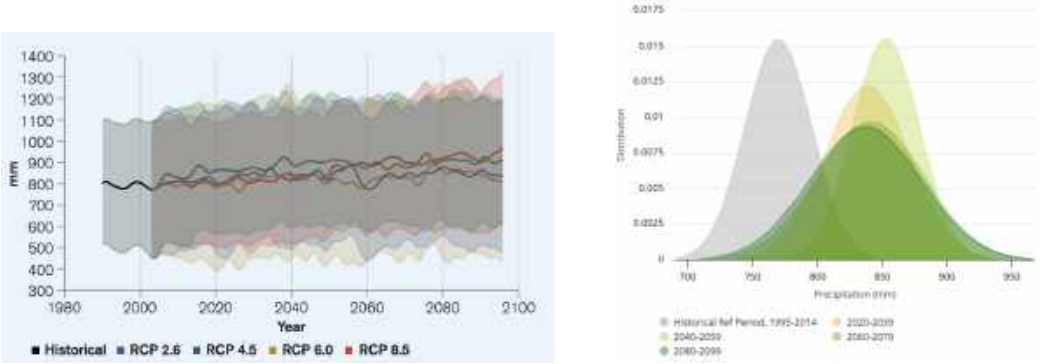
Figure 10 Projected Change in Distribution, Mean-Temperature, SSP1-1.9 Ethiopia, Multi-model Ensemble (Left) and Projected Variability and Trends of Mean-Temperature across Seasonal Cycle, 2020-2100; Ethiopia; SSP1-1.9, cams-csm1-0



Precipitation: According to the World Banks Climate trends and variability analysis results, Ethiopia exhibits a considerable level of year-to-year variation in climate conditions, and future projections of precipitation trends still hold significant uncertainty. The forecasts suggest that southern and central regions may experience up to a 20 percent decrease in spring and summer rainfall, while southwest and southeast areas could see an increase. Conversely, most northern areas are anticipated to face a general reduction in rainfall. These projections are compounded by the expected warming trends across the entire country, which could worsen the observed declines in rainfall, leading to heightened water

stress. The water resources are likely to come under strain as evapotranspiration rates increase due to warmer temperatures, offsetting the benefits of any additional rainfall. Consequently, more frequent and severe droughts could have adverse effects on water availability, biodiversity, and hydropower generation. Additionally, the possibility of heightened floods presents a significant threat of water pollution, impacting the health of wetland and forest ecosystems, which provide crucial services for communities in Ethiopia. Figure 8 illustrates the projected change in annual average precipitation for Ethiopia, showing a slight increase by the end of the century under a high emissions scenario of RCP8.5.

Figure 11 Annual average precipitation for 1986 to 2099 (Left) and Projected change in distribution, Precipitation SSP 1 – 1.9, Ethiopia (Right)[45]



1.4.4 The impact of climate change in Ethiopia

Climate change is expected to increase the risk and intensity of flooding as well as increase the likelihood for water scarcity for certain areas of the country. Increased intense rainfall events, with the possibility of higher rainfall for some areas will lead to the heightened risk of flooding, loss of life, and damage to property and infrastructure. Intense rainfall and flooding will also result in soil erosion and water logging of crops, decreasing yields and increasing food insecurity. Additionally, the increased likelihood of increased aridity and drought stress is expected to lead to water scarcity in some areas, resulting in increased demand for water, raising and the potential for conflict and biodiversity loss. Higher temperatures with increased aridity may also lead to livestock stress and reduced crop yields[46]. This is likely to result in significant economic losses, damage to agricultural lands and infrastructure as well as human casualties. Furthermore, land degradation and soil erosion, exacerbated by recurrent flood and drought, adversely impact agricultural production, further affecting the livelihoods of the rural poor. Small rural farmers are more sensitive to impacts of disasters (floods, dry periods) because they have limited resources with which to influence and increase adaptive capacity[47].

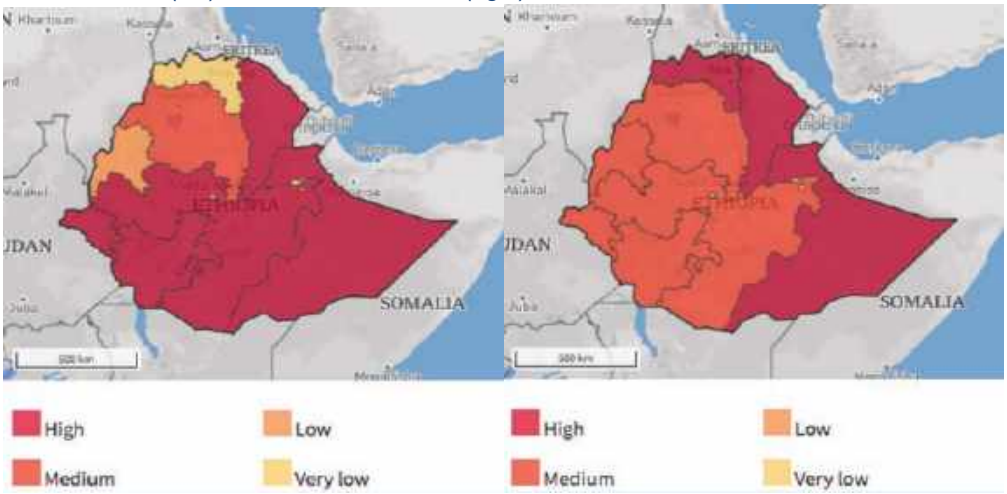
The southern and eastern regions of Ethiopia, which encompass Afar, Somali, and Oromia, are frequently impacted by severe droughts, such as the Horn of Africa drought in 2011. Additionally, the Gambella region faces recurring flooding. These successive droughts and frequent floods have had significant repercussions on poverty levels, food security, livelihoods, and the overall well-being of communities. As a result, the cycles of drought and flood will imped developmental progress, worsened food insecurity, and diverted scarce resources towards relief efforts[48]. The shifting patterns of rainfall are anticipated to have severe consequences for crop yields and pastoral rangelands, especially in the

[45] *WBG Climate Change Knowledge Portal (CCKP, 2021). Interactive Climate Indicator Dashboard - Agriculture. Ethiopia. URL: https:// climatedata.worldbank.org/CRMePortal/web/agriculture/crops-and-land-management?country=ETH&period=2080-2099*
[46] *UNDP-Ethiopia (2013). Disaster Risk Management and Livelihoods Recovery Program. 2013 Annual Report. URL: http://www.et.undp.org/content/ethiopia/en/home/library/environment_energy/DRM_LR_2013AnnualReport.html*
[47] *FAO (2018). Climate Resilience pathways of rural households: evidence from Ethiopia. URL: http://www.fao.org/3/CA2653EN/ca2653en.pdf*
[48] *UNDP-Ethiopia (2013). Disaster Risk Management and Livelihoods Recovery Program. 2013 Annual Report. URL: http:// www.et.undp.org/content/ethiopia/en/home/library/environment_energy/DRM_LR_2013AnnualReport.html*

Oromia and western Somali regions. Given the country's historical vulnerability to climate impacts, food security risks remain a top priority of concern. Increased temperatures pose several disaster risks, including (i) aggravating existing tensions between agricultural and livestock demands, as well as the human population's need for water, particularly during the dry season, (ii) affecting the quality of available surface water and groundwater, and (iii) heightening plant stress, potentially leading to reduced crop yields. The changing rainfall patterns are expected to significantly influence agricultural production and harvest seasons, with later onsets projected to impact cereal yields dependent on the April-May rainfall onset[49]. Droughts have remained one of the key drivers of food insecurity for the country, with droughts resulting in crop damage, loss of pasture and water sources, loss of animals, hunger, disease outbreaks, asset depletions, malnutrition and migration. Resulting likely sharp reductions in agricultural output and related productive activity and employment creates a multiplier effect on both regional and national economies. Floods, both flash floods and riverine floods, regularly cause crop and infrastructure damage and contribute to the problems of widespread land degradation throughout the country[50].

Many of Ethiopia's small-holder farmers grow slow-maturing, high-yield "long cycle" crops that depend on two rainy seasons to reach harvest and are thus even more vulnerable to changes in seasonal rainfall. The majority of plots are less than 1/2 hectare and are insufficient to sustain household food security, much less generate adequate income. This limits household capacity to invest in improved farming practices that could decrease climate resilience. Recurring drought and increased desertification resulting from land use pressures have resulted in significant losses of arable land and rendered the country increasingly dependent on food aid. Crop productivity may increase in some areas (highlands and high-plateaus) in the short term due to warmer temperatures, but continued high temperatures will result in heat stress and crop failure. It is estimated that Ethiopia will lose more than 6 percent of each year's agricultural output if the current decline in average annual rainfall levels for primary agricultural zones continues to mid-century[51].

Figure 12 Risk of river flood (left) , Risk of extreme heat (right)



Rising temperatures and shifting rainfall patterns may increase soil erosion and increase growing difficulties for many crops as well as shorten growing seasons. These scenarios are likely to also alter

[49] *UNDP-Ethiopia (2013). Disaster Risk Management and Livelihoods Recovery Programme. 2013 Annual Report. URL: http:// www.et.undp.org/content/ethiopia/en/home/library/environment_energy/DRM_LR_2013AnnualReport.html*
[50] *USAID (2015). Climate Variability and Change in Ethiopia – Summary of Findings. Technical Report. URL: https://www.usaid.gov/ sites/default/files/documents/1866/12.22.15 percent20- percent20ClimateVariabilityChange_Ethiopia_Dec2015 percent20 percent281 percent29.pdf*
[51] *USAID (2016). Climate Change Risk Profile – Ethiopia. Fact Sheet. URL: https://www.climatelinks.org/sites/default/files/asset/ document/2016 percent20CRM percent20Factsheet percent20- percent20Ethiopia_use percent20this.pdf*

the occurrence and distribution of pests. Primary crops produced in Ethiopia include cereals, pulses, coffee, oilseeds, spices, herbs, vegetables, fruits, sugarcane, and potatoes. Rising temperatures are expected to increase suitable condition for crop diseases and pest infestations. Ethiopia also has the largest livestock population in Africa, with 54 million cattle, 25.5 million sheep, 24.1 million goats, 915,000 camels (downward trend) and 50.4 million poultry (2013)[52].

The agriculture sector relies heavily on ground and surface water supply, that is sensitive to localized land use and likely to experience decreasing recharge and quality due to reduced precipitation in some areas; increasing evaporation. An expected trend of reduction in rainfall can have consequences for agriculture and water quality, especially in more arid areas. Increased temperatures and the threat of waterlogging of fields may also result in an increased presence of pests and diseases harmful to yield production and quality. Changes in seasonality of precipitation will lead to further soil erosion and loss of soil fertility. By 2050, climate change may increase the rate of soil erosion by up to 40-70 percent. The top three affected watersheds are the South Ari, Gelila, and Geze Gofa of the Southern Nations, Nationalities, and Peoples' Region[53].

Livestock is also likely to be impacted by increased heat conditions, including the effects of radiation, temperature, and humidity. Under present climate conditions, heat stress makes it difficult for animals to keep up with heat dissipation, rendering them vulnerable to heat stress during, at least, part of the year. Heat stress has a variety of detrimental effects on livestock, but can include reductions on milk production and reproduction, particularly for dairy cows. Extreme events, such as heat waves, may particularly affect beef and dairy cattle. The projected increased heat will increase stress on crops and is also likely to alter the length of the growing seasons. Decreased water availability is likely to reduce yields and the reduction in soil moisture may alter suitable areas for agriculture or the production of specific crops. Increased heat and water scarcity conditions are likely to increase evapotranspiration, expected to further contribute to crop failure and overall yield reductions[54].

The impacts of these climate change trends are extensive, leading to widespread food insecurity, water scarcity, environmental degradation, population displacement, and conflicts. The Ethiopian government is taking measures to address these challenges, with a focus on climate-resilient agriculture, sustainable land management practices, and building resilience to extreme weather events. Despite these efforts, ongoing and severe climate change impacts pose significant obstacles to sustainable development and livelihoods in the country.

The general trend in climate-related dynamics and first order linkages between climate and food security in Ethiopia, with a focus on core climate variables combined with future climate model based projections was conducted with proposed adaptation responses[55] and summarized in **table 3 below**.

[52] *Ministry of Environment and Forest (2015). Ethiopia's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC). The Federal Democratic Republic of Ethiopia. URL: https://unfccc.int/resource/docs/natc/ethnc2.pdf*
[53] *World Bank (2020). Climate vulnerability analysis for Resilient Landscape and Livelihoods Project (RLLP) major watersheds. Ethiopia Country Program.*
[54] *Ministry of Environment and Forest (2015). Ethiopia's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC). The Federal Democratic Republic of Ethiopia. URL: https://unfccc.int/resource/docs/natc/ethnc2.pdf*
[55] *USAID (2015). Climate variability and climate change in Ethiopia*

Table 3 General trends in climate-related dynamics, including potential adaptation responses

HAZARD	OBSERVED TRENDS	TRENDS PROJECTED	IMPACTS (PRODUCTION, WATER AVAILABILITY, ACCESS)	POTENTIAL ADAPTATION RESPONSES
Higher Temperatures	• Mean average temperature increase of 1.3°C – most rapidly increasing between July and September	• Mean annual temperature is projected to increase by 1.1 to 3.1°C by the 2060s	• Reduced soil moisture availability • Reduced water availability. • Reduced water quality • Changes to timing and • distribution of agricultural pests.	• Integrated climate smart practices including green manure • Improved water resource management from larger springs, deep hand dug wells and boreholes • Improved water quality surveillance particularly during the peak of the dry season in areas with shallow wells and unimproved water sources • Surveillance systems that include pest monitoring during critical periods
	• Increased frequency of hot days (increased by 73 (an additional 20 percent of days)	• Increased number hot days will occur on 19 -40 percent of days by the 2060s, especially July- • September		
Changes in Rainfall Patterns	Rainfall patterns increasingly more erratic, with decreased reliability and failure of belg rains	Continued erratic patterns	Decreased reliability of unimproved groundwater sources and surface water during droughts or a prolonged dry season is likely	• Water mapping – targeting drought proofing measures such as well deepening and rehabilitation of water supply. • Assuring routine maintenance of pumps
			Reduced Crop productivity or failure	• Introducing programs/projects that promote improved farming practices, drought-resistant and early maturing crop varieties, and supply inputs that increase crop yield and productivity Improving farmers' knowledge about proper use of weather information in carrying out agricultural activities to avoid risks of climate change • Introducing/supporting off farm or non-agricultural alternative livelihood activities
	Changes in timing and intensity of rainfall patterns		Potential for new ecological niches for plant pests and diseases.	• Improved understanding of potential pest risks and developing appropriate and timely response measures

Drought			Reduced agricultural output or crop damage.	• Early warning systems to properly respond to risks • Improving farmers' knowledge about proper use of weather information in carrying out agricultural activities to avoid risks of climate change • Livelihood diversification • introducing/supporting offfarm activities to increase alternative household income sources

2. Project Context

Ethiopia is constitutionally structured as a federation consisting of nine regional states based on ethnicity, along with two chartered cities. These Ethiopian regions are further subdivided into 68 or more zones, which, in turn, are composed of districts referred to as Woredas. Each Woreda is comprised of wards (kebele) or neighbourhood associations, representing the smallest units of local governance in Ethiopia. The focus of this initiative is at the kebele level, specifically targeting six particularly vulnerable woredas across six regions. Within each of these woredas, the project will be implemented in two to four of the most vulnerable kebeles.

#	Region	Woreda	Kebeles targeted
1	Oromia	Tullo	Burka Jelala, Oda Kebena, Efa Bas, Hunde Lafto
2	Amhara	Mida Weremo	Tegora, Dengore, A/Bayne
3	Tigray	Sewha Saese	Saesie, Koma Subuha
4	Afar	Awash Fentale	Kebena, Dudub
5	Somali	Shabelay	Wooble, Biyo-Cade
6	Central Ethiopia	Fofa	Semo Awasho, Upper Kesheli

These woredas were selected based on their susceptibility to climate-related risks, such as increased rainfall variability and heightened instances of drought, flood and fire. Their vulnerability to climate change, characterized by limited income diversification, crop and livestock breed variations including lack of small ruminants that can better cope to the effects of climate shocks, but also their lack to adapt to climate change, considering factors like water availability and proximity to markets, also influenced the selection. The kebeles targeted in this initiative were chosen in consultation with stakeholders from the respective regions and woredas, considering diverse agro-ecological conditions, market accessibility, and the degree of vulnerability to drought.

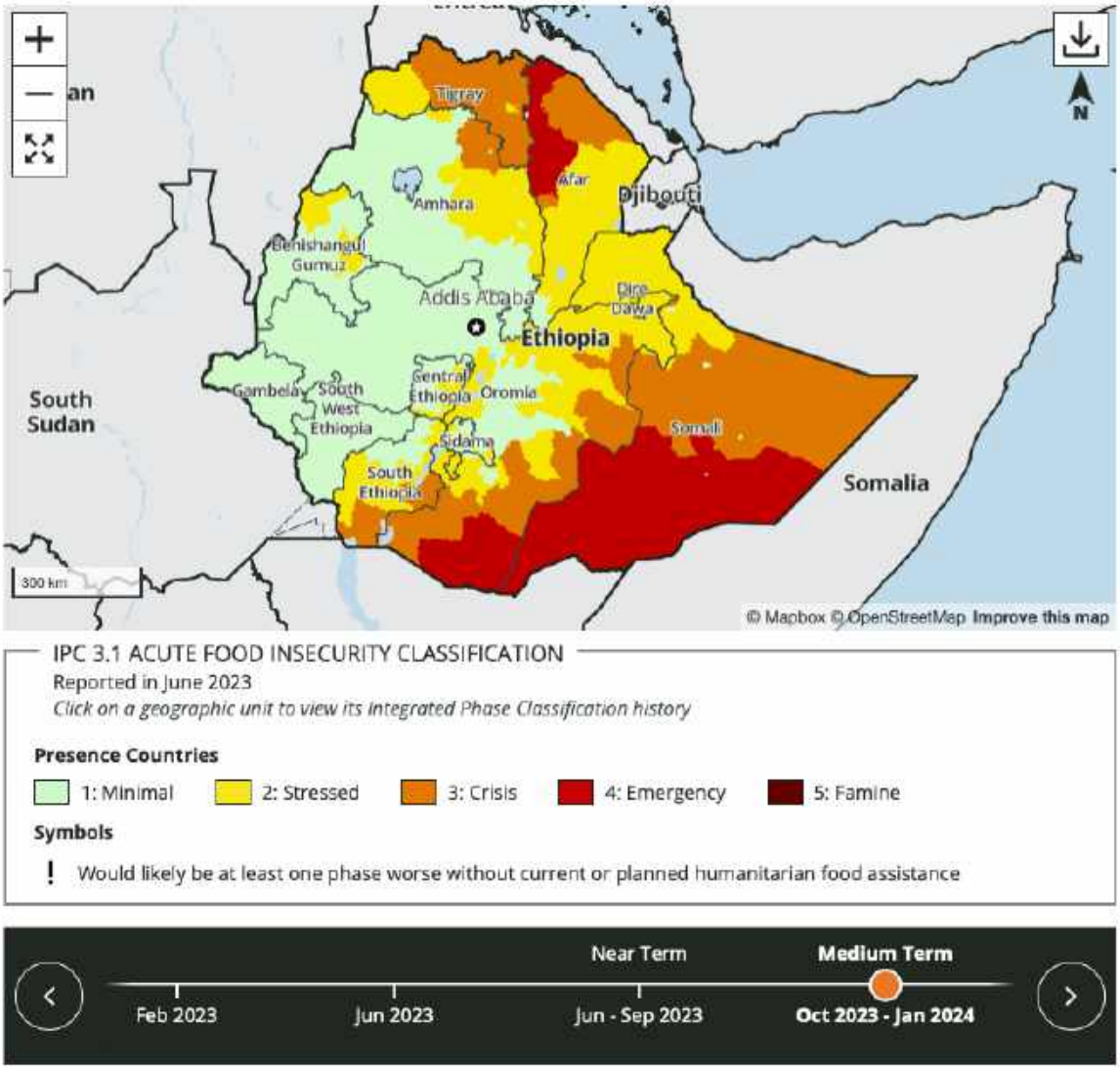
Furthermore, the selection process ensured that the chosen woredas and kebeles were not already covered by existing support programs. The proposal places significant emphasis on assessment and learning to ensure that insights are documented and applied for scaling up and informing future initiatives.

Socio-economic data for the five respective Woredas and five proposed Kebeles (except for Somali region) has been collected prior to identifying the Kebeles that have been the most impacted by the effects of climate change and targeted for this projects intervention.

2.1 Hotspot Woredas

Utilizing the Woreda hotspot classification exercise conducted at the regional level in January 2021 (following spot-checks and desk review post Meher/Dyer/Hagaya season) and incorporating input from the Federal Review Team in February 2021, the results indicated that as of January 2021, there were 305 Woredas classified as priority one, 178 as priority two, and 110 as priority three (refer to Figure 1). In total, 593 Woredas were categorized with a first, second, or third level of priority, constituting 55.6 percent of the 1067 Woredas nationwide.

Figure 13 Ethiopia Acute Food Insecurity (October 2023 - January 2024) projected outcome



***Famine Early Warning Systems Network (FEWS-Net)**

In comparing the Woreda classifications between January 2021 and July 2020, notable changes were observed. Priority one Woredas increased from 235 to 305, while priority two and three Woredas decreased from 183 to 178, and from 121 to 110 respectively. This significant increase is attributed to several factors, including the creation of new priority one Woredas, particularly in the Tigray Region (with more than 50 new Woredas), the impact of law enforcement operations in Tigray, a heightened number of internally displaced persons (IDPs) in Benishangul Gumuz and Amhara Regions, rain failures during Dyre and Hagaya seasons in pastoralist areas (such as in Oromia, SNNPR, and Somali Regions), the influence of COVID-19 on market conditions, and the adverse impact of desert locusts on crops and pasture during the meher season.

2.2 GNI index and Poverty

According to the World Bank report[56], between 2010/2011 and 2015/2016, Ethiopia witnessed substantial progress in reducing poverty, as the percentage of the population below the national poverty line decreased from 30 percent to 24 percent. Notably, urban areas experienced a rapid decline in poverty, with average per capita consumption growing by approximately 6 percent annually—three

[56] *Poverty & Equity Brief Ethiopia Africa Eastern & Southern, April 2023, World Bank*

times higher than the growth observed in rural areas, where the poorest 20 percent saw no improvement. Despite a relatively low Gini index of 35 in 2016, inequality increased due to diverging welfare trends between urban and rural regions.

The accumulation of human capital remained low, particularly in rural areas, where half of the adults had never attended school by 2021. In 2019, around 37 percent of children under five years old were stunted. Peripheral areas, such as the drought-prone lowlands in the Somali and Afar regions and the lowland areas of Oromiya and SNNP (Southern Nations, Nationalities, and Peoples), exhibited high monetary poverty rates, exacerbated by prolonged drought and lagging in various non-monetary indicators.

Recent employment and Gross Domestic Product (GDP) growth data indicate a more challenging environment for poverty reduction due to recent significant shocks. Although growth averaged 7.7 percent annually, it has decelerated in recent years, with the agricultural sector, employing nearly two-thirds of the workforce, growing slower than other sectors. Labor market conditions have worsened, with a 12 percentage point decline in labor force participation and unemployment rising from 5 to 9 percent between 2013 and 2021. Conflict and drought shocks were linked to a 22 percent reduction in consumption expenditure in pastoral areas and a 14 percent reduction in drought-affected areas.

Factors such as drought, conflict, repercussions from the war in Ukraine, and escalating food prices have heightened household vulnerability, posing a threat to the previously achieved gains in poverty reduction.

In 2015/16, the distribution of overall poverty across Ethiopian regions reveals the highest poverty incidence in Tigray (27 percent), followed by Beneshangul Gumuz (26.5 percent) and Amhara (26.1 percent). Conversely, Harari (7.1 percent), Dire Dawa (15.4 percent), and Addis Ababa (16.8 percent) reported the lowest poverty estimates. Examining food poverty, Tigray again records the highest rate (32.9 percent), trailed by Amhara (31.3 percent) and Afar (28.3 percent). Harari (6.3 percent), Dire Dawa (12.2 percent), and Gambela (17.2 percent) exhibit the lowest levels of food poverty. Oromia, with over one-third of Ethiopia's impoverished population in 2004/05 (specifically 36 percent), has the highest number of poor individuals. Additionally, significant numbers of impoverished individuals are found in Amhara (5.3 million) and SNNP, Central Ethiopia (3.1 million) in 2015/16. Despite notable progress over the past two decades, the overall poverty level in Ethiopia remains unacceptably high. (Federal Democratic Republic of Ethiopia: FDRE, Citation 2018).

2.3 Female Headed household and poverty

The gender of the household head is represented as a categorical variable, where zero signifies females and one indicates otherwise. In most Ethiopian rural households, the household head is typically male, unless the male head passes away or becomes incapacitated due to old age. Reports[57] contend that cultural and societal norms prevalent in rural areas often exert significant adverse effects on the nutritional well-being of women and children, rendering them vulnerable social groups. Notably, having a female household head is associated with a higher likelihood of poverty[58]. This association reflects the limited empowerment of females concerning valuable assets, such as land, in rural Ethiopia. Female farm managers in Ethiopia are reported to be 23 percent less productive than their male counterparts, attributed to factors such as less time allocated to farm work and cultivation of smaller plots, a significant

[57] *Workneh, N. (2008). Food security and productive safety net program in Ethiopia. In T. Assefa (Ed.), Digest of Ethiopia's national policies, strategies, and programs (pp. 1–22). Forum for Social Studies.*
[58] *Kebede & Sharma, Citation 2014; Teka et al., Citation 2019; Tsehay & Bauer, Citation 2012.*

portion of which is rented[59]. Female-headed households, particularly in rural Ethiopian areas, is therefore expected to have lower consumption levels.

2.4 Food Insecurity

Larger household size, lower level of educational attainment of the household head, and increase in the age of the household head are significantly associated with household food insecurity. Amhara Region shows the highest percentage of food insecure households (36.1 percent), followed by Afar (26.1 percent) and Tigray (24.7 percent). Nearly 22.7 percent of rural households and 13.9 percent of urban households are food insecure. Overall, rural households are more food insecure than urban households according to all indicators except calorie deficiency.

One in four (24.8 percent) households in Ethiopia fall under food poverty line, suggesting that they are unable to meet the recommended daily calorie requirements. Food poverty also remains substantially higher in rural Ethiopia (27.1 percent) as compared to urban Ethiopia (15.2 percent). Regionally, Addis Ababa, Harari, Tigray, and Dire Dawa, have the lowest percentage of households in the poorest quintile of wealth index. While pastoralist and agro- pastoralist regions, Somali and Afar, have the highest percentage of households in the poorest quintiles.

One in four (24.8 percent) households in Ethiopia fall under food poverty line, suggesting that they are unable to meet the recommended daily calorie requirements[60]. Food poverty also remains substantially higher in rural Ethiopia (27.1 percent) as compared to urban Ethiopia (15.2 percent). Regionally, Addis Ababa, Harari, Tigray, and Dire Dawa, have the lowest percentage of households in the poorest quintile of wealth index. While pastoralist and agro- pastoralist regions, Somali and Afar, have the highest percentage of households in the poorest quintiles.

The highest proportion of households report food shortages in July. Crop failure is a major after climate shock with 7 percent of households reporting that they had faced shocks during the last 12 months prior to the date of data collection, followed by a reduced income of households (3.5 percent). Of the 10.4 percent of households that reported that they had faced a food shortage during the last 12 months, approximately 76 percent had a shortage for one to four months. One in two households (52 percent) reported that their food shortage lasted two to three months while one in five households reported they experienced food shortage for five to eight months.

2.5 Baseline of the targeted Woreda's and Kebeles

2.5.1 Amhara Region

The Amhara region is situated in the northwestern and north central part of Ethiopia. It is one of the four largest regions, with a population of 21.1 million. 84replace of the population live in rural areas and are engaged in agriculture (UNICEF, 2018). Crops that are grown in the region include teff, barely, wheat, oil seeds, sorghum, maize, oats, beans, and peas (UNICEF, 2019a). Large number of livestock, 8,314,200 (27.9 percent of the national total) is found in the region. The region has various water resources, including Lake Tana, and several rivers that provide great potential for irrigation development (UNICEF, 2019a).

Although there has been consistent decline in monetary poverty, largely due to agricultural growth and benefits from program such as the Productive Safety Net, there is still a lot to be done to meet the SDG targets for the region. Over one-quarter (26 percent) of the population live below the national poverty

[59] *World Bank. (2015). Ethiopia poverty assessment overview. Poverty Global Practice Africa Region*
[60] *Comprehensive Food Security and Vulnerability Analysis World Food Program and Central Statistics Agency report published in 2019*

line (the SDG target being 13 percent) and almost one-third (31 percent) live below the food poverty line (SDG target 16 percent).

The climate in Amhara region is affected significantly by changes and weather variations: farmers face droughts, frost, hailstorms, flooding, and landslides. Localized flooding of fields by rainfall run-off is a frequent problem. It was estimated that more than 100,000 people were at risk of flooding and more than 25,000 people were likely displaced in 2018 (UNICEF, 2019a).

According to the 2016 Ethiopia Demographic and Health Survey (EDHS), 64 percent of households use improved drinking water sources in the region, with only about 17 percent of water sources being piped. The Ethiopia Socioeconomic Survey (ESS) 2017 shows that 37 percent of households spend 30 minutes or more reaching the nearest water source, fetching water, and returning to their dwelling. As in other parts of the country, women and girls are mainly responsible for fetching water. The availability and sufficiency of drinking water is 82 percent and 75 percent, respectively.
In terms of gender issues, as in most other regions of Ethiopia, Amhara women and girls are traditionally labelled as nurturers and caregivers; thus, childcare responsibilities often fall exclusively on them. 83 percent of first marriages are decided by parents and 64 percent of women stop attending school after marriage, with the main reason being that they are too busy with family life (UNICEF, 2019a). Moreover, Amhara women are often denied their share of inheritance when their parents or husbands die. It is also common for women to be excluded from decisions on common property in marriage and to be denied their due share during a divorce (UNICEF, 2019a). Gender-based violence is high in Amhara region, with women aged 15-49 reporting psychological (26 percent), physical (22 percent) and sexual (10 percent) violence. Further, 65 percent of women and 46 percent of men believe that a husband is justified in hitting or beating his wife in various circumstances (UNICEF, 2019a). A study on gender mainstreaming in selected sectors in the Amhara region shows that, despite the existence of legal and policy frameworks, in practice gender mainstreaming is not being implemented. It is also not taken into consideration in the region's plans, implementation, monitoring and evaluation and budgeting. Therefore, more work is needed to see changes on the ground (Bishaw, A., 2015).

Amhara Region: Mida Weremo Woreda

The target woreda in Amhara region, Mida Weremo, has a total population of 119,985 (F= 60,381; M= 59,604). Literacy in the woreda is low, 18 percent for men and 5 percent for women. Current school enrolment for boys is 75 percent and only 39 percent for female mainly because of early marriage, household responsibilities and gender-based violence.

Three kebeles in the Woreda, namely Tegora, Dengore, and A/Bayne are selected for this project. The kebeles have a total area of 12,348 ha. The total population of these kebeles is 13,518 (F=6,631; M=6,887). There are 871 female headed households (FHHs) and 2,127 male headed households (MHHs) in the kebeles.

In the past five years, the kebeles have been affected by drought and 5,671 people are being provided with support. There is shortage of clean drinking water sources in the kebeles and only 30 percent of the total population in Tegora and Dengore kebeles and 38 percent in A/Bayne have access to clean water. The sources of water available include river, spring and hand dug wells. On average women and girls walk for 3 kms each day and spend 3 hours/day to collect water. Women and girls are exposed to gender-based violence while they travel to fetch water. They are also more exposed to water borne diseases. A total of 130.5 ha land is under small irrigation and 592 MHHs and 80 FHH benefit from these schemes currently.

The day-to day tasks of women and girls include household tasks such as cleaning, fetching water, collecting firewood, cooking, taking care of children and washing clothes, and farm-based tasks such

as weeding, harvesting and livestock management. On the other hand, men and boys are responsible for farm-based tasks such as livestock herding, land clearing, ploughing, harvesting and post-harvest chores as well as community involvement.
Some alternative livelihoods are already carried out in the kebeles with women mostly focusing on poultry production, vegetable and herbs gardens and petty trade while men focus on weaving, livestock fattening, plantation of woodlots, crafts as well as sand and stone mining. People with disability are also involved in petty trades, cattle keeping and metal works.
The climate risk awareness of the communities in the kebeles is indicated as medium for men and low for women and youth. Some of the climate adaptation and mitigation works underway in the kebeles include physical and biological soil and water conservation measures, use of improved crop varieties, preparation of compost, planting along the contour and agroforestry, water management and small-scale irrigation.

2.5.2 Central Ethiopia Region

The Central Ethiopia Regional State was formed in August 2023 after a referendum. It was from the previous northern part of the Southern Nations, Nationalities and Peoples' (SNNP) Region. The new region comprises East Gurage Zone, Gurage Zone, Hadiya Zone, Halaba Zone, Kembata Zone, Silte Zone, Yem Zone, Kebena special woreda, Mareko Special woreda and Tembaro special woreda. As the region is quite new, information in this section is for the wider SNNP regional state.

SNNP Region is in the southwestern part of Ethiopia. It has an estimated population of 20 million people with 14 percent under 5 years of age and 47 percent less than 17 years of age. The average household size is 5.2. The fertility rate is decreasing and is 4.4 for women aged 15-49 (UNICEF, 2019c). About 83 percent of the population live in rural areas and are mostly farmers, even though there are agro-pastoralists and pastoralists communities in the region (UNICEF, 2019c).

With about 65 percent of the region being mountainous and above 1,500m elevation and the rest lowland with grass and bush, the region has diverse climate, topography, and ecology. The lowest-lying areas are found the southern part of the region where pastoralists reside due to little rainfall. The higher elevations on the other hand receive adequate rainfall and crop production is possible. Climatic shocks such as high temperature and rainfall, prolonged droughts and intense floods are projected for the coming decades. The high population growth and density coupled with other factors such as competition for land, migration of the youth, poverty, poor infrastructure, degraded environment, lack of farming technology and low level of education makes it harder for communities to cope with climatic shocks. Women and girls face greater risks, burdens and impacts of climatic shocks as they exacerbate already existing gender inequalities (UNICEF, 2019c).

The region has consistently reduced monetary poverty in the past several years despite frequent shocks. People living under the national poverty line are 10.4 percent, while those living below the food poverty line are 12.3 percent. As in most of the other regions, rural monetary poverty (22 percent) is higher than urban poverty (14 percent) (UNICEF, 2019c).

There has also been progress in maternal health indicators with the rate of mothers receiving antenatal care from a health provider had reached 69 percent in 2019 from 27 percent in 2011. Child delivery in health facility has also reached 48 percent in 2019 which is equal to the national average. However, the quality and coverage of maternal, new-born and child health services remain low (UNICEF, 2019c).

The Ethiopia Demographic and Health Survey (EDHS) (2016) indicate 59 percent of households use improved drinking water sources with 84 percent availability and 81 percent sufficiency. However, pastoralists in the region still depend on unprotected water sources like river water. The average time

to collect water is more than 30 minutes for 36 percent of households in the region. This affects mostly women and girls as they are mainly responsible to collect water for their households (UNICEF, 2019c).

According to the EDHS 2016 the median age of first marriage in the region is 18.2 years for women aged 20-49 years. Even though this is considerable high and above the national average, a significant progress is seen for those aged 20-24 with a decline from 62 percent in 1991 to 31 percent in 2016. Even though female genital mutilation is decreasing among the younger generation, it is still of high concern in the region with a prevalence rate of 62 percent among women aged 15-47 (UNICEF, 2019c).

Like most part of the country men in the region hold power in private and public life. The social system has rooted gender stereotypes where women and girls are expected to focus in the domestic sphere which is considered inferior (UNICEF, 2019c).

Central Ethiopia: Fofa Woreda

The target woreda in Central Ethiopia region, Fofa, has a total population of 49,889 (F= 28,568; M= 21,321). Two kebeles, Semo Awasho and Upper Kesheli are selected for this project. The kebeles have a total area of 2,476.48 ha. The total population of these kebeles is 6,251 (F=3,544; M=2,707). There are 224 FHHs and 950 MHHs in the kebeles.

In the past five years, the kebeles have been affected by flood, landslide, and fire and 133 people are being provided with support. There is shortage of clean drinking water sources and only 33 percent and 67 percent of the total population in Semo Awasho and Upper Kesheli have access to clean water, respectively. The sources of water available include piped, deep wells and springs. Giardia, typhus and amoeba are major health challenges faced as a result of water insecurity. On average women and girls walk for 2.2 and 1.3 kms each day and spend 2.3, and 1.3 hours/day to collect water in Semo Awasho and Upper Kesheli, respectively. A total of 27.9 ha land is under small irrigation and 401 MHHs and 101 FHH benefit from these schemes.

Women and girls are mostly engaged in water and firewood collection, over all household chores as well as farm management including harvesting while men and boys are involved in farming and livestock husbandry. Boys also help in wood collection. Women and girls have heavy load as they are responsible for the household. As a result, girls have very limited time to be actively engaged in their education. On the other hand, boys are tied with field work and many face the challenge of unemployment.

Some alternative livelihood activities in the kebeles include vegetable and herbs gardens and crafts for men and girls and weaving and petty trades for men and boys. People with disability are engaged in crafts, poultry management and children management. The estimated level of education in the kebeles are: 40 percent for women, 60 percent for men, 75 percent for girls and 85 percent for boys.

The climate risk awareness is indicated as high for men, medium for women and low for the youth. Some climate adaptation and mitigation activities in the kebeles include biological and physical soil and water conservation practices and plantation of indigenous trees.

2.5.3 Oromia Region

Oromia is the largest region in Ethiopia, occupying approximately 34 percent of the land area and accounting for 37 percent of the population. The total population is over 37 million. Under-18s account for 54 percent of the population (CSA, 2017b). The fertility rate in Oromia is higher than the national average, with a total fertility rate of 5.4 compared to the national rate of 4.6 (CSA, 2016). The average household is also large, at 5.2 people per household compared to the national average of 4.8 people per household (CSA, 2017c).

Oromia has a diverse range of agro-ecological zones. Sedentary rain-fed agriculture and livestock production dominates in the highland areas while the lowlands are characterized by pastoralist communities who depend on livestock production (UNICEF, 2019b). The region is divided into 20 administrative zones, with 84 percent of the population living in rural areas (CSA, 2019). Oromia has experienced high and sustainable economic growth, due primarily to growth in the agricultural sector; however, there are limited off-farm job opportunities in the region, especially for youth (UNICEF, 2019b).

Strong agricultural growth, positive results from the Productive Safety Net Program (PSNP), and implementation of pro-poor economic and social development policies and strategies have all contributed to an increased per capita income in the region (World Bank, 2015). The region succeeded in achieving a 16 percent decline in monetary poverty between 2004/05 and 2015/16 (FDRE, 2017). A poverty analysis study in 2015/16 found that the poverty headcount ratio in Oromia was 23.9 percent, just above the national average of 23.5 percent (FDRE, 2017).

Oromia region has the most repeated beneficiaries of relief food in Ethiopia, especially between 2016 and 2018 due to extreme droughts (UNOCHA, 2019). In 2022, the region had 792,686 internally displaced persons due to conflicts and climatic shocks (IOM, 2022). The proportion of pregnant women who gave birth in the five years and who received antenatal care from a skilled health provider during their pregnancy is 71percent, the fourth lowest rate in Ethiopia. Only 44 percent of births are assisted by a skilled attendant (doctor or midwife) and 56 percent of women give birth without any assistance during delivery.

There is high prevalence of malnutrition, with serious implications for social and economic development. In Oromia, 28 percent of child deaths are associated with under-nutrition (CSA, 2016), with 36 percent of children under 5 stunted, 5 percent wasted and 16 percent underweight (EPHI, 2019). Stunting is associated with low socio-economic status and mothers' educational attainment: the children of mothers with no education are more than two times more likely to be stunted than those whose mothers have completed secondary or higher education (EPHI, 2019).
The gross enrolment ratio (GER) and the net enrolment ratio (NER) for pre-primary education in Oromia are low (29.4 percent and 16.4 percent, respectively) and far below the national average of 40.7 percent and 23.9 percent, respectively. Only 46 percent of students complete the first cycle of primary education (grade 4) and the dropout rate in primary schools is 20 percent, higher than the national average of 17.5 percent. Some of the reasons for high dropout rates and grade repetition include demand for child labor by rural households, child marriage, abduction of girls, long distances to schools, internal migration due to climate change, drought, and conflicts (MoE, 2018).

About 17 percent of water sources in Oromia are piped and 63 percent of households use improved drinking water sources, marginally fewer than the national average of 65 percent (CSA, 2016). 28 percent of households spend more than 30 minutes bringing water to their houses compared with the national average of 32 percent - reflecting progress in water infrastructure and the availability of water sources. As elsewhere in the country, women and girls are mostly responsible for fetching water (UNICEF, 2017a).

Lack of water supply and proper facilities, as well as hygiene products in schools, are major challenges for girls, leading to girls missing (and some even dropping out of) school due to menstruation. 90 percent of schools never have water available and 100 percent of schools never have soap available. There is a clear need for a gender-inclusive approach to improving water supply, sanitation and hygiene infrastructure in schools, in order to address school absenteeism, performance and completion (UNICEF, 2017b).

Dependency on land and weather for agricultural and livestock production is a key vulnerability for many households in Oromia (World bank, 2015). Climatic shocks contribute to increased internal conflicts because of trans-boundary competition over resources, such as grazing land, arable land, and water (UNICEF, 2014).

There was an increase in the average median age of marriage in Oromia between 2000 and 2011; however, progress has since stagnated and currently stands at 17.4 years. There has also been a decline in child marriage rates, from 58 percent in 1991 to 48 percent in 2016 – but still well above the national average of 40 percent (CSA, 2016).

In coming decades, rising temperatures, extraordinary rainfall events and more intense and prolonged droughts and floods are projected (World Bank, 2010). The high prevalence of poverty, high rates of malnutrition, high population growth and low climate adaptive capacities increase vulnerability to climate change (World Bank, 2010). Women and girls experience greater risks, burdens, and impacts of climate change, as emergencies exacerbate existing gender inequalities (CEDAW, 2018). During climate change-induced emergencies, formal and informal protection mechanisms break down and human rights abuses increase, resulting in increased gender-based violence that affects women and girls disproportionately (UNICEF, 2019b).

As in most other regions of Ethiopia, Oromia Regional State has a patriarchal society in which men hold primary power in private and public life. Women and girls have traditionally performed their roles in the domestic sphere, and these activities are often considered inferior. Women and girls are labelled nurturers and care givers, with the result that childcare responsibilities often fall exclusively on them (UNICEF, 2019b).

In line with the national average, in Oromia 35 percent of women (aged 15-49) decide for themselves to marry, while parents make the decision for 61 percent (CSA, 2016).

Oromia Region: Tullo Woreda

The target woreda in Oromia region, Tullo, has a total population of 200,656 (F= 97,920; M= 102,736). Four kebeles, Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto are selected for this project. The kebeles have a total area of 5,132 ha. The total population of these kebeles is 24,013 (F=11,747; M=12,266). There are 878 FHHs and 4,126 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and flood and 5,477 people are being provided with support. There is shortage of clean drinking water sources and only 16 percent, 44 percent,39 percent, and 41.5 percent of the total population in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto have access to clean water, respectively. The sources of water available include river, spring and wells in Burka Jelala and spring in the rest of the kebeles. It is indicated that diarrhea, giardia, and worm related diseases are common in the Kebeles as a result of water insecurity. On average women and girls walk for 2.5, 2, 1.8 and 2.7 kms each day and spend 2.3, 2, 2, and 3 hours/day to collect water in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto, respectively. A total of 267 ha land is under small irrigation and 600 MHHs and 76 FHH benefit from these schemes.

In the household women and girls are responsible mainly for cooking, water collection, childcare, goat/sheep herding, cattle herding, poultry production, firewood collection, other household chores, petty trade, and collection of animal dung, vegetable production, livestock feeding, weeding, goat rearing. Men and boys on the other hand are responsible for farming, land clearing, petty trade, work as daily labour, oxen fattening, livestock production.

The major challenges faced by the communities include lack of fuel wood due to deforestation, access to potable water, lack of livestock feed, distance to fetch water, and access to market, soil erosion, shortage of cultivable land, lack of irrigation water, lack of improved seeds, erratic rain fall due to climate change and deforestation, over grazing, lack of improved fodders, and lack of improved breeds of livestock. The climate risk level of awareness in the selected kebeles are indicated as medium for men and youth while it low for women.

2.5.4 Somali Region

The Somali regional state is in the east and southeast part of Ethiopia. It is about 350,000 square kilometre and is the second largest region in the country after Oromia in terms of land mass. The total population is about six million with 16 percent under-five years of age and 64 percent between 0-19 years of age. The fertility rate was 7.2 in 2016 and is the highest in the country. Most of the population are pastoralists, followed by agro-pastoralists; very few are sedentary riverine farmers and urban-based households. Sources of income include livestock and livestock product sales, crop sales, petty trade, firewood and charcoal sales and remittances from family members abroad (UNICEF, 2019).

The region is among the four regions in the country that are identified as Developing Regional States due to high poverty prevalence and social indicators are lagging-behind the national averages. People living below the national poverty line are 22.4 percent in 2016 while those living below the food poverty line were 25.5 percent. It is the only region where rate of urban people in poverty (23 percent) is higher than that of rural people (22 percent) and urban food poverty (29 percent) is also higher than rural food poverty (23 percent) (UNICEF, 2019).

Somali region has high rates of malnutrition of children under the age of five; the region is faced with chronic food insecurity. The region has shown improvements in health infrastructure including mobile health and nutrition teams; however most maternal indicators are still below the national averages. Mothers who received antenatal care during their pregnancy from a health professional was 30.2 percent and those who delivered in a health facility were 26 percent and only 10 percent received postnatal care within 48 hours in 2019 (UNICEF, 2019). Not much progress is seen in reducing the neonatal mortality rate, in 2016 41 deaths were recorded per 1,000 births.

Water is a scarce resource in the region, it has the lowest percentage (42 percent) of households accessing improved drinking water in the country. Except for four riverine zones, the main source of water supply is ground water. Breakdown of borehole-based water supply systems is common further complicating the water challenges the communities face. Since less than 20 percent of households report men as primary water collectors, the shortage as well as distance to access water has a gender dimension (UNICEF, 2019).

Even though child marriage has improved in the region, the percent of women ages 20-24 years who married before age 18 was 50 percent in 2016, indicating there is still a long way to go (UNICEF, 2019). The female genital mutilation is the highest in the country among women aged 15-49 at 99 percent (UNICEF, 2019).

The Somali region is arid and semi-arid in the lower-lying areas, receiving 300 millimetres or less of rain while it gets more rainfall (400 – 600 millimetres) in the higher altitude areas. The regions have few rivers where agricultural crop production is possible. The communities face water deficits for both human and livestock consumption. The pastoralists systems which have flexibility and mobility as well as changing of herd composition has allowed the community to cope harsh challenges. However, a combination of different factors including population growth, environmental degradation and climate change affect the resource availability including pasture and water (UNICEF, 2019).

The 2016 EDHS shows that 68 percent of women aged 15-49 decided themselves on their first marriage while for the remaining 32 percent decision was made by their parents. This is a high rate of independence in making decision compared to the rest of the country. 53 percent indicated that they stop attending school after marriage mainly due to the high demand of family life followed by refusal of husbands to their continued education. Most girls are married before age 18 and almost none of them (1.4 percent) use modern contraceptive methods (UNICEF, 2019).

Of those women currently married and aged 15-49, 29 percent are in a polygynous union. Women however are not entitled to inheritance when parents or partners die or in divorce. They are also excluded from decision making in the household. On the other hand, only 12 percent of households receive some involvement from their husbands in household chores (UNICEF, 2019).

Somali women and girls experience greater risks, burden, and impact due to climate change as emergencies exacerbate existing gender inequalities (UNICEF, 2019)

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Somali region, like Afar, has not yet outlawed child marriage (Presler-Marshall, E. et al, 2022). 55 percent of girls aged 20-24 had married before the age of 18 (Presler-Marshall, E. et al, 2022). Girls however indicate that they choose their partners. Only 20 percent of sexually active young women use contraception. The region has one of the highest (18.7 percent) of adolescent motherhood in the country (Presler-Marshall, E. et al, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. et al, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. et al, 2022). Nationally it is reported that 20 percent of children aged 7-14 are out of school but in Somali it is 54 percent. Due to cultural factors girls have less access to education with enrolment rates being 23 percent for boys and 16 percent for girls Presler-Marshall, E. et al, 2022).

Somali Region: Shabelay Woreda

The target woreda in Somali region, Shabelay, has a total population of 343,850 (F= 168,718; M= 175,132). Two kebeles, Wooble and Biyo-Cade are selected for this project. The kebeles have a total area of 4,821 ha. The total population of these kebeles is 30,139 (F=13,550; M=16,589). There are 1,931 FHHs and 2,484 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and 3,292 people are being provided with support. There is shortage of clean drinking water sources and only 19 percent and 10 percent of the total population in Wooble and Biyo-Cade have access to clean water, respectively. The sources of water available include deep wells, seasonal rivers, springs, and rainwater harvesting. On average women walk for 3 and 2 kms each day and spend 2, and 1.3 hours/day to collect water in Wooble and Biyo-Cade, respectively. A total of 2,467 ha land is under small irrigation and 3,563 MHHs and 1,216 FHH benefit from these schemes.

In the kebeles women are mostly responsible for household chores including water and firewood collection and the girls held me cleaning houses, cooking, and firewood collection. Women and girls

also work in the farm mostly weeding. Men are responsible for farming and livestock management while boys are encouraged to focus on education. Women and girls are the least educated in the kebeles.

2.5.5 Tigray Region

Tigray region is in the dry lands of northern part of Ethiopia with an estimated population of 5.4 million people. In 2018, Tigray had a higher percentage (34 percent) of female headed household compared to the national rate (25 percent). Though three out of four live in rural area and depend on agriculture, urbanization has increasingly become a priority with an annual rate of 4.6 percent (UNICEF, 2019).

Even though the region has demonstrated impressive agricultural growth and pro-poor spending on basic services and social protection, the region still had the highest monetary poverty in the country in 2016. 13.5 percent of people live under the national poverty line and 16.5 percent live below the food poverty line. Women are more likely to live in poverty than men with 43 percent and 24 percent of women living in monetary and food poverty as compared to 22 percent and 11 percent of men, respectively (UNICEF, 2019).

The region has progressed in several child and maternal health and nutrition indicators. In antenatal care the region has performed much better than the national average. This is stated to be due to a high regional priority given to maternal mortality (UNICEF, 2019).

72.1 percent of households in the region use improved drinking water sources, which is the largest share of all regions and above the national average of 66 percent. However, still one third of households are located more than 30 minutes away from water sources. Like in other parts of the country the responsibility of fetching water fell on women and girls (UNICEF, 2019).

There is still high level of sexual harassment and violence in the region. 65 percent of women believe a husband is justified in beating his wife while 31 percent men share the same opinion. Improvement is seen in early marriage in the region which was 43 percent in 2016. Female genital mutilation has also been decreasing in the region which is 24.2 percent and the lowest in the country (UNICEF, 2019).

The region is vulnerable to climate stress and is highly affected by environmental degradation. Drought, hailstorms, floods, and landslides put people at high environmental risk. In the lowlands and degraded highland areas of the region, minimum agricultural production and scarcity of drinkable water are high challenges. Extreme temperatures and intense rainfall and droughts are projected to be major environmental challenges in the region in the coming years (UNICEF, 2019).

In the region women and girls have limited mobility, fewer economic opportunities, and less decision-making power due to socio-cultural factors. There is inequality between men and women when it comes to ownership and decision making. While women participation in politics is increasing grassroots participation remains low (UNICEF, 2019).

A study done in parts of Tigray showed that the top climate-change related impacts that affect their livelihoods are drought (97 percent), flooding (76 percent), pests and disease (62 percent), and other hazards (39 percent). The impacts of climate-change were found to be more sever on female-headed households mainly due to their lack of resource access and control, lack of income and technology use and high dependence on natural resources. Some of the coping strategies identified in the area included water harvesting practices, soil and water conservation, irrigation, diversifying income sources and agricultural inputs and adjustment of planting dates and crop varieties (Assefa, E. and Gebrehiwot G., 2023).

Tigray Region: Sewha Saese Woreda

The target woreda in Tigray region, Sewha Saese, has a total population of 66,004 (F= 34,305; M= 31,699). Two kebeles, Saesie and Koma Subuha are selected for this project. The kebeles have a total area of 10,143.62 ha. The total population of these kebeles is 15,726 (F=8,141; M=7,585). FHH in the kebeles are slightly higher than MHH - 1,698 and 1,627, respectively. In the past five years, the kebeles have been affected by drought and 13,624 people are being provided with support. There is shortage of clean drinking water sources and only 38 percent and 25 percent of the total population in Saesie and Koma Subuha have access to clean water, respectively. The sources of water available include hand dug wells, DW, SHW and spring development. On average women walk for 5 kms each day and spend 3 hours/day to collect water. A total of 133.5 ha is under small irrigation and 1,090 MHH and 493 FHH benefit from these schemes.

2.5.6 Afar Region

The Afar region is in the north-eastern part of Ethiopia. It has an estimated population of about 1.9 million people (UNICEF 2019). The region is one of the regions in Ethiopia with poor reproductive health indicators with only 50.7 percent of women receiving antenatal care at least once (Desalegn, M. et al, 2020). The region has a high fertility rate of 5.5 in 2016 (UNICEF 2019). However about 84 percent of births occur at home without close supervision by a skilled provider (Desalegn, M. et al, 2020). The region has the highest rate of teenage childbearing and lowest proportion of women who would like to limit childbearing (Desalegn, M. et al, 2020). The median age of first marriage is 16.4 years of age. Pregnancy and childbirth complications are the leading cause of death in Afar women aged 15-19 years. The number of women aged 15-49 who have undergone some form of female genital mutilation is about 98 percent (Desalegn, M. et al, 2020). One in five women are in polygamous union with 11 percent men having two or more wives (Desalegn, M. et al, 2020).

In the region child marriage is not outlawed and seem to be increasing since 2000 (Presler-Marshall, E. etal, 2022). Marriages in the region are arranged and girls are married to their maternal cousins with no choice at all (Presler-Marshall, E. etal, 2022). Only 12 percent of sexually active young women use contraception and the region has the highest rate (23.4 percent) of adolescent motherhood in the country (Presler-Marshall, E. etal, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. etal, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. etal, 2022). Nationally it is reported that 20 percent of children aged 7-14 are out of school but in Afar it is 66 percent. Due to cultural factors girls have less access to education with enrolment rates being 11 percent for boys and 9 percent for girls Presler-Marshall, E. et al, 2022).

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Afar people are mostly pastoralist or agro-pastoralist and highly depend on livestock. Agro-pastoralism is increasing because of increased irrigation systems in the region and crops like sorghum, maize, barely, teff and cotton as well as honey production are among resources the community generates income from.

A decline in poverty has been recorded for afar in recent years, with a 32 percent decline between 2000 and 2016. People living below the national poverty line in 2015/16 were 24 percent while the people living below the food poverty line was 28.3 percent. Both Monetary and food poverty are worse in rural areas when compared to urban areas (FDRE, 2017)

According to the Mini-EDHS key indicator report of 2019 Afar has achieved many improvements in maternal health indicators, however, most of the rates are still under the national average (EDHS, 2019). Child malnutrition is a critical challenge in Afar with 43 percent prevalence rate of stunting. It is shown that 41 percent of children with mothers who has no education and 14 percent of children with mothers with higher education are stunted indicating mother's education has a role in child stunting (UNICEF, 2019). Girls who give birth at a younger age do not complete secondary school education limiting their life choices throughout the course of their lives (Desalegn, M. et al, 2020).

In the Afar region, access to good quality and quantity of food is at stake for women and girls as priority is given to men and boys (Balehey, S. et al, 2018). Women and girls eat what is left by husbands and sons. This becomes a critical challenge during drought where resources are scarce (Balehey, S. et al, 2018).

In Afar, women have limited access to wealth due to the traditional asset inheritance which does not entitle them to any kind of wealth including what they have earned and produced (Balehey, S. et al, 2018). Inequality in wealth starts at birth where female children are either totally excluded or at most receive only half of their male siblings. This inequality is also seen during divorce where women traditionally are not entitled to share any asset, while recent use of the Sharia laws entitle them to take only a third of the household asset (Balehey, S. et al, 2018). All these inequalities affect the survival ability of women during drought and other climate related stresses. Thus women and girls are regularly affected by nutrition and sanitation related health problems (Balehey, S. et al, 2018).

Women are also excluded in household decision making which at times puts the health and wellbeing of women at stake (Balehey, S. et al, 2018). Women are not involved in rangeland assessment before migration, this means priority is given to what men believe are critical such as availability of grass, absences of livestock diseases and predators etc., and other factors important to women such as proximity to water and health centres are not taken into consideration leading to a lot of suffering to the women (Balehey, S. et al, 2018).

Women's contribution to household during drought times increases as they collect famine foods to feed their family and travel longer distances to fetch water (Balehey, S. et al, 2018). Therefore, with the lower nutritional attention they get a decline in health is seen in women in addition to their exposure to sexual harassment and violence (Balehey, S. et al, 2018).
Therefore, gender-based differences in vulnerability and adaptive capacity needs to be recognized for the development and implementation of gender-sensitive adaptation measures (Balehey, S. et al, 2018).

Afar Region: Awash Fentale Woreda

In the Awash Fentale Woreda, two kebeles, Kebena and Dudub are selected for this project. The kebeles have a total area of 74,200 ha. The total population of these kebeles is 12,609 (F=7,644; M=4,965). In the past five years, the kebeles have been affected by flood and 593 people are being provided with support. Similarly, several droughts in the past 10 years have resulted in lack access to grazing land and water access. Overall, there is a major shortage of clean drinking water sources and only 65 percent of the total population in each kebele have access to clean water.

The sources of water available include river and deep wells. Rivers in this woreda include the Awash and its tributary the Germama. A large portion of this woreda is occupied by the Awash National Park.

On average women walk for 5 and 6 kms each day and spend 3 and 4 hours/day to collect water in Kebena and Dudub, respectively. A total of 1,222 ha land is under small irrigation and 1,712 MHHs and 1,521 FHH benefit from these schemes.

Table 4 Summary of regional population and climate risks

Region	Regional population (in Millions)	Population living below poverty line (in Millions)	Livestock (in Millions)	Key risks
Oromia	37	8.84	Cattle, Sheep, Goats, Poultry (25.0, 9.3, 7.5, 16.7)	Rising temperatures, extraordinary rainfall events and more intense and prolonged droughts and floods
Amhara	21.1	5.5	Cattle, Sheep, Goats, Poultry (16.3, 10.4, 6.8, 16.8)	Drought, frost, hailstorms, flood, and landslides
Tigray	5.4	0.73	Cattle, Sheep, Goats, Poultry (4.9, 2.1, 0.8, 6.3)	Drought, floods, pests and disease
Afar	1.9	0.46	Cattle, Sheep, Goats, Poultry (1.9, 4.0, 8.5, 0.092)	Drought, floods, pests and disease
Somali	6	1.3	Cattle, Sheep, Goats, Poultry (3.6, 9.1, 17.0, 0.3)	Drought, flooding and soil erosion
Central Ethiopia	20	2.08	Cattle, Sheep, Goats, Poultry (12.4, 4.7, 4.8, 7.3)	Flood, landslide, and fire

Table 5 Summary of targeted Kebele beneficiaries

Region	Woreda	Woreda Population	Target Kebeles	Kebele Population	Area of land available (ha)	Land irrigated (ha)	Access to potable water
Oromia	Tullo	200,656 (F= 97,920; M= 102,736)	Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto	24,013 (F=11,747; M=12,266) with 878 FHHs and 4,126 MHHs	5,132	267 (5 percent) 600 MHHs and 76 FHH	16%, 44%,39%, and 41.5%
Amhara	Mida Weremo	119,985 (F= 60,381; M= 59,604)	Tegora, Dengore, and A/Bayne	13,518 (F=6,631; M=6,887) with 871 FHH's and 2,2127 MHH's	12,348.00	130.5 (1 percent) 592 MHHs and 80 FHH	30% and 38%
Tigray	Sewha Saese	66,004 (F= 34,305; M= 31,699)	Saesie and Koma Subuha	15,726 (F=8,141; M=7,585) with 1,698 FHH's and 1,627 MHH's	10,143.62	133.5 (1.3 percent) 1,090 MHH and 493 FHH	38% and 25%
Afar	Awash Fentale	58,016 (F = 29,908 M = 28,108)	Kebena and Dudub	12,609 (F=7,644; M=4,965)	74,200	1222 (1.6 percent) 1,712 MHHs and 1,521 FHH	
Somali	Shabelay	343,850 (F= 168,718; M= 175,132)	Wooble and Biyo-Cade	30,139 (F=13,550; M=16,589) with 1,931 FHHs and 2,484 MHHs	4,821	2467 (51 percent) 3,563 MHHs and 1,216 FHH	19% and 10%
Central Ethiopia	Fofa	49,889 (F = 28,568; M = 21,321)	Semo Awasho and Upper Kesheli	6,251 (F = 3,544; M = 2,707) with 224 FHHs and 950 MHHs	2,476.48	27.9 (1 percent) 401 MHHs and 101 FHH	33% and 67%

3. Project Objectives:

The main objective of the project is to build self-reliant, climate-resilient communities in Ethiopia by adopting a comprehensive and integrated approach to climate adaptation and sustainable development. Through strengthening climate risk reduction and adaptation planning at the local level, improving water security and empowering women in resource management, promoting climate-smart agriculture and sustainable livestock practices, and facilitating livelihood diversification, the project seeks to mitigate climate risks while enhancing the well-being and livelihoods of the communities involved.

The ultimate goal is to create a sustainable and adaptive environment where the local population, including women, is actively engaged in climate adaptation efforts, fostering long-term resilience to climate change. This approach ensures that communities can overcome climate challenges, secure food and water resources, diversify income opportunities, and thrive in a changing climate, contributing to economic stability and improved quality of life. The specific objectives of the project include:

- To strengthen climate risk reduction and adaptation planning.
- To enhance water security and promote women's empowerment
- To promote climate-smart agriculture and sustainable livestock practices
- To facilitate climate-smart livelihood diversification

Expected Project Outcomes and Results

- **Outcome 1:** All target Kebele communities and local authorities have improved capacity and ownership in climate risk reduction and adaptation planning, resulting in well-coordinated and effective climate adaptation strategies integrated in 100% of local development plans.
- **Outcome 2:** Additional 16,500 households are benefiting from enhanced agricultural and livestock resilience to climate change in project target areas, as measured by improved access to potable water and enhanced irrigation systems.
- **Outcome 3:** At least 2,000 women headed households achieve a 20% increase in agricultural productivity and enhanced food security through the implementation of climate-smart agricultural practices and sustainable livestock management systems.
- **Outcome 4:** A minimum of 4,000 households demonstrate increased economic stability and climate resilience, evidenced by diversified income sources, reduced dependence on climate sensitive activities and increased participation of gender-responsive income generation activities.

4. Project Components and Financing

The Climate Smart Agriculture project is designed around four integrated components to enhance climate resilience and sustainable development in vulnerable communities in Ethiopia. The first component focuses on **strengthening climate risk reduction and adaptation planning** at the local level. This involves building awareness, conducting capacity-building workshops, and mainstreaming climate adaptation into local development plans through participatory vulnerability assessments and engagement with stakeholders. The second component, **water security and women's empowerment**, aims to improve water access and management through the development of potable water sources, small-scale irrigation systems, and the implementation of renewable energy solutions. This component emphasizes the active involvement of women in water management and decision-making processes, building their capacity to lead and manage resources effectively.

The third component promotes **climate-smart agriculture and sustainable livestock practices**, focusing on drought-resistant crop varieties, conservation agriculture, and improved livestock management systems to enhance food security and reduce emissions. Finally, the fourth

component centers on **climate-smart livelihood diversification**, encouraging communities to adopt alternative income-generating activities like apiculture, poultry farming, and horticulture. It prioritizes gender-responsive approaches, particularly empowering women with training and market linkages to ensure economic stability and reduce dependence on climate-sensitive livelihoods. Together, these components create a comprehensive approach to building climate-resilient, self-reliant communities.

The project is designed in four components. **Each of these components will be presented in detail in the next section**, providing a comprehensive overview of their objectives, activities, and expected outcomes.

Table 6: project components and financing

Project/Programme Components	**Expected Concrete Outputs**	**Expected Outcomes**	**Amount (US$)**
1. Strengthening Climate Risk Reduction and Adaptation Planning at the local level	*Output 1.1 Increased awareness and capacity of communities and local experts on climate risk vulnerabilities assessment and climate smart planning*	**Outcome 1:** All target Kebele communities and local authorities have improved capacity and ownership in climate risk reduction and adaptation planning, resulting in well-coordinated and effective climate adaptation strategies integrated in 100% of local development plans.	**808,964.42**
	Output 1.2 Strengthened capacity of local authorities and stakeholders to effectively engage in climate risk reduction and adaptation planning		
	Output 1.3 Enhanced monitoring, supervision and safeguard management capabilities, at national, regional and woreda levels		
2. Water Security, Climate Resilience, and Women's Empowerment	*Output 2.1 Improved access to clean water sources*	**Outcome 2** Additional 16,500 households are benefiting from enhanced agricultural and livestock resilience to climate change in project target areas, as measured by improved access to potable water and enhanced irrigation systems.	**4,981,844.20**
	Output 2.2 Improved agricultural water use and reduced climate-related risks		
	Output 2.3 Strengthened skills and participation of women in water management and agriculture		
3. Climate Smart Agriculture and	*Output 3.1: Increased resilience through diverse crop varieties*	**Outcome 3:** Atleast 2,000 women headed households achieve a	**1,701,950.16**

sustainable livestock practices	*Output 3.2 A sustainable and resilient livestock sector through improved health, increased productivity, and adaptability of the herds*	20% increase in agricultural productivity and enhanced food security through the implementation of climate-smart agricultural practices and sustainable livestock management systems.	
	Output 3.3 Sustainable land use, protected ecosystems and enhance agricultural productivity		
	Output 3.4 Improved decision-making based on weather information		
4. Climate Smart Livelihood Diversification	*Output 4.1 Reduced reliance on a single source of income*	**Outcome 4:** A minimum of 4,000 households demonstrate increased economic stability and climate resilience, evidenced by diversified income sources, reduced dependence on climate sensitive activities and increased participation of gender-responsive income generation activities.	**1,543,765.43**
	Output 4.2 Improved income and better market access for community members		
6. Project/Programme Execution cost			**566,490.00**
7. Total Project/Programme Cost			**9,036,524.21**
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			**395,240.00**
Amount of Financing Requested			**9,998,254.21**

Table 7: Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	
Mid-term Review (if planned)	18 months after project commencement

Project/Programme Closing	36 Months after project commencement
Terminal Evaluation	36 Months after project commencement

PART II: PROJECT/PROGRAMME JUSTIFICATION

A. Description of project components

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level: Building Awareness, Understanding, and Ownership

This component focuses on empowering communities and local authorities to actively engage in climate risk reduction and adaptation planning. Given Ethiopia's vulnerability to climate change, it is crucial to enhance the capacity of local stakeholders to assess risks, plan responses, and integrate adaptation measures into local development strategies. This component will ensure that communities understand the potential impacts of climate change and are equipped to develop strategies that enhance resilience. As part of the initial project design and planning stage, the project will also conduct a gender analysis to identify the gender dimensions of vulnerability to climate change and develop strategies to address specific gender inequalities, risks and opportunities. This will ensure that there is a good understanding of gender roles, and a disaggregation of women's and men's specific interests, needs, and priorities as they relate to the project to maximise the effective participation of women in project interventions. Empowering stakeholders to take proactive actions towards climate adaptation will lead to more effective and sustainable responses to climate change impacts. The project's collective efforts will contribute to the long-term well-being and resilience of communities and ecosystems in the face of climate challenges.

The main focuses of this component are as follows:

- **Awareness to climate change risks:** To raise awareness and understanding of climate change risks and its potential impacts on communities and ecosystems.
- **Knowledge sharing and capacity building:** To facilitate knowledge sharing and capacity-building activities to enhance climate resilience at the community and local levels.
- **Community engagement:** To promote inclusive and participatory climate risk reduction processes, ensuring ownership and commitment from all stakeholders.
- **Climate adaptation plans:** To develop actionable climate adaptation plans that address the specific needs and vulnerabilities of different regions and communities.

Outputs and Activities:

Output 1.1: ***Increased awareness and capacity of communities and local experts on climate risk vulnerabilities assessment and climate smart planning*** The project will implement a Climate Risk Awareness Campaign aimed at building a deep understanding of climate change impacts and vulnerabilities within the target communities. Through this campaign, workshops, community meetings, and seminars will be organized to engage local authorities, stakeholders, and the wider community in discussions on regional vulnerabilities and potential adaptation strategies. Public events, such as climate fairs and exhibitions, will be held to foster broad community participation, providing platforms for knowledge-sharing and creating an interactive learning environment. Educational materials, including brochures and visual aids, will be developed to effectively communicate key climate-related information, ensuring that even the most marginalized community members can access and understand adaptation strategies relevant to their context.

In parallel, the project will facilitate Community Engagement and Participatory Vulnerability Assessments to directly involve local populations in identifying their specific climate-related vulnerabilities and adaptive capacity. This process will utilize community knowledge and perceptions, ensuring that the findings reflect the lived experiences of the most vulnerable groups, including women and marginalized populations. Translating previously funded Adaptation Fund guidelines into local

languages, the project will ensure that the materials are culturally relevant and accessible. The assessment process will engage local translators, community experts, and language specialists, creating a meaningful, inclusive dialogue. This participatory approach will culminate in a detailed report with key findings, recommendations, and an action plan to implement community-specific adaptation measures, ensuring that local voices drive the climate adaptation efforts.

1.1.1. Climate Risk Awareness Campaign:

The Climate Risk Awareness Campaign is a pivotal activity under Output 1.1, designed to foster a comprehensive understanding of climate change impacts, vulnerabilities, and adaptation strategies within targeted communities. Recognizing that effective climate action starts with informed communities, this campaign will engage a wide range of stakeholders, including local authorities, community members, and vulnerable groups, through a series of workshops, seminars, and information sessions. These events will provide participants with the knowledge needed to assess climate risks specific to their region and understand the importance of climate-smart planning.

The campaign will employ a multi-faceted approach to reach diverse audiences, using educational materials such as brochures, posters, and visual aids, designed to simplify complex climate concepts for easy comprehension. Public events like climate fairs and exhibitions will serve as interactive platforms where communities can not only learn but also engage in knowledge-sharing with experts and peers. These fairs will showcase adaptation strategies, climate-smart technologies, and best practices relevant to local livelihoods, encouraging wider community participation and action.The project will support the following sub-activities.

- Conduct workshops and community meetings to raise awareness about climate change impacts, regional vulnerability, and potential adaptation strategies.
- Develop educational materials, brochures, and visual aids to effectively communicate climate-related information to diverse audiences.
- Organize public events, such as climate fairs and exhibitions, to engage the wider community in climate discussions and promote knowledge-sharing.

1.1.2. Community Engagement and Participatory Vulnerability Assessments:

The Community Engagement and Participatory Vulnerability Assessments activity is a vital component of Output 1.1, focused on empowering local communities to identify and address their specific climate vulnerabilities and adaptation needs. This activity emphasizes the use of a participatory approach to ensure that community members, particularly marginalized groups such as women and vulnerable populations, are actively involved in the assessment process. By engaging local knowledge and perceptions, the project aims to provide a more accurate and culturally relevant understanding of climate-related risks and the adaptive capacities of the target communities.

The process will begin by translating the Adaptation Fund guidelines into local languages, ensuring that the material is accessible and understandable for community members. The translation team will include individuals fluent in local dialects, community experts, and language specialists to ensure accuracy, cultural sensitivity, and relevance. This step is crucial to ensure that the guidelines resonate with the local population and reflect the cultural and social dynamics of the communities involved. Translators will actively engage with the community to address their preferences, ensuring the process is inclusive and respectful. The participatory nature of this initiative will foster community ownership of the process, enhancing the effectiveness of climate adaptation strategies.

Following the translation, participatory vulnerability assessments will be conducted, involving direct engagement with community leaders, women's groups, and marginalized populations. These assessments will use local knowledge to identify the most pressing climate-related vulnerabilities, risks to livelihoods, and impacts on local ecosystems. Through interactive sessions, communities will map out their adaptive capacity, identifying potential strategies to address these risks. This inclusive

approach ensures that all voices are heard, particularly those often overlooked in decision-making processes.

The entire process will be documented with images and audio recordings, creating a comprehensive record of the community's participation. This documentation will be shared with stakeholders, including local governments, NGOs, and other relevant actors, to ensure transparency and continuity. After the assessments, a detailed report will be prepared, summarizing the findings, key vulnerabilities, and recommendations. The report will also outline an action plan for implementing community-specific adaptation measures. Collaborating with local NGOs and community-based organizations, this activity will build long-term capacity and foster sustained community engagement and empowerment in climate adaptation efforts.

- Conducting a vulnerability assessment at the local level using community knowledge and perceptions.
- Identifying climate-related vulnerabilities, risks, and impacts on livelihoods and local ecosystems.
- Mapping out the community's adaptive capacity and potential strategies.
- Engage with community leaders, women's groups, and marginalized populations to ensure inclusivity and representation in the assessment process.
- Translate the guidelines based on the feedback received during the community consultation.
- Prepare a detailed report on the vulnerability assessment, including key findings and recommendations and an action plan to implement community-specific adaptation measures in consultation with local stakeholders.
- Collaborate with local NGOs and community-based organizations to foster meaningful engagement and empowerment.

Output 1.2: Strengthened capacity of local authorities and stakeholders to effectively engage in climate risk reduction and adaptation planning.This output focuses on building the technical and operational capacities of local authorities and stakeholders to effectively engage in climate risk reduction and adaptation planning. Through a series of capacity-building workshops, the project will equip participants with the necessary knowledge and skills to analyze climate data, assess risks, and design effective adaptation strategies. Specialized training sessions will be organized on topics such as climate risk assessment methodologies, adaptation planning tools, and climate-resilient practices, including sustainable agriculture and disaster preparedness. These workshops will also offer technical assistance to ensure that participants can confidently apply the strategies in their respective sectors. By enhancing the skills of key actors, this activity aims to foster a well-prepared and technically capable group of local leaders who can effectively manage climate-related risks.

The second aspect of this output involves mainstreaming climate adaptation into local development plans. In collaboration with local governments, the project will work to ensure that climate resilience is integrated across key sectors such as agriculture, water resources, infrastructure, and disaster management. This integration will be achieved by identifying opportunities for embedding climate adaptation into existing policies and development plans. Recommendations will be made based on scientific evidence and stakeholder feedback, ensuring that proposed strategies are both feasible and locally relevant. By embedding climate adaptation into official policies and development frameworks, the project ensures that resilience becomes a core aspect of sustainable development, reducing long-term vulnerability to climate change.

1.2.1. Capacity-building Workshops:

The Capacity-building Workshops are designed to equip local authorities and stakeholders with the necessary technical expertise to effectively engage in climate risk reduction and adaptation planning.

These workshops will offer specialized training sessions on essential topics such as climate data analysis, risk assessment methodologies, and the use of adaptation planning tools. By enhancing participants' understanding of these topics, the workshops aim to build their capacity to assess climate risks and incorporate climate adaptation into their decision-making processes. The training will provide local authorities and stakeholders with the practical skills to analyze regional climate risks and vulnerabilities, allowing them to make informed, evidence-based decisions.
In addition to technical training, the workshops will focus on promoting climate-resilient practices that can be applied in sectors such as agriculture and disaster preparedness. Participants will be introduced to techniques such as sustainable agriculture, water conservation, and disaster preparedness, which are crucial for mitigating the impacts of climate change. Through hands-on sessions and technical assistance, participants will gain practical knowledge that can be applied in their local contexts to build more resilient communities. This component will not only empower participants to develop and implement climate adaptation strategies but also provide ongoing technical support to ensure the successful execution of these plans in the field. By fostering long-term capacity, these workshops will contribute to building a strong local foundation for climate resilience.

- Organize specialized training sessions for local authorities and key stakeholders on climate data analysis, risk assessment methodologies, and adaptation planning tools.
- Facilitate workshops on climate-resilient practices, such as sustainable agriculture techniques, water conservation, and disaster preparedness.
- Provide technical assistance and support to enhance the skills of participants in effectively implementing adaptation strategies.

1.2.2. Mainstreaming Climate Adaptation into development plans:

The Mainstreaming Climate Adaptation into Development Plans activity focuses on integrating climate resilience measures into local governance and development frameworks to ensure long-term sustainability and adaptation to climate change. This initiative will work closely with local governments and institutions to embed climate adaptation considerations into policies and development plans, particularly in critical sectors such as agriculture, water resources, infrastructure, and disaster management. By ensuring that climate adaptation is at the forefront of planning processes, the project aims to build resilient communities that can effectively mitigate and respond to the impacts of climate change.

The project will engage with policymakers to identify opportunities for integrating climate resilience measures into local and regional development strategies. Through collaborative discussions, workshops, and consultations, the project will highlight the importance of embedding climate considerations in planning, providing practical solutions tailored to each sector. Based on scientific evidence and stakeholder input, the project will produce policy briefs and recommendations to guide the adaptation of existing policies and inform the development of new ones. This process will ensure that adaptation measures are not only context-specific but also align with broader regional and national strategies. The overall aim is to create a robust policy environment where climate adaptation becomes a core element of sustainable development, ensuring that communities are better prepared to withstand future climate challenges.

- Integration of climate adaptation considerations into local government policies and development plans.
- Collaborate with policymakers to identify opportunities for incorporating climate resilience measures into local plans, such as agriculture, infrastructure, and land use.
- Provide policy briefs and recommendations based on scientific evidence and stakeholder input.

Output 1.3: Enhanced monitoring, supervision and safeguard management capabilities, at national, regional and woreda levels.

To ensure the successful implementation and oversight of the project's four components, a comprehensive project management, monitoring, and supervision system will be established at multiple administrative levels—national, regional, and woreda. A dedicated project management team will operate at the CRGE Facility and CRGE units across key ministries, with roles cascading down to regional and local levels. These teams will coordinate closely to ensure smooth execution and effective communication. Regular coordination meetings with stakeholders will be essential for fostering alignment, while specific task forces, such as water management committees and agricultural task forces, will be established to oversee critical areas such as water source development, infrastructure, crop diversification, and livestock management. Additionally, community engagement sessions will be a cornerstone of the project, maintaining transparency and providing regular updates on progress. The monitoring and evaluation (M&E) framework will be critical in assessing the project's impact, with regular progress assessments for key activities like climate awareness campaigns, agricultural workshops, and livelihood diversification efforts. The M&E system will also include baseline and post-intervention assessments to track improvements in clean water access and the adoption of climate-smart agricultural practices. Feedback from communities will guide ongoing adjustments to improve the project's effectiveness.

In addition to project management and monitoring, a robust environmental and social safeguard management system will be implemented to address potential risks. The project will formulate and enforce safeguard policies to ensure that environmental and social concerns are systematically addressed throughout the project lifecycle. This will include capacity-building initiatives to equip staff and stakeholders with the necessary skills for effective safeguard management, along with impact assessments to identify potential environmental and social risks. When risks are identified, corrective actions will be swiftly implemented to mitigate any adverse effects, ensuring that the project adheres to best practices for sustainability and social responsibility. By focusing on safeguard management, the project aims to minimize negative impacts on both the environment and the community, fostering long-term, positive outcomes in alignment with national and international standards.

1.3.1 Project Management, monitoring and supervision

Effective project management is pivotal for the successful implementation of the project's four components. A dedicated project management team will be established at the CRGE Facility and CRGE units at the line Ministries and cascaded at the regional and local level, with well-defined roles and responsibilities, ensuring streamlined coordination and communication. Regular coordination meetings with identified stakeholders will be conducted to foster alignment and facilitate effective information exchange. Specific measures, such as forming water management and irrigation users committee and agricultural task forces, will be implemented to oversee key aspects like water source development, infrastructure upgrades, crop diversification, and livestock management. Additionally, community engagement sessions will be scheduled to maintain open communication channels and provide regular updates on project progress. This comprehensive project management approach aims to create a structured framework for successful execution and collaboration across all project components. The monitoring and evaluation framework will play a crucial role in gauging the project's impact and ensuring its effectiveness. Regular progress assessments will be conducted for activities like awareness campaigns, workshops, and vulnerability assessments. Baseline and post-intervention assessments will be employed to monitor the improvement of clean water access and the efficiency of water distribution systems. For agriculture and livestock management, continuous monitoring of the adoption of climate-resilient practices and their impact on productivity will be carried out. Similarly, livelihood diversification activities will undergo regular evaluations, measuring success through income generation and market access. Integrated monitoring and reporting systems will provide a holistic overview, incorporating both qualitative and quantitative indicators. The feedback mechanism will be a vital component, gathering insights from communities to facilitate ongoing adjustments and improvements.

- Set up a project management team at the CRGE Facility and CRGE units at various governmental levels (line Ministries, regional, and local) with clearly defined roles and responsibilities.
- Conduct regular coordination meetings with identified stakeholders and organize community engagement sessions to maintain open communication channels and provide project updates.
- Design and implement a M&E system that includes regular progress assessments, baseline and post-intervention evaluations, and an integrated reporting system with both qualitative and quantitative indicators.

1.3.2 Environment Social Safeguard Management

The implementation of comprehensive environmental and social safeguard measures encompasses the formulation and enforcement of robust safeguard policies, the establishment of a systematic monitoring framework, and the proactive addressing of potential environmental and social risks throughout the project's lifecycle. Activities include;

- Capacity-building initiatives focused on effective safeguard management,
- Impact assessments to ascertain potential ramifications,
- Implementation of corrective actions to mitigate and address identified environmental and social concerns.

Through these measures, the project aims to ensure responsible and sustainable practices, minimizing adverse effects on the environment and fostering positive social impacts in alignment with established safeguard standards.

Component 2: Enhance Water Security, Climate Resilience, and Promote Women's Empowerment

Water scarcity is one of the most pressing issues in rural Ethiopia, profoundly affecting the livelihoods of these communities, especially women. Limited access to safe and reliable water sources contributes to a wide range of problems, including health risks from waterborne diseases and constraints on agricultural productivity. Women, who are primarily responsible for water collection and management, bear the brunt of these challenges, spending significant time and effort on water-related activities. This, in turn, limits their participation in productive activities, reinforcing existing gender inequalities.

Moreover, the agricultural sector in rural Ethiopia, which is highly dependent on rain-fed systems, is increasingly vulnerable to the unpredictable impacts of climate change, such as erratic rainfall and prolonged droughts. These climatic challenges directly affect food security and the economic stability of rural households, exacerbating the already difficult conditions for many.

To tackle these interconnected challenges, **Component 2** adopts an integrated approach that addresses water security, climate resilience, and women's empowerment in tandem. The project will improve access to clean and reliable water sources by developing and rehabilitating water infrastructure, including decentralized systems like solar-powered pumps and small-scale irrigation schemes. These interventions will not only ensure water availability for domestic and agricultural use but also strengthen community resilience to climate-induced water scarcity. By integrating climate resilience measures, the project aims to reduce agricultural dependence on erratic rainfall, promoting water-efficient farming techniques and the use of drought-tolerant crops. This will help stabilize food production, mitigate the economic impacts of climate variability, and enhance overall community resilience. At the heart of this component is the empowerment of women, ensuring their active participation in water resource management and decision-making processes related to agriculture.

Women will be provided with training and leadership opportunities to manage water resources and take on key roles in community-level climate adaptation efforts.

A key feature of this approach is **collaboration** with local governments, NGOs, and community-based organizations, ensuring that interventions are tailored to local needs and cultural contexts. The project will engage a diverse range of stakeholders, from policymakers to grassroots organizations, in the design and implementation of water management and climate adaptation strategies. By pooling local knowledge and resources, the project will promote sustainable and community-led solutions. Through this comprehensive and collaborative effort, **Component 2** seeks to deliver transformative change. Water security will be enhanced, agricultural practices will become more resilient to climate risks, and women will emerge as empowered leaders in their communities. These improvements will not only address immediate needs but also lay the foundation for long-term sustainability and resilience, ensuring that rural communities in Ethiopia are better equipped to navigate the challenges of a changing climate.

The main aims of this component are as follows:

- **Enhance Water Security**: Improve access to safe and reliable water sources for rural communities, reducing their vulnerability to water scarcity.
- **Reduce Climate Risks in Agriculture**: Strengthen the resilience of agricultural practices against climate uncertainties, ensuring food security and economic stability.
- **Empower Women**: Promote gender equality and women's active participation in water management, agriculture, and decision-making processes.

Outputs and Activities:

Output 2.1 Improved access to clean water sources
The project aims to tackle the urgent issue of water scarcity that plagues rural communities in Ethiopia by significantly improving access to clean and reliable water sources. These communities, particularly women and children, face tremendous challenges in accessing safe water, leading to health crises, economic disruptions, and exacerbated gender inequality. Through comprehensive hydrological assessments, the project will identify the most viable water sources such as wells, boreholes, and springs in the targeted regions. These sources will be developed and protected from contamination, ensuring sustainable access to safe water for both drinking and agricultural use. This initiative will not only address water security but will also alleviate the immense burden on women, who are primarily responsible for water collection, and improve overall community health by reducing the prevalence of waterborne diseases. A critical aspect of this initiative will be the training of community members in sustainable water management, empowering them with the skills needed to protect and maintain water sources, ensuring that these vital resources are preserved for future generations.

In addition to water source development, the project will focus on upgrading and expanding water infrastructure to ensure efficient and equitable water distribution. By constructing storage tanks and expanding distribution networks closer to households, the project will make water access more equitable, reducing the time and effort required to collect water. Promoting the use of gravity-fed systems will further enhance efficiency by reducing energy consumption. The formation of Water Users Associations will be a key component, empowering communities to manage their own water systems and maintain their infrastructure. These associations will be responsible for collecting user fees, ensuring that the systems remain operational, and managing necessary repairs. To support this, the project will provide spare parts and technical training to local technicians and operators, enabling them to conduct routine maintenance and troubleshoot issues as they arise. Furthermore, the installation of

Decentralized Renewable Energy (DRE) Systems, such as solar-powered water pumps, will provide a sustainable solution for powering water supply systems in areas without access to the national grid. These systems will offer a reliable and environmentally friendly method for ensuring water access, reducing reliance on labor-intensive methods and avoiding carbon emissions. By integrating renewable energy into water infrastructure, the project will contribute to environmental sustainability while ensuring that communities have continuous access to the water they need for both domestic and agricultural use, ultimately promoting long-term resilience and development.

2.1.1 Water Source Development and Protection:

The targeted areas often struggle with inadequate water sources, affecting their daily lives and agricultural activities. The Water Source Development and Protection activity focuses on alleviating the chronic water scarcity in rural Ethiopia by identifying and developing sustainable water sources, with the goal of improving both daily life and agricultural productivity. The project recognizes that many targeted areas suffer from inadequate access to clean and reliable water, which not only impedes household water needs but also undermines agricultural activities crucial for community livelihoods. Through detailed hydrological assessments, the project will identify potential water sources, such as wells, boreholes, and springs, that can be developed to provide a sustainable supply of clean water. These sources will be strategically selected based on factors such as proximity to households, agricultural needs, and environmental sustainability. Once identified, water source development projects will be initiated, with the construction of wells, boreholes, and spring development being prioritized in the most vulnerable areas. By providing consistent access to safe water, the project will alleviate the burdens of water collection, particularly for women and children, and reduce the risks of waterborne diseases, which are prevalent due to unsafe water sources.

In addition to the development of these water sources, a major focus of the activity is ensuring the protection and sustainable management of the resources to prevent contamination and overuse. Protective measures will be implemented, including fencing and other physical barriers, to safeguard water sources from contamination by livestock and other pollutants. Moreover, the project will establish community-led initiatives to monitor water use, ensuring that extraction rates are controlled and sources are not depleted. To enhance sustainability, the project will offer training to community members on best practices for water management, equipping them with the skills necessary to maintain the sources and manage water distribution effectively. This training will also emphasize the importance of conservation and the responsible use of water, especially in light of the increasing impacts of climate change. By fostering local ownership and management of water resources, the project aims to build long-term resilience, ensuring that these water sources remain viable for future generations. Through this comprehensive approach, the activity will not only secure access to safe and clean water but also promote improved health, food security, and community empowerment in the face of water scarcity challenges.

- **Conduct comprehensive hydrological assessments** to identify potential water sources, including wells, boreholes, and springs, considering factors such as groundwater availability, proximity to communities, and agricultural needs.
- **Develop water sources** by implementing infrastructure projects, including the construction and rehabilitation of wells, boreholes, and spring development, ensuring they meet the water demand of the community and agricultural use.
- **Install protective measures** to safeguard water sources from contamination and over-extraction, such as fencing, source protection structures, and community monitoring systems to maintain water quality and availability.
- **Train community members in sustainable water management**, focusing on maintenance, responsible water usage, and water conservation practices to ensure long-term sustainability of the water sources.

- **Establish water governance structures**, such as Water Users Associations or local water management committees, to oversee the equitable distribution and protection of water resources, including the collection of user fees for maintenance.
- **Raise community awareness** on the importance of water conservation, hygiene practices, and the protection of water sources through local campaigns, workshops, and school outreach programs.
- **Monitor water quality and usage** through regular assessments and community feedback mechanisms, ensuring the infrastructure remains functional and sustainable over time.
- **Introduce low-cost water purification techniques**, such as household-level filters or chlorination kits, to improve water quality and safety for drinking purposes.

2.1.2 Efficient Water Infrastructure Upgrade and expand water supply systems for efficient distribution including sustainability options:

To mitigate water scarcity, upgrading water supply systems is essential. This activity aims to significantly enhance water distribution systems in rural communities by upgrading and expanding existing infrastructure to provide reliable, equitable access to water for both household and agricultural use. One of the core objectives is to address the current inefficiencies in water distribution that often lead to inequitable access, with many households and farms struggling to secure adequate water supplies. By constructing storage tanks and developing distribution networks closer to households, the project will reduce the time and labor required for water collection, a burden that disproportionately affects women and children. The new water supply systems will ensure a steady flow of water that meets the needs of the entire community, including critical agricultural applications that are highly vulnerable to water scarcity. To promote energy efficiency and cost-effectiveness, the project will implement gravity-fed systems, which utilize natural elevation and terrain to distribute water without relying on electricity, thereby lowering operational costs and environmental impact. These systems are particularly suited to rural regions where electricity access is limited or unreliable, making them a sustainable solution for long-term water management.

A vital aspect of this activity is the establishment of Water Users Associations (WUAs), which will take on the responsibility of managing the newly developed infrastructure. These associations will be equipped with the knowledge and tools necessary to ensure the effective operation and maintenance of the water supply systems. They will oversee the collection of user fees to fund ongoing maintenance and repairs, ensuring the financial sustainability of the infrastructure. Additionally, the project will provide capacity-building sessions for local technicians and operators, training them in routine maintenance, troubleshooting, and system repairs. By building local capacity, the project aims to create a sustainable system in which communities can independently manage and maintain their water resources. To further enhance sustainability, the project will supply spare parts sufficient to maintain the systems for at least two years, minimizing the risk of breakdowns and service interruptions. Collaborative efforts with local communities, including involvement in the construction and maintenance processes, will foster local ownership of the systems, ensuring long-term success. Additionally, community awareness and training sessions will be conducted to inform households about the benefits of Decentralized Renewable Energy (DRE) systems, which will be integrated into the water infrastructure. This will provide a dual benefit of addressing both energy and water needs, while reducing the community's reliance on non-renewable energy sources. Through this multifaceted approach, the project will ensure that water distribution systems are not only efficient and equitable but also sustainable, resilient, and community-driven. The following sub-activities will be implemented under this activity

- Construct storage tanks and distribution networks to provide water closer to households.
- Promote gravity-fed systems to reduce energy consumption.

- Conduct awareness and training sessions for the community on the benefits and operation of DRE systems and establish a Water Users Association to manage the systems and collect user fees.
- Train local technicians and operators to handle routine maintenance and troubleshoot issues
- Provision of spare parts good enough for at least two years.
- Collaborate with local communities for construction and maintenance.

2.1.3 Decentralized Renewable Energy (DRE) Systems:
The implementation of Decentralized Renewable Energy (DRE) Systems will address the urgent need for reliable energy and water access in rural communities where conventional electricity grids are either non-existent or unreliable. These solar-powered systems will provide a sustainable and cost-effective solution to operate water pumps for both potable water supply and irrigation, directly tackling the critical issues of water security and energy access. The project will identify optimal locations for the installation of solar panels and water pumps, ensuring that the systems are strategically positioned to maximize solar potential and serve the greatest number of households and farms. By converting solar energy into electricity, DRE systems will reduce the dependency on labour-intensive water collection methods, particularly benefiting women and children, who typically bear the burden of this task. Additionally, the use of renewable energy will significantly reduce carbon emissions and contribute to climate mitigation efforts.

This investment will enhance the resilience of communities by ensuring equitable access to clean water for drinking and productive agricultural use, improving food security and reducing waterborne health issues. The project will procure the necessary equipment, including solar panels, inverters, and water pumps, and ensure the installation follows industry standards and safety protocols to guarantee efficient and long-term operation. Training will be provided to local technicians and community members to maintain and manage the systems, fostering local ownership and operational sustainability. By integrating renewable energy solutions into the water infrastructure, the project will not only provide immediate access to essential resources but also contribute to the long-term economic and environmental resilience of the communities. The following sub-activities will be implemented.

- **Conduct site assessments** to identify optimal locations for solar panel installations and water pump sites, taking into account solar potential, water demand, and local topography for efficient energy and water distribution.
- **Design DRE system infrastructure** tailored to the needs of each community, incorporating solar energy capture systems, storage solutions, and water distribution networks to maximize efficiency and sustainability.
- **Procure high-quality DRE equipment**, including solar panels, inverters, batteries, and water pumps, ensuring compliance with industry standards, durability, and suitability for local environmental conditions.
- **Install DRE systems** at designated sites, following best practices for installation to ensure the longevity and optimal performance of the solar-powered water pumping systems.
- **Train local technicians and operators** on system installation, operation, and maintenance, providing hands-on guidance to build local expertise and ensure sustainability.
- **Develop operational manuals** and provide technical support to ensure that local technicians and operators can troubleshoot, repair, and maintain the DRE systems independently.
- **Conduct community education programs** to inform households and farmers about the benefits of using renewable energy for water access, emphasizing reduced energy costs, improved water security, and environmental sustainability.

- **Establish long-term maintenance and monitoring plans**, ensuring that spare parts are available, and local operators are equipped to manage routine maintenance and address any technical issues that may arise.
- **Monitor the performance and environmental impact** of DRE systems, tracking energy usage, water access improvements, and reductions in carbon emissions to assess the overall benefits and sustainability of the project.

2.2 Output: Improved agricultural water use and reduced vulnerability to climate related risks

This output focuses on addressing the challenges faced by rural communities due to water scarcity and the increasing impacts of climate change on agriculture. The project will introduce small-scale irrigation systems, such as drip and sprinkler irrigation, designed to optimize the use of limited water resources. These systems will enable farmers to maintain crop productivity, even during periods of erratic rainfall and droughts, by delivering water directly to the root zone, minimizing wastage through evaporation and runoff. Farmers will be trained in water-efficient irrigation practices and optimal irrigation scheduling to maximize the effectiveness of these systems, ensuring that water is used judiciously, particularly in water-stressed regions.

In addition to the irrigation systems, the project will invest in improving water storage infrastructure, such as building and upgrading storage tanks and reservoirs, which will allow farmers to store water during periods of surplus for use during dry spells. This infrastructure will not only support irrigation but also enhance the overall climate resilience of agricultural activities, safeguarding crops from the impacts of water shortages. By promoting water-use efficiency and building the capacity of farmers to manage their water resources, the project will help reduce vulnerability to climate-related risks, improve food security, and contribute to the long-term sustainability of agricultural practices in rural Ethiopia. This comprehensive approach ensures that rural farming communities are better equipped to withstand the challenges posed by a changing climate, leading to more stable and productive livelihoods.

2.2.1 Small-Scale Irrigation and Water Use Efficiency

The project seeks to address water scarcity and enhance agricultural productivity by introducing small-scale irrigation systems, including drip and sprinkler irrigation, in rural communities. These systems are designed to optimize water use, delivering water directly to crops with minimal wastage through evaporation or runoff. Drip irrigation, in particular, allows water to reach the root zones of plants, maximizing efficiency and increasing crop yields, even in regions prone to drought and erratic rainfall. By constructing these irrigation systems from storage tanks to farmlands, the project will ensure a reliable and consistent water supply for agricultural purposes, enabling farmers to sustain production during dry seasons.

The success of these irrigation systems will be further enhanced through farmer training programs focused on water-efficient practices and optimal irrigation scheduling. Farmers will be equipped with the knowledge and skills to manage their water resources effectively, applying water at the right time and in the correct quantities to meet crop needs without wasting valuable water supplies. These training programs will ensure that irrigation systems are used to their full potential, improving water productivity and reducing vulnerability to climate-related risks, such as water shortages.

Moreover, the project will also invest in upgrading water storage infrastructure, which is critical for capturing and storing water during periods of surplus and making it available during dry periods. This will help farmers better manage seasonal variations in water availability and reduce their reliance on erratic rainfall. By combining advanced irrigation technologies, farmer capacity building, and improved water storage, the project will significantly enhance the resilience of agricultural systems in rural communities, contributing to food security, income generation, and the long-term sustainability of

farming livelihoods in the face of climate change. The following sub-activities will be implemented under this activity.

- Identify and assess suitable farmlands for the installation of drip and sprinkler irrigation systems, based on crop types, water needs, and soil conditions.
- Construct and install small-scale irrigation systems, including drip and sprinkler systems, connecting them to storage tanks and ensuring proper coverage of agricultural plots.
- Conduct farmer training sessions on water-efficient irrigation practices and optimal scheduling, focusing on how to use the systems effectively and minimize water wastage.
- Upgrade and expand water storage infrastructure, such as constructing storage tanks or reservoirs to capture and store water for agricultural use during dry periods.
- Monitor and evaluate the effectiveness of the installed irrigation systems and farmer practices, ensuring they contribute to improved water efficiency, crop yields, and climate resilience.

Output 2.3: Strengthened skills and participation of women in water management and agriculture.

This output seeks to transform the role of women in water management and agriculture by equipping them with the necessary skills and fostering their participation in decision-making processes. Traditionally, women have been marginalized in these areas, limited to labor-intensive roles without significant influence. Through targeted capacity-building workshops, the project will provide women with training in modern water management techniques, sustainable agricultural practices, and leadership. These skills will enable women to not only improve productivity but also take on leadership roles in their communities. The establishment of women-led community groups will ensure that women have a structured platform to influence decisions related to resource management, thereby promoting gender equity. By creating these opportunities, the project will empower women to contribute meaningfully to their communities' climate resilience and food security strategies.

The project will also launch gender-responsive awareness campaigns to address entrenched gender norms and promote broader acceptance of women’s participation in water management and agriculture. These campaigns will engage men and community leaders as advocates for gender equality, recognizing that lasting change requires the active involvement of all members of society. By highlighting women’s successes and showcasing their contributions to improved water and agricultural systems, the project aims to change community perceptions, encouraging a more inclusive environment. The combined efforts of capacity-building, the formation of women-led groups, and societal awareness campaigns will result in a stronger, more inclusive approach to sustainable development, where women are key stakeholders in the management of vital resources.

- **Organize and deliver training sessions** focusing on modern water management techniques, sustainable agricultural practices, and leadership skills to empower women in these sectors.
- **Create and support structured platforms** for women to influence decisions related to resource management, promoting their active participation and leadership in community affairs.
- **Develop and implement community-wide campaigns** to address entrenched gender norms and promote acceptance of women's participation in water management and agriculture.
- **Organize targeted outreach and involvement activities** to enlist men and community leaders in supporting and promoting gender equality in water management and agricultural practices.

2.3.1 Women-Centric Capacity Building:

This activity aims to address the historical marginalization of women by equipping them with critical skills in water management, agriculture, and leadership, empowering them to take on more prominent roles in their communities. Through tailored workshops and training sessions, women will gain technical knowledge in areas such as irrigation management, crop diversification, and sustainable resource use.

These sessions will also include leadership training, enabling women to step into influential positions within their communities, challenging traditional gender norms. In addition, the project will facilitate the formation of women-led community groups, providing women with a structured platform where they can collectively engage in decision-making processes related to water and agricultural initiatives.

By positioning women as active leaders in community resource management, this activity not only boosts their personal agency but also strengthens the community's ability to manage climate-related risks. The project recognizes that increased female participation in resource management leads to more effective and sustainable outcomes, especially in areas like water conservation and agricultural resilience. This approach will be supported by evidence from success stories, demonstrating the positive impact of women-led initiatives in other regions. By fostering women's leadership and technical skills, the project ensures that women are not only participants but also decision-makers in the future sustainability and resilience of their communities. The following sub-activities will be implemented.

- **Deliver targeted workshops** that focus on practical training in areas such as water conservation techniques, climate-resilient agricultural practices, and conflict resolution, paired with leadership development modules that empower women to take on decision-making roles.
- **Establish women-led community groups** for water and agricultural initiatives, ensuring these groups have access to resources and support networks to drive local projects and influence policy decisions.
- **Facilitate mentorship and peer-learning programs**, connecting women with successful female leaders and experts to enhance skills, share best practices, and foster confidence in taking leadership roles within the community.
- **Organize community engagement sessions** to integrate women's leadership into broader community decision-making processes, ensuring that women's voices are considered in local governance structures and resource management strategies.

2.3.2 Gender-Responsive Awareness Campaigns:

This activity focuses on fostering gender equality by challenging traditional gender norms and promoting women's active participation in water management and agriculture through targeted awareness campaigns. The campaigns will be designed to engage both men and women, as well as community leaders, in advocating for women's leadership and contributions in these sectors. By emphasizing the importance of gender equality in resource management, the campaigns will help shift societal perceptions and create a more inclusive environment where women's voices are valued. Special attention will be given to involving men as allies, ensuring their support for women's participation in decision-making processes. To reinforce these efforts, the project will celebrate and showcase success stories of women who have made significant achievements in water and agriculture, demonstrating the positive impact of gender inclusion. By combining awareness-raising with active community engagement, this activity aims to promote long-term attitudinal and behavioural changes that support gender equity in resource management and development.

- **Design and launch targeted awareness campaigns** that highlight the importance of gender equality in water management and agriculture, focusing on the positive impact of women's participation in decision-making and resource management.
- **Engage men, community leaders, and influential stakeholders** to advocate for gender equality, positioning them as allies in promoting women's active involvement and leadership in water and agricultural sectors.
- **Host community dialogue sessions** to facilitate open discussions on traditional gender norms, challenge existing barriers to women's participation, and create a supportive environment for change.

- **Showcase and celebrate success stories** of women who have made significant achievements in water and agriculture through community events, social media platforms, and local media outlets to inspire broader societal acceptance of gender equity.

Component 3: Promote climate-smart agriculture and sustainable livestock practices

Climate change poses significant challenges to agriculture in rural Ethiopia, impacting food security, livelihoods, and the environment. To address these challenges, this component outlines a comprehensive strategy for implementing climate-smart agriculture practices that enhance agricultural resilience and boost productivity. By combining adaptive techniques with sustainable approaches, the project will promote more resilient farming systems, mitigate climate risks, and support sustainable development in rural communities.

Key activities include promoting climate-resilient crops and diversified farming systems. The project will work with agricultural experts, research institutions, and local knowledge holders to identify crops suited to the local environment and resistant to climate stresses like drought and pests. Farmers will be trained in conservation agriculture techniques—such as minimal soil disturbance and crop rotation—that improve soil health, water retention, and long-term productivity. Community seed banks will ensure continued access to climate-adaptive seeds, supporting biodiversity and enhancing the resilience of farming systems.

The project will also focus on fortifying livestock production through the introduction of drought-tolerant forage seeds and advanced livestock management practices. In drought-prone regions, resilient forage varieties will provide reliable livestock feed, reducing dependence on water-intensive crops. Training on forage development and livestock husbandry will equip farmers with the skills to maintain healthier herds, ensuring food security and economic stability.

Sustainable land use and ecosystem protection are central to this effort. Multipurpose nurseries will produce forage, tree, crop, and horticulture seedlings, supporting agro-biodiversity and providing diversified income sources. Afforestation and reforestation initiatives will rehabilitate degraded landscapes, combat soil erosion, and enhance carbon sequestration. Soil and water conservation techniques, such as terracing and check dams, will be implemented to address land degradation and manage water resources, increasing overall agricultural productivity.

To enhance climate adaptation, localized weather information systems will be developed. A mobile alert system will provide real-time weather forecasts and advisories to farmers and herders, helping them plan for unpredictable weather. By delivering this information in local languages, the project will empower communities to make informed decisions about planting, harvesting, and livestock management, reducing the impact of climate-related hazards.

Through these targeted activities, the livelihoods of rural farmers will be improved while contributing to broader climate change mitigation efforts. Collaborative partnerships with local communities, governmental bodies, NGOs, and agricultural experts will ensure the successful implementation of these initiatives. Ultimately, the integration of climate-smart practices will foster a resilient, productive, and sustainable agricultural sector in rural Ethiopia.

The main areas of focus for this component are as follows:

- **Promoting Climate-Resilient Crops & Farming Systems:** Introduce climate-adaptive crops and sustainable agricultural practices such as conservation agriculture, crop diversification, and community seed banks to enhance resilience against climate stresses.

- **Strengthening Livestock Resilience:** Implement drought-tolerant forage seeds and advanced livestock management techniques to improve livestock health and productivity in the face of droughts and changing weather patterns.
- **Sustainable Land & Ecosystem Management:** Promote land rehabilitation through afforestation, reforestation, and soil and water conservation practices, as well as establish multipurpose nurseries to support agro-biodiversity and enhance soil health.
- **Enhancing Climate Adaptation through Weather Information Systems:** Provide localized, real-time weather information via mobile alerts to help farmers and herders make informed decisions on agricultural and livestock activities, reducing the impact of climate-related risks.
- **Collaboration & Capacity Building:** Foster partnerships with local communities, experts, and governmental bodies, while training farmers in climate-smart agriculture and livestock practices to ensure sustainable development and increased resilience.

Outputs and Activities:

3.1 Output: Increased resilience through diverse crop varieties.

This output focuses on empowering farming communities to adapt to changing climatic conditions by promoting climate-resilient crop varieties and diversified farming systems. The project will collaborate with agricultural experts, research institutions, and local indigenous knowledge holders to identify and promote crop varieties that are not only suited to the local environment but also resistant to pests, drought, and other climate-related stresses. Through capacity-building workshops and hands-on field demonstrations, farmers will be trained in the cultivation of these crops, focusing on their ability to withstand unpredictable weather patterns while maintaining productivity. Additionally, the project will introduce conservation agriculture practices, including minimal soil disturbance, crop residue retention, and crop rotation, which will further enhance the soil's ability to retain water, reduce erosion, and improve long-term soil health.

To ensure continued access to climate-adaptive seeds, community seed banks will be established, providing farmers with a sustainable resource for preserving and exchanging diverse crop varieties. This approach will not only reduce dependency on external seed suppliers but also support local biodiversity. The integration of crop diversification will help mitigate risks associated with pest and disease pressures, contributing to the overall resilience of the farming system. These efforts will lead to improved food security, diversified income sources, and a positive environmental impact, as farmers will use fewer resources and cultivate crops that are better adapted to their surroundings. By strengthening both the technical capacity of farmers and their access to resilient seeds, the project will create a sustainable, resilient agricultural system capable of withstanding future climate challenges in the targeted woredas.

3.1.1 Climate-Resilient Crop Selection and Diversification:

This activity focuses on enhancing the resilience of farming communities by promoting the adoption of climate-resilient crop varieties and conservation agriculture practices. These practices, which involve minimal soil disturbance, maintaining crop residues on the field, and diversifying crop rotations, play a pivotal role in building resilience against the impacts of climate change. By improving soil health, reducing soil erosion, and increasing water retention, conservation agriculture provides a buffer against erratic weather conditions, such as droughts or unpredictable rainfall patterns. Additionally, crop diversification helps mitigate the risks associated with pests and diseases, further enhancing the adaptive capacity of farming communities and reducing their vulnerability to single climate-related risks.

In collaboration with agricultural experts, research institutions, and indigenous knowledge holders, the project will identify and promote crop varieties that are resilient to changing climate patterns. These

varieties will be chosen for their ability to resist pests, conserve water, and thrive in local ecosystems. Through capacity-building workshops and hands-on field demonstrations, farmers will be trained in cultivating, managing, and nurturing these crops. The workshops will provide platforms for knowledge exchange, where insights into climate-adaptive crops and diversified planting strategies will be shared. Furthermore, the establishment of community-based seed banks will ensure continuous access to climate-resilient seeds, supporting local biodiversity and securing seed supply for future farming cycles.

- **Collaborate with agricultural experts, research institutions, and indigenous knowledge holders** to identify climate-resilient crop varieties that are pest-resistant, water-efficient, and suited to local ecosystems.
- **Organize capacity-building workshops** to train farmers on climate-resilient agricultural practices, including conservation agriculture techniques such as minimal soil disturbance, maintaining crop residues, and crop rotation.
- **Conduct hands-on field demonstrations** to showcase the benefits of diversified cropping systems and teach farmers the practical steps involved in cultivating and managing climate-resilient crops.
- **Establish community-based seed banks** to store and distribute climate-resilient seeds, ensuring farmers have continuous access to diverse, locally adapted crop varieties.
- **Promote conservation agriculture techniques** to improve soil health, reduce soil erosion, and increase water retention, providing farmers with tools to buffer against the unpredictable impacts of climate change.
- **Facilitate knowledge exchange** during workshops to share experiences and best practices among farmers, agricultural experts, and indigenous knowledge holders on crop diversification and climate-adaptive strategies.

3.2 Output: A sustainable and resilient livestock sector through improved health, increased productivity, and adaptability of the herds.

This output focuses on fortifying livestock production systems in climate-vulnerable regions by introducing drought-tolerant forage seeds and promoting advanced livestock management practices. In areas prone to drought and erratic rainfall, these improved forage varieties provide a reliable source of feed for livestock, reducing dependence on water-intensive crops and irrigation systems. By cultivating climate-resilient forages, farmers can maintain healthier herds during periods of water scarcity, ensuring consistent access to nutritious feed. The project also emphasizes capacity-building through training on forage development, cultivation, harvesting, and storage, equipping farmers with the necessary knowledge to ensure year-round feed availability and more efficient land use. This not only supports livestock health but also enhances the sustainability of agricultural systems by reducing overgrazing and soil degradation.

In addition to forage development, the project will promote improved livestock husbandry practices, such as enhanced hygiene to prevent disease outbreaks and better feeding strategies to minimize waste. Farmers will also be introduced to advanced breeding technologies, including artificial insemination, to select livestock traits that improve resilience to drought and disease, strengthening the adaptive capacity of herds. These practices will support the development of more robust livestock that can thrive in increasingly challenging environmental conditions. Through these integrated efforts, the project aims to build long-term resilience in livestock production, contributing to economic stability, food security, and climate adaptability for farming communities in the targeted regions.

3.2.1 Climate-Resilient Livestock Production and Management:

The provision of drought-tolerant forage seeds is an essential component of climate-resilient livestock production. The targeted areas, which are vulnerable to prolonged droughts and changing precipitation

patterns, these seeds serve as a lifeline for livestock. Drought-resistant forage varieties not only ensure a consistent feed supply but also reduce the dependency on scarce water resources for irrigation. By cultivating these varieties, farmers can maintain healthy livestock herds, as these forages are better suited to withstand water scarcity and provide essential nutrients.

Capacity building in forage development and utilization is a fundamental aspect of climate-resilient livestock management. Farmers and livestock keepers are trained in sustainable forage cultivation, harvesting, and storage practices. This knowledge equips them to make informed decisions about forage selection and utilization during different seasons, ensuring year-round feed availability.

Enhanced livestock husbandry practices encompass multiple facets of animal care. Improved hygiene practices help prevent disease outbreaks within herds, ensuring the health and productivity of livestock. Additionally, the integration of advanced breeding technologies, such as artificial insemination, enables the selection of climate-resilient traits in livestock, including drought tolerance, disease resistance.

- **Distribute drought-tolerant forage seeds** to farmers and livestock keepers in areas highly vulnerable to droughts and erratic rainfall, ensuring a reliable and sustainable feed source that reduces reliance on water-intensive crops.
- **Train farmers and livestock keepers** in the **cultivation, harvesting, and storage** of drought-tolerant forage crops, ensuring they can produce and maintain a year-round supply of nutritious feed for their livestock.
- **Establish demonstration plots** for hands-on training, showcasing the cultivation of climate-resilient forage varieties and effective storage techniques that enhance long-term feed availability.
- **Promote improved livestock husbandry practices**, focusing on **hygiene and disease prevention**, to ensure healthier, more productive herds that are less vulnerable to climate-related stressors.
- **Introduce advanced breeding technologies** such as artificial insemination, enabling farmers to select livestock with climate-resilient traits, such as drought tolerance and disease resistance, enhancing the adaptive capacity of herds to thrive in changing environmental conditions.
- **Conduct awareness campaigns** to educate farmers on efficient forage utilization, minimizing feed wastage, and supporting sustainable land use practices that reduce overgrazing and soil degradation.

3.3 Output: Sustainable land use, protected ecosystems and enhance agricultural productivity

This output aims to promote sustainable land use and the protection of ecosystems while simultaneously enhancing agricultural productivity in rural communities. By implementing comprehensive natural resource management practices, the project will address critical environmental challenges such as land degradation, water scarcity, and the loss of biodiversity, ensuring the long-term resilience of both natural ecosystems and local livelihoods. A central element of this effort is the establishment of multipurpose nurseries for the production of forage, tree, crop, and horticulture seedlings. These nurseries will support agro-biodiversity, contributing to soil conservation and providing farmers with diversified income sources. Community members will be trained in nursery management, ensuring a continuous supply of high-quality seedlings for future planting.

The project will also focus on afforestation and reforestation initiatives to restore degraded landscapes, improve soil stability, and enhance carbon sequestration. Native trees and plants will be planted to combat soil erosion, rehabilitate ecosystems, and provide sustainable sources of wood and non-timber forest products. Furthermore, biological and physical soil and water conservation practices will be

implemented to manage soil erosion and water resources effectively, especially in areas prone to erosion. The cultivation of cover crops and the construction of terracing and check dams will improve soil stability and water retention, while integrated soil fertility management will use both organic and inorganic methods to boost soil health and productivity. Additionally, area closure and invasive species control will protect fragile ecosystems and natural habitats, allowing biodiversity to recover and ensuring the long-term resilience of local environments. These comprehensive natural resource management strategies will not only protect and restore ecosystems but also increase agricultural productivity, foster sustainable livelihoods, and build community resilience to climate change.

3.3.1 Natural Resource Management:

A comprehensive natural resource management will promote sustainable land use, protect ecosystems, enhance agricultural productivity, and ensure the long-term well-being of rural communities. This activity will address the challenges of land degradation, water scarcity, and loss of biodiversity while strengthening the resilience of both the environment and livelihoods. One of the fundamental sub-activities in natural resource management is the establishment of multipurpose nurseries for the production of various seedlings. These nurseries yield forage, tree, crop, and horticulture seedlings, fostering agro-biodiversity and enhancing resource sustainability. Local communities will be trained in nursery management, ensuring a continuous supply of high-quality seedlings. This approach will contribute to soil conservation, biodiversity, and diversified income sources for farmers.

Afforestation and reforestation initiatives are vital in rehabilitating degraded landscapes. Native trees and plants will be planted to restore ecosystems, combat soil erosion, and enhance carbon sequestration. These initiatives not only improve environmental resilience but also provide sustainable wood and non-timber forest products, supporting livelihoods and enhancing biodiversity. The implementation of both biological and physical soil and water conservation practices is integral to natural resource management. Biological approaches include the cultivation of cover crops and vegetation for soil stabilization. Physical practices, such as terracing and check dams, will help in controlling soil erosion and managing water resources effectively, particularly in hilly terrains.

Integrated soil fertility management practices encompass organic and inorganic methods to enhance soil health. This approach will involve the use of organic matter, compost, and balanced fertilization to maintain and improve soil fertility, ultimately boosting agricultural productivity while promoting sustainable soil management. Area closure, through temporary or permanent land use restrictions, helps protect fragile ecosystems and natural habitats. It prevents overgrazing and habitat degradation, facilitating the recovery of biodiversity and enhancing ecosystem resilience.

Controlling invasive species is crucial to maintain the balance of local ecosystems. This sub-activity involves the identification and removal of invasive species to protect native flora and fauna. It helps in restoring ecological balance and preserving biodiversity.

- **Establish multipurpose nurseries** for the production of forage, tree, crop, and horticulture seedlings, supporting agro-biodiversity, soil conservation, and providing farmers with diversified income sources.
- **Train local communities in nursery management**, ensuring they have the skills to produce and maintain high-quality seedlings for sustainable agricultural practices and ecosystem restoration.
- **Implement community-led afforestation and reforestation initiatives**, planting native tree and plant species to rehabilitate degraded landscapes, combat soil erosion, and enhance carbon sequestration.
- **Develop biological soil conservation practices**, including the cultivation of cover crops and vegetation to stabilize soil and improve water retention, especially in erosion-prone areas.

- **Construct physical soil and water conservation structures**, such as terracing and check dams, to manage water resources and control soil erosion, particularly in hilly terrains.
- **Promote integrated soil fertility management** by training farmers to use both organic and inorganic methods, such as composting and balanced fertilization, to improve soil health and boost agricultural productivity.
- **Facilitate area closure initiatives** to protect fragile ecosystems and natural habitats by temporarily or permanently restricting land use, preventing overgrazing and promoting biodiversity recovery.
- **Identify and remove invasive species** to protect native flora and fauna, restore ecological balance, and preserve biodiversity within local ecosystems.

3.4 Output: Improved decision-making based on weather information.

This output seeks to empower rural communities, particularly farmers and herders, by providing them with real-time, localized weather information that enables them to anticipate and respond to the increasing unpredictability of weather patterns. In regions where erratic rainfall, prolonged droughts, and extreme weather events have created significant uncertainty, access to timely and reliable weather information is critical for effective agricultural planning and livestock management. By disseminating this information in local languages, the project will ensure that even the most isolated communities have the resources they need to adapt to changing climatic conditions.

The core of this initiative will be the development of a simple, text-based mobile alert system, which will deliver weather forecasts, warnings, and advisories directly to the mobile devices of community members. This system will provide vital information that can reduce the impact of weather-related hazards by helping farmers make informed decisions about when to plant, harvest, irrigate, or take protective actions. Additionally, community training sessions will ensure that users understand how to access, interpret, and act on weather alerts effectively. By doing so, the project will enhance the community's ability to protect their crops, livestock, and water resources from climate-related risks, ultimately leading to improved food security and increased resilience against climate-induced disasters. The initiative draws on proven successes, such as the 2015 flood warning by Ethiopia's National Meteorological Agency, which allowed communities to evacuate in time, avoiding fatalities and loss of livelihoods.

3.4.1 Weather Information Dissemination:

With unpredictable weather events, shifting rainfall patterns, and prolonged droughts affecting agriculture, water availability, and overall livelihoods, this initiative becomes a critical lifeline. Weather information a dissemination has been shown to be effective in reducing the impact of weather-related hazards in Ethiopia. For example, in 2015, the National Meteorological Agency (NMA) issued a flood warning for the city of Mekelle. The warning allowed residents to evacuate their homes before the floodwaters arrived, and no deaths were reported. Erratic rainfall patterns, prolonged droughts, and unexpected weather extremes have left farmers and herders grappling with uncertainty. The provision of localized weather information in the native language will bridge the information gap that often separates rural communities from the resources they need to adapt to climate change effectively. Through this effort, farmers and herders gain access to timely and accurate weather information and advisories in their local language, empowering them to make informed decisions about planting, harvesting, managing livestock and implement protective measures.

- **Collaborate with the National Meteorological Agency (NMA)** and other relevant institutions to ensure accurate and localized weather information is provided through the alert system, focusing on regions vulnerable to erratic weather events and climate-related hazards.

- **Conduct training sessions for community members** on how to receive, understand, and act on weather alerts via their mobile devices, empowering them to take protective measures in response to changing weather conditions.
- **Organize workshops for farmers and herders** to interpret weather forecasts and advisories, teaching them how to use this information to make informed decisions about planting, harvesting, irrigation, and livestock management.
- **Create a feedback mechanism** for farmers and herders to report on the effectiveness of weather alerts, helping to refine the alert system and improve its relevance to local agricultural and livelihood needs.

Component 4: Climate Smart Livelihood diversification

This component aims to enhance the climate resilience and livelihoods of the targeted communities by promoting livelihood diversification through the cultivation of cash crops, vegetables, fruits, and apiculture. The integration of these diverse agricultural activities offers rural communities valuable opportunities to shift away from subsistence farming and towards sustainable, income-generating ventures. By diversifying income sources, these communities will reduce their dependence on a single crop and enjoy a more consistent revenue stream. Additionally, cash crops, vegetables, and fruits are often in higher demand and have wider market accessibility, which can significantly improve economic outcomes.

The initiative emphasizes empowering women by facilitating the identification and management of diverse livelihood activities that align with local resources and market demands. Technical training will provide women with the necessary skills to cultivate these crops and engage in apiculture, ensuring they can effectively manage their operations. Through community demonstration plots and knowledge-sharing workshops, women will be equipped to cultivate crops that are resilient to climate impacts while also exploring new markets. This approach ensures that women and their communities are well-prepared to transition from subsistence-based practices to sustainable income-generating activities.

Beekeeping (apiculture) plays a crucial role in this diversification strategy. Not only does it offer a low-cost, accessible source of income, but it also enhances biodiversity and improves crop pollination. By providing women with technical training and resources, beekeeping will be seamlessly integrated with existing agricultural activities. Honey and beeswax production will further diversify income streams, offering economic benefits even during off-seasons.

To maximize the impact of these activities, the project will foster market linkages by forming women-led collectives and cooperatives. These collectives will enable women to pool resources, negotiate better market terms, and access larger buyers, retailers, and even export markets. By addressing barriers such as limited access to market information and capital, women will be empowered to secure fair pricing and consistent demand for their products.

Ultimately, this initiative seeks to build long-term resilience and economic stability within rural communities. By reducing reliance on a single income source and linking diversified agricultural products with larger markets, the project will improve food security, increase income potential, and foster sustainable development. Through this strategy, the livelihoods of community members, particularly women, will be transformed, enhancing their ability to withstand climate change impacts and economic shocks.

The main areas of focus for the component are:

- **Livelihood Diversification & Women's Empowerment:** Promote income diversification through cash crops, vegetables, fruits, and beekeeping, with a focus on empowering women through technical training and entrepreneurship.
- **Market Linkages & Income Stability:** Establish women-led cooperatives to enhance market access and create sustainable income-generating ventures.
- **Climate Resilience & Environmental Sustainability:** Implement climate-resilient farming and beekeeping practices to improve food security, biodiversity, and community resilience against climate change.

Outputs and Activities:

4.1 Output: Reduced reliance on a single source of income

This output focuses on empowering women in rural communities by facilitating the successful identification, implementation, and management of diversified livelihood activities. By shifting away from traditional, single-income sources, this initiative fosters economic stability and resilience. Through a comprehensive assessment of local resources, market demands, and women's unique needs and skills, diverse and sustainable income-generating activities will be identified, with a specific focus on women's empowerment. The introduction of gender-responsive diversification options such as cash crops, vegetables, fruits, and beekeeping will provide women with multiple income streams, reducing their vulnerability to economic shocks and environmental risks.

Technical training and knowledge sharing will equip women with the necessary skills in modern agricultural practices, animal husbandry, entrepreneurial activities, and sustainable resource management, ensuring they are well-prepared to manage these new ventures. Hands-on demonstration plots and model farms will serve as community learning centers, providing practical experience in cultivation, processing, and marketing of diversified products. These centers will also encourage knowledge exchange and foster collective decision-making among women, building social cohesion and collaboration.

The **implementation of diversification activities** will involve direct engagement with women in preparing land, procuring resources, and establishing farming plots and beekeeping infrastructure. Continuous support will be provided to ensure the adoption of sustainable practices and effective resource use. Women's active participation in monitoring and troubleshooting during the implementation phase will enhance their ownership of the process, ultimately improving their livelihoods and resilience. The outcome will be a sustainable model of women-led economic diversification, contributing to long-term income generation, community empowerment, and rural development.

4.1.1 Identification of Gender Responsive Diversification Options: This activity centers on the analysis of potential income-generating activities beyond traditional livelihood practices within a specific context, with a particular focus on women. It involves a targeted approach to engage and collaborate with women in the community, along with experts and relevant stakeholders, to identify a range of viable alternatives. Through assessments of local resources, market demand, women's skills, and existing capabilities, this step aims to pinpoint diverse options that align with the preferences and economic prospects of women. The identification process lays the foundation for creating a strategic roadmap for diversification, considering the unique needs and opportunities of women in the community, while fostering economic stability and resilience from a women-centric perspective.

- **Conduct a detailed community assessment** focusing on women's needs, existing agricultural practices, available resources, market access, and local preferences to identify gaps and opportunities for diversification.

- **Identify barriers and opportunities** specific to women in the community for adopting diversified activities such as cash crops, vegetables, fruits, and beekeeping, considering cultural, social, and economic factors.
- **Engage with women, local experts, and stakeholders** to collaboratively explore potential livelihood diversification options that align with women's skills, preferences, and market demand within the local context.
- **Develop a strategic roadmap for diversification**, integrating women's unique needs and ensuring economic stability, resilience, and alignment with the community's overall development objectives.
- **Facilitate consultations and focus groups** with community members to validate identified options and ensure that women's voices are central to the decision-making process regarding new income-generating activities.

4.1.2 Technical Training and knowledge sharing: These elements revolve around tailored training programs designed to equip women in the community with the essential skills and knowledge required to effectively embrace and manage new income-generating activities. These training sessions encompass various aspects, including modern agricultural practices, animal husbandry techniques, processing methods, entrepreneurial skills, and sustainable resource management, with a specific focus on women's needs and empowerment. The goal is to empower female participants with practical expertise that enables them to proficiently engage in a range of diversified activities, taking into account their unique perspectives and aspirations.

Furthermore, knowledge sharing serves as a platform for women to exchange experiences, share best practices, and foster innovative ideas among community members. This collaborative approach encourages the transfer of local wisdom and lessons learned, creating a supportive network that enhances the collective capacity of women to address challenges and seize opportunities.
The combination of technical training and knowledge sharing establishes a dynamic learning ecosystem, where women in the community not only acquire new skills but also develop a deeper understanding of the broader socio-economic and environmental landscape. This synergy empowers them to make well-informed decisions, adapt adeptly to shifting circumstances, and collectively drive the sustainable advancement of diversified livelihoods in rural settings with a women-centric focus.

- **Organize targeted training sessions** for women on the selected income diversification options, focusing on modern agricultural practices, integrated pest management, soil health, animal husbandry, and sustainable beekeeping techniques to enhance their skills in managing new income-generating activities.
- **Facilitate entrepreneurial and resource management training**, providing women with the knowledge needed to effectively run and scale their diversified ventures, including financial literacy, marketing, and business planning.
- **Create knowledge-sharing platforms** by establishing women-led farmer groups, cooperatives, or associations, fostering collective decision-making, peer learning, and mutual support to strengthen community bonds and improve overall outcomes.
- **Set up demonstration plots and model farms** where women can observe and participate in hands-on activities, including the cultivation of cash crops, vegetables, fruits, and beekeeping techniques. These practical centers will serve as real-time examples of successful diversified livelihoods.
- **Encourage continuous learning and feedback loops**, enabling women to share their experiences, best practices, and lessons learned with each other, while building a support network that drives innovation and collective problem-solving in rural development contexts.

4.1.3 Implementation of Diversification Activities: This activity focuses on translating the identified diversification options into tangible actions that empower women and contribute to enhancing their families livelihoods and resilience. Central to this process are community engagement, collaboration, and adaptive management, all with a specific focus on the women in the community. Initially, women play an active role in preparing the land, procuring necessary resources like seeds, equipment, or livestock, and establishing the infrastructure required for their chosen activities. This may involve setting up new farming plots, constructing beehives, or developing processing facilities. Ongoing technical guidance will be provided to ensure that the women correctly implement techniques, adhere to sustainable practices, and efficiently use resources. Monitoring and evaluation mechanisms will be put in place to track progress, identify challenges, and make necessary adjustments. Regular field visits, data collection, and feedback loops will enable continuous improvement and responsive decision-making. These activities will empower women to take charge of their diversification initiatives, fostering a sense of ownership and control.

Collaboration among women in the community is essential during implementation. It encourages collective learning, problem-solving, and the sharing of experiences, innovative ideas, and solutions to common challenges. This collaboration helps build social cohesion, mutual support, and a conducive environment for collective progress. Ultimately, the implementation of diversification activities, with a women-centric focus, acts as the bridge between plans and outcomes, transforming women's aspirations into tangible improvements in their livelihoods, economic well-being, and resilience within the rural landscape.

- **Distribute quality seeds, seedlings, saplings, and beehives** to interested women and community members, ensuring timely access to essential resources for the successful cultivation of selected crops, vegetables, and fruits, and the establishment of sustainable beekeeping practices. This distribution will focus on species and varieties that are climate-resilient and suited to local environmental conditions.
- **Facilitate hands-on training and resource procurement** to support women in preparing the land, installing beekeeping infrastructure, and managing the agricultural inputs effectively. This process will include workshops on how to maintain soil fertility, conserve water, and utilize organic farming techniques for long-term sustainability.
- **Provide continuous technical guidance and mentorship**, offering tailored support to women during the implementation phase. Field experts will conduct regular site visits to monitor the use of sustainable practices, assist in troubleshooting issues, and ensure that women can confidently manage their diversified activities.

4.2 Improved income and better market access for community members

This output focuses on ensuring that the diverse activities undertaken by women and rural communities evolve from subsistence-based practices into sustainable income-generating ventures by promoting robust market linkages. By identifying and establishing strong connections between local producers and larger markets, including buyers, distributors, retailers, agribusinesses, and even export channels, the project creates a pathway for community members to access broader market opportunities. This shift not only improves the economic viability of diversified activities but also enhances the income potential for women and their communities.

The project emphasizes forming women-led producer collectives or cooperatives that empower communities to pool resources, negotiate favourable terms, and collectively enter larger markets with more leverage. These collectives are instrumental in addressing barriers that rural women face, including limited access to market information, transportation, and capital. Through collaborative marketing and shared resources, women can secure better prices for their products, ensuring fair pricing

and steady demand for goods such as cash crops, vegetables, fruits, and honey. By developing local market partnerships and integrating farmers with agribusinesses and processing units, the project fosters an environment where rural producers have reliable buyers and a supportive market infrastructure that guarantees long-term demand for their products.

This initiative not only empowers women to take control of their economic futures but also builds economic resilience in rural communities, reducing reliance on single-income sources and fostering sustainable progress. By linking women's diverse offerings with larger markets, the project significantly amplifies their economic well-being, improves livelihood security, and strengthens the overall financial prospects of their communities.

4.2.1 Promotion of Market Linkages:

This activity focuses on the deliberate creation of strong connections between the diverse offerings of women in rural communities and the broader market. It ensures that the products and services provided by women and the community reach potential consumers, securing the economic sustainability and viability of their newly diversified ventures. By actively promoting market linkages, these diversified efforts evolve from local subsistence activities into income-generating initiatives with the potential to make a substantial contribution to the livelihoods of women in the community. Through the nurturing of connections between women in rural communities, the community in general and larger markets, this initiative strengthens economic resilience, enhances income opportunities, and facilitates sustainable progress. The emphasis will be on empowering women to bridge the gap between their products and a wider market, thereby amplifying their economic well-being and financial prospects.

- **Identify and assess potential buyers, distributors, retailers, and export channels**, ensuring women and community members have streamlined access to desired markets that align with their diversified products, such as cash crops, honey, and vegetables.
- **Facilitate the formation of women-led producer collectives or cooperatives** to enable collaborative marketing efforts, allowing women to pool resources, collectively negotiate better terms, and access larger markets with more bargaining power.
- **Conduct market analysis and establish market information systems** to provide community members with insights into demand trends, pricing, and competitive opportunities, helping them strategically position their products in broader markets.
- **Establish partnerships between farmers and local markets, agribusinesses, and processing units**, ensuring a steady demand for produced goods while supporting fair pricing structures that improve income stability for community members.

Theory of Change

In the Ethiopian rural context, where drought is a recurrent climate-induced shock impacting rural communities and a significant driver of poverty and food insecurity, a comprehensive strategy is essential to address this cyclic challenge. Recognizing the multifaceted effects of climate change-related hazards on livelihoods and the environment, a holistic and coordinated approach is necessary to enhance the resilience of communities. This entails bolstering absorptive, adaptive, and transformative capacities:

- **Absorptive Capacity:** Strengthening coping strategies, risk management, and savings mechanisms to withstand and recover from climate-related shocks like drought.
- **Adaptive Capacity:** Enhancing the use of assets, motivation, livelihood diversification, and human capital to adapt to changing climate conditions and variability.
- **Transformative Capacity:** Developing governance mechanisms, policies, infrastructure, community networks, and formal safety nets to drive long-term transformative change in response to climate challenges.

To address these challenges, this project has been developed within a climate-smart and landscape-based framework. This initiative combines improved water access, resource rehabilitation, and management with livelihood diversification. The project, closely aligns with Ethiopia's national climate change strategy and medium-term development plan, employs an integrated approach to achieve adaptation impacts and build resilience among vulnerable communities.

The project encompasses various dimensions of resilience, encompassing economic, technological, environmental, infrastructure, and institutional aspects. By repairing or enhancing assets, restoring landscapes, improving skills, and accessing new markets, the project aims to elevate livelihood security and income, ultimately reducing vulnerability to climate risks.

A web of interlinked pathways of change is necessary for the sustainable development of resilience within communities. The project's cross-cutting features create synergies among components and empower local and national administrations to embed climate change considerations into rural planning. Notably, vulnerable households will experience improved agricultural productivity through soil and water conservation, afforestation, and reforestation. These activities contribute to stabilizing water resources and enhancing natural resource management, leading to decreased soil erosion and increased agricultural productivity.

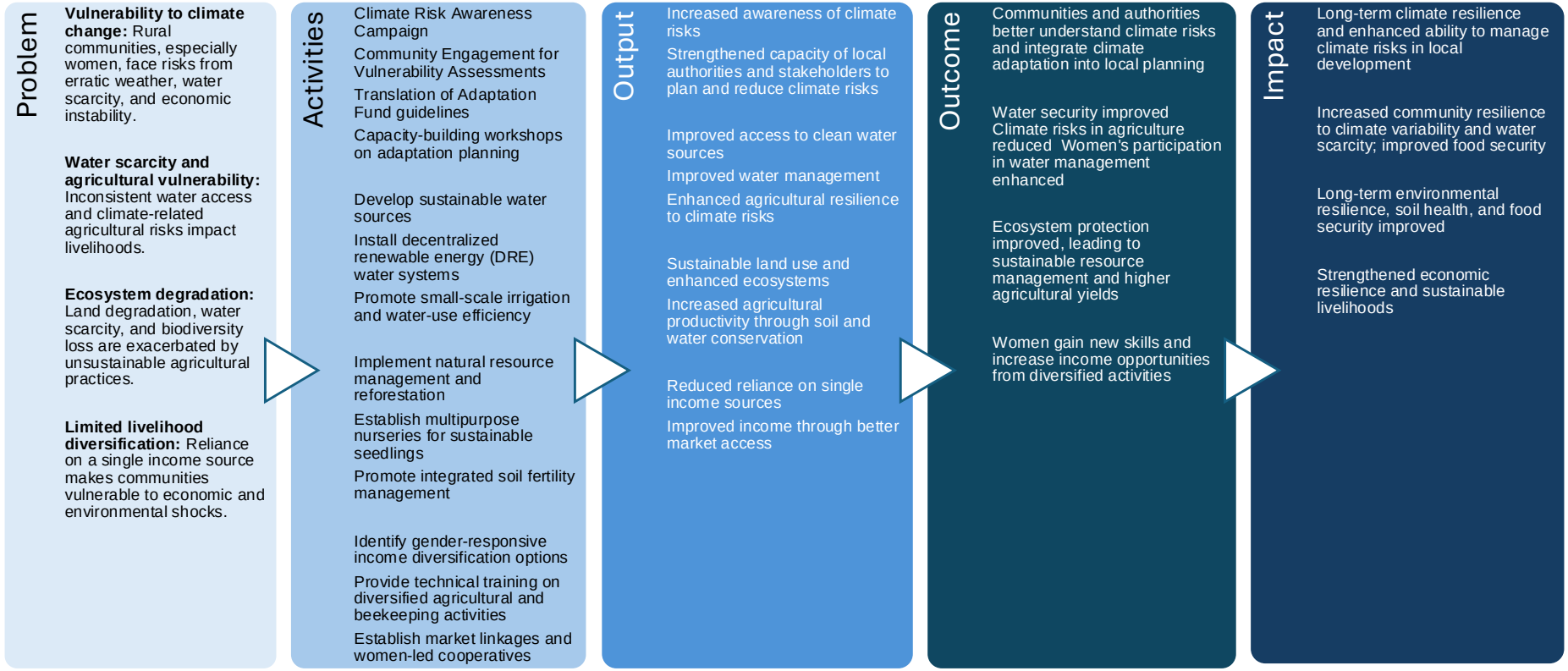
A participatory approach that prioritizes women's involvement will foster a conducive environment for long-term sustainability. The project's success hinges on the orchestrated implementation of diverse interventions tailored to specific agro-ecological zones, underpinned by integrated planning and climate-responsive strategies.

Recognizing that no single intervention can single-handedly break the cycle of drought, the project emphasizes the importance of a comprehensive suite of activities for sustainable resilience building. By fostering a diversified range of productive activities aligned with local habitats and ecosystems, the project seeks to ensure long-term sustainability and replicate its success in other regions.

The project emphasizes the significance of sharing knowledge and enhancing capabilities to reinforce climate resilience within the targeted communities and has weaved these activities under each component. It encompasses the dissemination of climate-related insights, impacts, and adaptive strategies, alongside the development of essential skills and competencies. By equipping

community members and local leaders with the tools needed to understand and address climate challenges, the project strives to empower them to take informed actions. The activities concentrate on boosting the ability of these communities to withstand and recover from climate-induced adversities, ultimately bolstering their well-being and livelihoods. This approach operates at the grassroots level, recognizing the diversity of climate impacts across regions and tailoring interventions to match specific needs, challenges, and opportunities. Overall, the project aims to create community-level resilience by fostering awareness, skills, and collaborative practices that enable communities to proactively manage climate risks and enhance their adaptive capacity.

Theory of Change (TOC) Diagram



Assumptions

1) Communities and local governments are willing and able to participate in the planning process.
2) Political stability and support from local authorities facilitate project planning and implementation.
3) Water resources will be sufficient to meet community needs throughout the project period.
4) Women will have the opportunity and agency to participate in leadership roles.
5) Farmers will adopt and maintain climate-smart agricultural practices.
6) Training programs will be accessible and relevant for both men and women.
7) Diversified livelihoods will be economically viable and culturally accepted by the target communities.

Risks

1) Lack of local expertise in operating and maintaining SWP systems and modern irrigation infrastructure may hinder project implementation.
2) High capital costs and currency fluctuations could increase project costs, making it difficult to scale or maintain systems post-project.
3) Resistance from farmers and communities to adopting new technologies or practices due to entrenched reliance on traditional methods.
4) Limited participation of women and marginalized groups due to social and cultural barriers.
5) Ongoing conflict in certain parts of Ethiopia, such as the northern regions, could disrupt project activities and access to key intervention areas.

Explanation of the Theory of Change

1) **Problem Identification:** Rural communities in the targeted localities of Ethiopia are facing increasing vulnerabilities due to climate change, including erratic weather patterns, water scarcity, and reliance on subsistence farming. These factors contribute to reduced economic stability, food insecurity, and environmental degradation. Women are disproportionately affected due to limited access to resources and decision-making roles.

2) **Activities:** The project focuses on a combination of climate risk awareness, capacity building, and the development of climate-smart infrastructure. Activities include community engagement in identifying climate vulnerabilities, water security through developing water assets through solar powered systems for productive use, promoting diversified livelihood options such as climate-resilient crops and beekeeping, and building market linkages for women-led collectives.

3) **Outputs:** These activities will lead to specific outputs such as increased awareness of climate risks, improved water access, strengthened local governance on climate planning, reduced reliance on a single income source, and enhanced agricultural productivity through natural resource management. Women's roles are emphasized in income diversification and community leadership.

4) **Outcomes:** As a result of these outputs, communities become better equipped to handle climate risks through improved planning and decision-making. Agricultural and water management practices are more resilient to climate change, and women play a more prominent role in economic activities. By developing diverse income sources and market access, rural women and their communities gain greater economic stability and food security.

5) **Impact:** The long-term impact of these interventions is the creation of climate-resilient, economically sustainable communities. Improved water for potable and productive use and land management lead to healthier ecosystems and greater food security, while women's empowerment in decision-making contributes to broader community resilience and contribution to the national economy.

B. Economic, social and environmental benefits of the project

Economic and social benefits

The initiative's economic benefits are manifold and contribute to fostering sustainable development in rural communities. Under the first component, the heightened climate risk awareness campaign not only mitigates economic losses from climate-related events but also establishes a foundation for more resilient, economically viable decision-making processes. Capacity-building workshops further ensure that local authorities possess the necessary skills to implement economically sound climate adaptation strategies. The community engagement and participatory vulnerability assessments empower communities to make informed decisions, potentially reducing economic vulnerabilities. Mainstreaming climate adaptation into development plans aligns economic policies with climate resilience, creating a conducive environment for sustainable economic growth.

Improved access to clean water sources outlined in the second component underlines economic productivity, especially in water-dependent activities such as agriculture and livestock rearing. The upgraded water infrastructure enhances economic efficiency by facilitating more effective water distribution and storage, positively impacting local economies. The introduction of decentralized renewable energy (DRE) systems contributes to economic sustainability through cost-effective provision of water for potable and productive use and avoid the use of fossil-based generator systems. DRE systems not only reduce the time required to purchase fuel sold at two to three times the price at the Urban centers, but also avoid the emission of carbon. Small-scale irrigation and water use efficiency measures enhance agricultural productivity, translating to increased economic output for local communities. Women-centric capacity building not only empowers women economically but also contributes to a more inclusive and diverse economic landscape.

In the third component, climate-resilient crop selection and livestock management practices directly impact economic resilience by diversifying income sources and reducing dependence on a single crop or livestock variety. Sustainable land use and natural resource management practices contribute to long-term economic efficiency by protecting ecosystems and enhancing agricultural productivity. Weather information dissemination supports economically sound agricultural practices, enabling farmers to make informed decisions and optimize productivity.

The fourth component, focusing on climate-smart livelihood diversification, introduces economic stability through the identification of gender-responsive diversification options. Technical training equips community members with the necessary skills to implement and manage diversified livelihood activities, fostering income generation and reducing reliance on a single source of income. Promotion of market linkages enhances the economic viability of diversified activities, providing improved income and better market access for community members.

Social benefits are interwoven with economic advancements throughout the initiative. In the first component, increased community ownership and understanding of climate risks foster a sense of resilience and self-sustainability, enhancing social cohesion. The second component, emphasizing water security and women's empowerment, promotes improved community health and well-being, fostering social development. The inclusion of gender-responsive strategies and awareness campaigns further contributes to enhanced gender equality and social inclusivity.

In the third component, the promotion of climate-resilient agriculture and livestock practices aligns with social benefits such as improved nutrition and overall community well-being. Weather information dissemination not only supports economically sound practices but also ensures communities are better prepared to cope with climate-related challenges, enhancing overall social resilience.

Under the fourth component, the identification of gender-responsive diversification options and technical training contribute to strengthened community ties and knowledge exchange. The promotion of market linkages enhances social connectivity by integrating communities into broader economic networks, fostering a sense of collective well-being.

In essence, the economic and social benefits outlined in each component collectively contribute to the overarching goal of creating vibrant, resilient, and self-sustaining rural communities. Through these integrated efforts, the initiative aspires to bring about lasting positive transformations in economic livelihoods and social dynamics.

Environmental Benefits

The environmental benefits outlined in the initiative showcase a holistic and integrated approach to promoting sustainability and resilience in rural communities across various components. Under the first component, the focus on climate risk reduction and adaptation planning contributes to increased awareness and understanding of climate risks. This heightened awareness can lead to more informed decision-making, potentially reducing vulnerabilities and minimizing adverse environmental impacts.

Moving to the second component, which centers on water security, climate resilience, and women's empowerment, the environmental benefits are multifaceted. Improved access to clean water sources not only enhances community health but also contributes to the protection of natural water ecosystems. The upgrade and expansion of water supply systems, coupled with the use of decentralized renewable energy (DRE) systems, promote efficient water distribution and sustainability, thereby minimizing stress on local environments.

In the third component, climate-smart agriculture and livestock rearing activities are designed to enhance environmental sustainability. The adoption of climate-resilient crop selection and diversification, along with sustainable livestock production and management, contributes to increased ecosystem resilience and biodiversity. Additionally, natural resource management practices aim to ensure sustainable land use, protect ecosystems, and enhance agricultural productivity without compromising environmental integrity.

Finally, the fourth component, focusing on climate-smart livelihood diversification, emphasizes the importance of gender-responsive and environmentally friendly options. By identifying diverse livelihood opportunities aligned with local resources and capabilities, the initiative aims to reduce environmental impacts associated with traditional practices. Technical training and knowledge-sharing efforts further promote environmentally conscious practices, ensuring that the implementation of diversified activities aligns with sustainable principles.

The environmental benefits emerging from the implementation of this project are woven into its fabric, addressing climate risks, water security, agriculture, and livelihoods in a manner that fosters community resilience while promoting responsible and sustainable environmental practices. The overall impact is a transformative approach that not only empowers communities but also contributes to the long-term health and sustainability of the environments in which they operate.

Impact on Gender

The comprehensive strategy of the initiative to address gender disparities and empower women spans across various components, acknowledging the multifaceted roles that women play in rural communities. In the realm of climate risk reduction and adaptation planning, the project not only seeks to increase the awareness of women regarding climate risks but also actively involves them in decision-

making through capacity-building workshops and participatory vulnerability assessments. This ensures that women are not just recipients of information but are empowered to contribute meaningfully to shaping climate-resilient strategies.

The water security and climate resilience component recognizes the disproportionate impact of water-related challenges on women and aims to alleviate their burdens. Improved access to clean water sources not only enhances the health and well-being of women but also liberates their time for more productive activities. The emphasis on decentralized renewable energy systems further aligns with gender inclusivity, providing women with alternative and sustainable energy sources for various domestic and agricultural needs.

In agriculture and livestock rearing, the initiative actively involves women by promoting climate-resilient practices. This includes supporting women in making informed decisions about crop selection, livestock management, and natural resource use. By disseminating weather information, women are equipped to adapt their agricultural practices, enhancing productivity and reducing climate-related risks.

The project's commitment to climate-smart livelihood diversification is a pivotal aspect of empowering women economically. By identifying gender-responsive options and providing technical training, the initiative not only broadens the economic landscape for women but also ensures they have the necessary skills and knowledge to successfully manage diversified livelihood activities. The focus on market linkages further enhances economic viability and market access, contributing to increased income and economic well-being for women.

The initiative will appoint a dedicated Gender Coordinator responsible for collaborating with both men and women, as well as boys and girls, to foster equal participation in decision-making processes within adaptation planning. This coordinator will ensure the transparency and accessibility of project targeting and capacity-building procedures, while also providing training to women's organizations to actively engage and lead these processes. To uphold gender equity, the project will implement a recruitment process that ensures fair representation of women at both the project management level and within the community. A robust monitoring and evaluation framework will be established, incorporating gender-disaggregated data to assess participation in adaptation planning and implementation. This framework will also measure the impacts of climatic variations and adaptation efforts on gender relations. Moreover, the project is committed to utilizing sex-disaggregated indicators in its monitoring activities to systematically track the delivery of gender equality outcomes across all interventions.

The project envisions a transformative impact on gender dynamics by empowering women across multiple dimensions. By recognizing, involving, and supporting women in various aspects of climate resilience and sustainable development, the project aims to create more resilient, inclusive, and gender-equal rural communities.

Table 8 Gender inequality risks and proposed mitigation measures

Component	Risk	Level	Mitigation
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level	• Limited inclusivity in awareness campaigns • Gender-based participation gaps • Limited inclusion of women in decision-making • Gender-blind policies	• Medium • High • High	• Tailored campaigns ensuring equal representation of genders. • Promote equal participation through targeted outreach • Facilitate inclusive community engagement and empower women to voice concerns

	• Insufficient gender-disaggregated data • Gender-based environmental vulnerabilities	• Low • Medium • Medium	• Integrate gender considerations into policy development and planning • Implement robust monitoring systems with gender-specific indicators • Implement safeguards considering differential impacts on genders
Component 2: Water Security, Climate Resilience, and Women's Empowerment	• Unequal water access • Limited female involvement in water system management • Gender-specific energy access challenges • Unequal benefits from irrigation • Capacity building brings limited impact without addressing gender roles • Ineffective awareness campaigns due to gender insensitivity	• Low • Medium • High • Medium • Medium • Medium	• Ensure equitable water source distribution, prioritizing women • Provide training and support for women's active participation. • Design energy systems considering women's needs and participation • Incorporate mechanisms for women's equal participation and benefit-sharing • Empower women with tailored capacity-building, considering their roles in water management • Craft campaigns recognizing and challenging traditional gender roles
Component 3: Climate Smart Agriculture and Livestock Rearing	• Limited adoption by women farmers • Gender disparities in livestock management • Unequal access to and benefit from resources • Limited accessibility of weather information for women	• Medium • Medium • High • Low	• Provide targeted support and education to women for crop diversification • Ensure equal training opportunities and resources for women in livestock rearing • Implement sustainable resource management practices with a gender lens • Disseminate weather information through channels accessible to women
Component 4: Climate Smart Livelihood Diversification	• Women excluded from diversified livelihood options • Gender-based training gaps • Unequal implementation outcomes from diversification activities • Gender-based market access challenges	• Low • Medium • Low • Low	• Engage women in identifying and selecting livelihood options • Ensure gender-sensitive training programs and knowledge sharing • Facilitate women's active participation and leadership in diversification activities • Support women's access to markets through targeted promotion and linkages

C. Analysis of the cost-effectiveness of the project

The project's value for money is enhanced through a comprehensive and integrated approach, innovative cost-saving measures, renewable energy integration, and a strategic focus on sustainable agriculture practices. The project's ability to adapt and learn from similar initiatives further strengthens its position in terms of cost-effectiveness and value for money.

- **Integrated and Comprehensive Approach:** The project adopts a holistic and integrated approach by addressing various aspects of climate resilience, water security, agriculture, livestock, and livelihood diversification. This comprehensive strategy ensures that the project maximizes its impact across multiple sectors, making efficient use of resources and delivering value for money.
- **Cost-Effective Climate Risk Reduction (Component 1):** The project's approach to climate risk reduction and adaptation planning is cost-effective. By strategically combining awareness campaigns, capacity-building workshops, and community engagement, the project ensures that it not only enhances resilience at the local level but does so in a manner that optimizes resource utilization.
- **Efficient Water Infrastructure (Component 2):** The focus on upgrading water infrastructure is a key contributor to value for money. By enhancing the efficiency and sustainability of water supply systems, the project ensures that the benefits are both immediate and long-term. The cost-effectiveness is further emphasized by rehabilitating existing irrigation infrastructures and adopting innovative technologies.
- **Renewable Energy Integration (Component 2 - Subcomponent 3):** The incorporation of decentralized renewable energy systems, particularly solar-powered water pumps, adds value for money. This not only aligns with sustainable practices but also reduces operational costs in the long run. The project's adaptability to the removal of fuel subsidies and the unavailability of fuel in certain regions demonstrates its strategic and cost-effective use of renewable energy.
- **Climate-Smart Agriculture and Livestock Rearing (Component 3):** The project's emphasis on climate-resilient crop selection, livestock production, natural resource management, and weather information dissemination contributes to sustainable agricultural practices. The value for money is evident in the increased resilience, food security, and environmental sustainability achieved through a combination of these activities.
- **Gender-Responsive Livelihood Diversification (Component 4):** The gender-responsive approach to livelihood diversification, including the identification of options, skills training, implementation, and market linkages, enhances the overall impact and cost-effectiveness of the project. By tailoring activities to the needs of women and promoting economic viability, the project ensures that diversified livelihoods contribute significantly to community well-being.
- **Monitoring and Evaluation:** The project's commitment to establishing a monitoring and evaluation framework, including the use of sex-disaggregated indicators, adds an additional layer of value for money. This ensures that the project's impacts are continuously assessed, allowing for adaptive management and optimization of resources.

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level

The cost-effectiveness analysis of **Component 1** underscores a nuanced and multifaceted approach to strengthening climate resilience at the local level. The Climate Risk Awareness Campaign (1.1) involves a strategic allocation of resources towards designing and implementing outreach initiatives. This includes the development and dissemination of informative materials, workshops, and community events aimed at fostering increased awareness and a deeper understanding of climate risks and vulnerabilities within targeted communities. The sub-component contributes significant value by generating increased awareness and understanding of climate risks and vulnerabilities among the targeted communities and stakeholders. The tangible outcome of this component is the enhanced knowledge base within these communities, fostering a proactive approach to climate-related challenges.

Simultaneously, the Capacity-building Workshops (1.2) constitute an essential investment in human capital, with costs associated with organizing training sessions, developing educational materials, and facilitating engagements. The objective here is to enhance the capacity of local authorities, communities and stakeholders, ensuring their effective participation in climate risk reduction and adaptation planning. Substantial value will be yielded by strengthening the capacity of local authorities and stakeholders. This investment ensures that these key actors are well-equipped to engage in climate risk reduction and adaptation planning actively and effectively. The outcome is a more knowledgeable and skilled local governance structure capable of driving informed decision-making in response to climate threats.

Furthermore, the Community Engagement and Participatory Vulnerability Assessments (1.3) encompass costs related to facilitation, data collection tools, and communication materials. This component seeks to empower communities by fostering increased ownership and understanding of climate risks, thereby facilitating informed decision-making in the adaptation planning process. Increased community ownership and understanding of climate risks will add value to the project as it will lead to a more informed decision-making in adaptation planning and empowering communities to actively participate in and contribute to the development of resilient strategies.

Lastly, the Mainstreaming Climate Adaptation into Development Plans (1.4) involves costs associated with integration processes, staff training, and policy development. The goal is to catalyze a shift in commitment towards climate adaptation, ensuring the seamless integration of relevant measures into local policies and plans. It is an integral component that enhances the value for money by ensuring a sustained commitment to climate adaptation. This output focuses on increased integration of climate adaptation measures into local policies and plans, thereby creating a foundation for long-term resilience.

The inclusion of Project Management, Monitoring, and Evaluation (1.5) and Environment Social Safeguard Management (1.6) components enhances overall value by ensuring efficient project oversight, continuous improvement through monitoring and evaluation, and the incorporation of environmental and social safeguards. The project's management structure is designed to optimize efficiency by employing the minimum necessary staff. Given the project's scope across 5 Woredas in 5 regions of Ethiopia, management includes staff at the Federal, regional, and Woreda levels for overall coordination. Kebels targeted for intervention are within the same woreda’s in each region, which will reduce number of experts required for project supervision in each woreda, spot supervision and travel time between sites. This approach not only reduces project management costs but also ensures close oversight and support at the Woreda and kebele levels, contributing to local capacity building and sustainable project management beyond its conclusion.

Additionally, the project implementation will benefit from the support of government institutions experienced in similar activities. Experience sharing from other areas will further contribute to cost reduction. Existing planning, budgeting, reporting, procurement, and financial management systems will be utilized to implement the project at minimal cost while maintaining standards to mitigate losses due to inefficiency. Competitive procurement procedures will be adhered to, reducing costs. Furthermore, the knowledge gained from the project will be leveraged through scaling up measures in other areas.

The implementation of Component 1 ensures that every investment made contributes to building a resilient ecosystem at the local level. The outputs are designed not only to address immediate challenges but also to establish a foundation for sustained climate resilience, making the overall value for money substantial and impactful.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

This component is designed to deliver substantial value for money through a comprehensive and integrated set of activities. The Water Source Development and Protection (2.1) aspect is a pivotal investment for community well-being. By enhancing access to clean water sources, the project directly impacts the health and livelihoods of targeted communities and increases their productivity in a tangible manner. The investment in developing and safeguarding water sources translates into a sustainable and essential resource that will benefit the community over the long term. For example, in comparison to similar projects, this initiative focuses on non-functional boreholes due to issues such as lack of spare parts, unaffordable fuel costs, or insufficient resources for pump installation. The cost ratio of drilling to equipping wells with a pump is 1:0.75 for boreholes shallower than 75 meters. By circumventing the expenses associated with Hydrogeological and Geophysical tests and borehole drilling, nearly 50 percent of the costs can be saved by targeting productive yet inactive wells. This not only reduces the cost of borehole drilling but also accelerates the project timeline. Additionally, the project considers cost-effective and timely interventions like rainwater harvesting and spring development, which involve simple infrastructure such as gutters, pipes, and storage tanks. These measures enhance cost-effectiveness and sustainability, thereby maximizing the overall value for money in the project.

Enhanced Water Infrastructure Upgrade (2.2): This element elevates the cost-effectiveness by addressing the efficiency and sustainability of water supply systems. The improvement and expansion of infrastructure not only augment the distribution of water and boost productivity but also contribute to the long-term resilience of these systems. This ensures that the investment's cost-effectiveness is immediate and extends into the future, providing enduring benefits. Similarly, this sub-component focuses on revitalizing existing irrigation infrastructures that are currently inactive due to a lack of pipes and fittings or inefficient water transportation mechanisms for productive use. To enhance value for money, failed systems will be replaced with durable materials, efficient distribution systems, and the adoption of innovative, renewable technologies for water management, thus providing superior value and revitalizing them into resilient infrastructure.

Decentralized Renewable Energy (DRE) Systems (2.3): The integration of renewable energy into water supply represents a strategic initiative that brings substantial value. By harnessing renewable sources for water-related activities, the project aligns with sustainable practices, promoting climate resilience and minimizing environmental impact. This ensures that the investment in water provision is not only efficient but also environmentally sustainable and adaptable to changing climatic conditions. With recent government policies removing fuel subsidies, communities in the targeted woredas have experienced a surge in fuel prices, rendering fuel unaffordable and significantly increasing the cost of food production. Moreover, due to legal restrictions, fuel cannot be sold to communities in large quantities to prevent potential misuse during civil unrest. Consequently, communities' resort to purchasing fuel from the black market at 2 to 3 times the official market price. This has led to the abandonment of diesel generators, previously used for pumping water, making renewable systems more viable in rural Ethiopia. DRE systems promise long-term benefits, including reduced operational costs and tangible environmental advantages. This project will integrate cost-effective renewable energy solutions, such as solar-powered water pumps, enhancing overall value for money by reducing reliance on conventional energy sources and associated recurring expenses.

Small-Scale Irrigation and Water Use Efficiency (2.4): This element is crucial for enhancing agricultural practices. The investment in small-scale irrigation not only improves water use efficiency in agriculture but also mitigates climate-related risks to crops. This ensures that the cost-effectiveness of the project extends to the agricultural sector, a vital component of the communities' livelihoods. This subcomponent will add value for money by increasing the yield per unit of investment. Complemented by resilient infrastructure, efficient water use, climate resilient irrigation practices, the impact on the community's

agricultural productivity will be profound and demonstrate superior value as compared to projects with lower agricultural yields.

Women-Centric Capacity Building (2.5) and Gender-Responsive Awareness Campaigns (2.6): The emphasis on women's empowerment is a strategic investment that adds social value. Strengthening the skills and participation of women in water management and agriculture contributes to broader gender equality. This will invest in comprehensive training programs and impactful awareness campaigns that will yield greater social and gender-related benefits compared to projects with more limited gender-focused activities. The gender-responsive awareness campaigns further enhance the social impact, improving gender roles and recognizing women's contributions. These outputs ensure that the project's benefits extend beyond infrastructure, creating a more inclusive and equitable community.

In conclusion, Component 2's holistic approach to water security, climate resilience, and women's empowerment ensures a robust value-for-money proposition. The strategic investments made in infrastructure, renewable energy, and gender-sensitive activities contribute not only to immediate improvements but also to the long-term sustainability and resilience of the targeted communities.

Component 3: Climate Smart Agriculture and Livestock Rearing

Component 3 of this project strategically combines activities to create a cost-effective and value-driven approach, fostering climate-smart agriculture and resilient livestock rearing practices. The emphasis on sustainability and long-term benefits ensures that the investment yields substantial value for money over time.

Climate-Resilient Crop Selection and Diversification (3.1): This activity contributes to increased resilience by promoting diverse crop varieties. The cost-effectiveness lies in the enhanced adaptability of crops to varying climate conditions, reducing the risk of crop failure. By investing in resilient crop varieties, the project ensures a sustainable and productive agricultural sector, resulting in long-term benefits and economic viability.

Climate-Resilient Livestock Production and Management (3.2.): This activity focuses on creating a sustainable and resilient livestock sector through measures to improve health, increase productivity, and enhance the adaptability of herds. The cost-effectiveness arises from the long-term gains in livestock health and productivity, reducing vulnerability to climate-related challenges. Improved livestock management practices contribute to the overall economic sustainability of the livestock sector.

Natural Resource Management (3.3.): This activity aims at promoting sustainable land use, protecting ecosystems, and enhancing agricultural productivity. The cost-effectiveness is evident in the long-term benefits of sustainable land management, which preserves ecosystems, prevents land degradation, and ensures continued agricultural productivity. By safeguarding natural resources, the project maximizes the value of investments for future agricultural activities.

Weather Information Dissemination (3.4.): Providing improved decision-making based on weather information adds substantial value for money. By enhancing access to accurate and timely weather data, farmers can make informed decisions on planting, harvesting, and other agricultural activities. This targeted information dissemination ensures efficient resource utilization, reduces risks, and ultimately contributes to increased agricultural productivity.

Component 4: Climate Smart Livelihood diversification

The cost effectiveness and value for money derived from implementing Component 4 along with its related sub-activities, are substantial. The project focuses on empowering communities, particularly women, through a diversified approach to livelihoods. The strategic combination of gender responsiveness, skills development, successful implementation, and market promotion contributes to the project's overall value for money, making it a notable and impactful endeavor in the realm of climate-

smart livelihood diversification. The integration of diverse activities, including identification of options, training, implementation, and market linkages, presents a holistic and comprehensive approach to livelihood diversification. This multifaceted strategy contributes to the project's overall effectiveness and value for money, addressing various aspects of economic resilience and sustainability.

Identification of Gender Responsive Diversification Options (4.1): The project ensures a well-informed selection of diverse livelihood options, particularly emphasizing women-centric choices that align with local resources, capabilities, and market demand. This strategic identification process increases the potential for the successful adoption of these livelihood options. By tailoring choices to the specific needs and capacities of the community, the project maximizes the efficiency of resource allocation and promotes sustainable, locally relevant livelihoods. This activity emphasis on targeted gender-responsive approach to ensure that livelihood choices are tailored to the specific needs and capacities of women. This targeted approach enhances the success and sustainability of diversified activities and increases the likelihood of positive outcomes, making the project cost-effective and impactful.

Technical Training and Knowledge Sharing (4.2): The provision of technical training and knowledge sharing activities is a key investment in building the skills and capabilities of women and community members. By equipping them with the necessary skills and knowledge, the project enhances the effectiveness and sustainability of diversified livelihood activities. The focus on training ensures that individuals are well-prepared to implement and manage their chosen activities, contributing to increased productivity and long-term success. This project will invest in skills development which will equip women and community members with the necessary skills to enhance the effectiveness of diversified livelihood activities. Investment in skills development contributes to the long-term success of the project, as trained individuals are better prepared to navigate challenges and adapt to changing circumstances.

Implementation of Diversification Activities (4.3): The successful establishment and management of diversified activities are central to the project's objectives. This output directly leads to increased income generation and reduced reliance on a single source of income. The diversified activities aim to create economic resilience within the community, allowing them to adapt to changing circumstances and reducing vulnerability to external shocks. The project's emphasis on successful implementation ensures tangible and positive outcomes for the community. The project's commitment to the successful establishment and management of diversified activities will directly translate into increased income generation and reduced reliance on a single income source.

Promotion of Market Linkages (4.4): The project recognizes the importance of market linkages in enhancing the economic viability of diversified activities. By promoting connections between the community's products and broader markets, the project facilitates improved income and better market access. This output aligns with the broader goal of creating vibrant, economically sustainable rural communities. Through effective market linkages, the project maximizes the value for money by ensuring that the economic benefits of diversified activities are realized and sustained. The project's will promote market linkages through connecting community products to broader markets and ensuring that the economic benefits of diversified activities are realized and sustained and achieving long-term economic viability.

Project Component	Cost (US$)	# of Kebeles	# of Beneficiaries
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level: Building	764,622.71	15	- Capacity building in climate risk reduction and adaptation for 200 relevant Bureau heads and experts, 405 woreda & Kebele leaders, 2400 Relevant Community representatives

Awareness, Understanding, and Ownership			- Weather information translated in five local languages and disseminated to 15 Kebeles and 6 Woredas
Component 2: Water Security, Climate Resilience, and Women's Empowerment	4,738,828.34	15	- 4 spring & 7 hand dug well rehabilitation benefiting 1,500 HH - Rehabilitation of existing water supply system by replacing pipes and fittings to benefit 1,080 HH - Replacing diesel powered pumps by solar power and benefiting 7,609 HH - Spring development suitable for irrigation purpose to irrigate 30 Ha of land benefiting 60 HH - Strengthening women's role in irrigation agronomy benefiting 3,177 women
Component 3: Climate Smart Agriculture and Livestock Rearing	1,732,299.18	15	- Access to drought tolerant and early maturing crop varieties to model farmers to 7,496HH in Amhrara, Oromia, Central Ethiopia and Tigray regions (4 Regions) - Implementation of conservation agriculture on 508 Ha of land benefiting 50,800HH - Provision of drought tolerant forage seeds to 356HH in Afar and Somali regions (2 Regions) - Capacity building in forage development and utilization to 2,085HH in 6 regions - Improved livestock husbandry practice in 15 target kebeles and 5 adjacent kebeles benefiting 1,000HH - Institutionalization and strengthening of watersheds in 6 target kebeles and 1 adjacent kebele benefiting 1,400HH - 99,080 HH benefiting from enhanced watershed management and ecosystem services from 9,908 Ha of afforestation/reforestation of degraded forestland.
Component 4: Climate Smart Livelihood diversification	1,522,630.38	15	- 980 women benefiting from gender responsive awareness through targeted capacity building - 155 women benefiting from gender responsive livelihood diversification options - 278 HH benefiting from nutrition sensitive agriculture

Table 9 Summary of benefits from project interventions

Project Component	**Benefits**

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level: Building Awareness, Understanding, and Ownership	This intervention will equip the targeted rural communities with the necessary awareness, skills, and community-driven strategies to effectively address and adapt to the challenges posed by climate change. Through these initiatives, localities are better prepared to navigate the complexities of a changing climate and build resilience for a sustainable future.
Component 2: Water Security, Climate Resilience, and Women's Empowerment	Households with access to improved water supply were 14 percent more likely to participate in income-generating off-farm employment than those without access (statistically a highly significant difference), and participation in off- farm employment was found to significantly decrease household poverty. Furthermore, close to 1 million hectares of land is economically and biophysically suitable for small scale irrigation. When it comes to solar irrigation, between 155,103 and 204,103 hectares[61] of land could be suitable and provide smallholder farmers with the option to either pump from small reservoirs or shallow groundwater. More than 5.8 million smallholder farmers could directly benefit from expanding small scale irrigation. Advantages include greater economic access to food, better nutrition for women and children, and increased incomes thanks to the potential of irrigated livestock fodder and high-value crops generating $2.6 billion each year[62]. Communities' participation in small-scale irrigation has robust and positive effect on most of the livelihood indices and expansion of irrigation schemes is a good strategy in the water-stressed and drought-prone areas of Ethiopia.[63]
Component 3: Climate Smart Agriculture and Livestock Rearing	Adopting CSA technologies on a quarter of Ethiopia's maize and wheat land increases annual gross domestic product (GDP) by an average 0.18 percent (US$49.8 million) and reduces the national poverty rate by 0.15 percentage points (112,100 people). CSA is more effective than doubling fertilizer use on the same area, which increases GDP by US$33.0 million and assists 73,300 people out of poverty. [64] Another study in Ethiopia supports the economic viability of small-scale irrigation by reporting a doubling of net gross margin for farmers, with irrigated study sites achieving an average net gross margin of approximately US$323/ha. This stands in stark contrast to the calculated average net gross margin for rain-fed agriculture, which is US$147/ha[65]. Evaluation findings indicate that embracing low levels of climate-smart practices elevates household food and nutrition security by 28 percent and 4.3 percent, respectively. Moderate adoption of climate-smart practices results in a 43 percent increase in food and nutrition security, with a 20 percent boost for high-level adoption. The highest levels of climate-smart practices lead to a significant 56 percent improvement in food and nutrition security, while higher levels contribute a 19 percent

[61] Petra Schmitter, Kefyalew S. Kibret, et.al. Suitability mapping framework for solar photovoltaic pumps for smallholder farmers in sub-Saharan Africa, Applied Geography,Volume 94,2018,Pages 41-57
[62] https://ilssi.tamu.edu/files/2019/12/facts-sheet-on-activities-in-ethiopia.pdf
[63] Zeweld, Woldegebrial & Van Huylenbroeck, Guido & Hidgot, Assefa & Mysore, Chandrakanth & Speelman, Stijn. (2015). Adoption of Small-Scale Irrigation and Its Livelihood Impacts in Northern Ethiopia. Irrigation and Drainage. 64. 10.1002/ird.1938.
[64] Komarek, Adam M.; Thurlow, James; Koo, Jawoo; and De Pinto, Alessandro. Economywide effects of climate-smart agriculture in Ethiopia. Agricultural Economics 50(6): 765-778.
[65] Hagos, F., Makombe, G., Namara, R. E., Awulachew, S. B., (2009), Importance of irrigated agriculture to the Ethiopian economy: Capturing the direct net benefits of irrigation. Colombo, Sri Lanka: International Water Management Institute. 37p. (IWMI Research Report 128).

	increase, both surpassing the outcomes for very low adopter households[66].
Component 4: Climate Smart Livelihood diversification	In a study conducted in Ethiopia, concluded that there was a positive relationship between diversification and food security. Their findings revealed that due to lower adoption of diversification strategies, a majority of the households were food insecure[67]. Empirical studies found that non-farm income accounts for as much as 40–45 percent of the average household's income. In a study conducted in Ethiopia, majority (83.1 percent) of the farmers were able to diversify their livelihoods into either off-farm or non-farm or combined income activities, whereas the remaining 16.91 percent of the households were unable to diversify; often lacking the means to engage in any form of income-generating activity apart from agricultural activities[68]. Diversification into non-farm activities plays a significant role in the context of inadequate and rain-fed-dependent agricultural income households. Households who diversified their livelihood activities are the ones who able to build better asset and less vulnerable than the undiversified ones.

D. Consistency of the project with national or sub-national sustainable development strategies

The project is in accordance with both national and local policies, as well as strategies and plans related to development, agriculture, disaster risk reduction, water, forests, climate change, and environmental management. At the highest level, the project aligns with the Constitution of the Federal Democratic Republic of Ethiopia (FDRE), serving as the overarching framework for sustainable development, planning, and implementation in the country. Moreover, it is in harmony with Ethiopia's long-term development vision to achieve middle-income status by 2025, fostering a green and resilient economy. This vision emphasizes high economic growth through the modernization of agriculture, fortification of the industrial base, and expansion of exports.

The centrality of agricultural development to economic growth is underscored, with a projected growth rate of 8.6 percent. The project supports this growth through climate-smart investments in agriculture and livestock, aligning with national policies aimed at enhancing productivity and reducing climate-induced losses. Additionally, the project is consistent with key policies, strategies, and plans related to agriculture, disaster risk management, forestry, and water.

Ethiopia's Climate-Resilient Green Economy (CRGE) strategy

Ethiopia's Climate-Resilient Green Economy (CRGE) strategy is a comprehensive and ambitious plan that aims to promote sustainable development while addressing the challenges posed by climate change. The CRGE strategy was introduced in 2011 and is aligned with Ethiopia's commitment to building a green economy resilient to climate change. Key components of the CRGE strategy relevant to the proposal include:

[66] Beyan Ahmed, Jema Haji, Mengistu Ketema & Kedir Jemal (2023) Impacts and adaptation extents of climate smart agricultural practices among smallholder farmers of Ethiopia: Implication to food and nutrition security, Cogent Economics & Finance, 11:1, DOI: 10.1080/23322039.2023.2210911

[67] Etea BG, Zhou D, Abebe KA, Sedebo DA (2019) Household income diversification and food security: evidence from rural and semi-urban areas in Ethiopia. Sustainability 11(12). 10.3390/su11123232

68 Gebru, G.W., Ichoku, H.E. & Phil-Eze, P.O. Determinants of livelihood diversification strategies in Eastern Tigray Region of Ethiopia. Agric & Food Secur 7, 62 (2018).

- **Reducing Greenhouse Gas Emissions:** The CRGE strategy outlines plans to limit greenhouse gas emissions by pursuing low-carbon development pathways. Ethiopia commits to maintaining its total national greenhouse gas emissions below 2010 levels by implementing various mitigation measures.
- **Renewable Energy Development:** A significant focus of the CRGE strategy is on expanding the use of renewable energy sources. Ethiopia aims to increase the share of renewable energy in its energy mix, particularly through the development of hydropower, wind, and solar energy projects.
- **Sustainable Agriculture:** The strategy addresses the agricultural sector, emphasizing the importance of sustainable and climate-resilient agricultural practices. This includes promoting agroforestry, soil conservation, and other measures to enhance the resilience of the agricultural sector to climate change.
- **Forestry and Land Use:** The CRGE strategy recognizes the role of forests in mitigating climate change and preserving biodiversity. It includes plans for sustainable forestry management, afforestation, and reforestation activities to enhance carbon sequestration.
- **Adaptation and Resilience:** The strategy incorporates measures to enhance the country's resilience to the impacts of climate change. This involves adapting key sectors, such as agriculture and water resources, to changing climatic conditions.
- **Institutional Strengthening:** The strategy emphasizes the importance of building institutional capacity to effectively implement climate-resilient and green development initiatives. This includes strengthening government institutions and promoting public-private partnerships.

The **agriculture-related initiatives within the CRGE strategy** aim to address the challenges posed by a changing climate, ensuring sustainable food production and livelihoods for the population. Key components of the CRGE strategy for agriculture include:
- **Climate-Smart Agriculture Practices:** The strategy promotes the adoption of climate-smart agriculture practices that enhance productivity while building resilience to climate-related risks. This includes the integration of improved crop varieties, efficient water management, and sustainable soil management practices.
- **Water Harvesting and Management:** Given the importance of water in agriculture, the strategy emphasizes water harvesting and efficient water management practices. This involves the construction of small-scale water harvesting structures and the promotion of water-efficient irrigation techniques.
- **Diversification of Livelihoods:** The CRGE strategy recognizes the importance of diversifying livelihoods in rural areas. This includes promoting alternative income-generating activities beyond traditional agriculture, such as beekeeping, fruit production, and other climate-resilient livelihood options.
- **Crop Diversification:** To enhance resilience to climate variability, the strategy encourages the diversification of crops. This involves promoting the cultivation of a variety of crops that are better suited to different climatic conditions, reducing the risk associated with dependence on a single crop.
- **Rangeland Management:** In pastoral and agro-pastoral areas, the strategy includes measures for sustainable rangeland management. This involves practices that maintain the health of rangelands, ensuring they can support livestock even under changing climatic conditions.

Specific measures for the water and energy sectors to enhance climate resilience include integrating climate considerations into these sectors, ensuring sustainable management and reducing vulnerability to climate change impacts. While specific details may have evolved, key components of the CRGE strategy for water and energy include:
- **Balancing Water Demands:** The strategy emphasizes the need to balance water demands through the development and regulation of water resources. This involves sustainable management practices to ensure equitable water allocation for various uses, including agriculture, industry, and domestic needs.

- **Enhancing Climate Resilience in Water Resources:** The CRGE strategy includes initiatives to enhance climate resilience through the improvement of local water storage facilities. This involves the construction of infrastructure that can withstand climate-related challenges, such as changes in precipitation patterns and increased variability.
- **Participatory Water Resources Management**: The strategy recognizes the importance of involving communities in managing water resources. Participatory approaches aim to empower local communities to contribute to sustainable water resource management, enhancing resilience at the grassroots level.
- **Renewable Energy Development:** In the energy sector, the CRGE strategy promotes the development of renewable energy sources. This includes the expansion of hydropower, wind, and solar energy projects to reduce dependence on non-renewable sources and contribute to a low-carbon energy system.
- **Energy Efficiency Measures:** The strategy includes measures to improve energy efficiency, reducing the environmental impact of energy consumption. This involves promoting energy-efficient technologies and practices across various sectors.
- **Climate-Resilient Infrastructure:** Infrastructure development in both water and energy sectors is designed to be climate-resilient, considering the potential impacts of climate change. This includes considerations for extreme weather events and changing hydrological patterns.
- **Capacity Building and Knowledge Transfer:** The CRGE strategy emphasizes capacity building and knowledge transfer to strengthen the ability of relevant institutions and communities to adapt to climate change in the water and energy sectors.

Ethiopia's CRGE strategy aligns with the country's broader development goals and is an integral part of its contribution to global climate change mitigation and adaptation efforts. The implementation of the CRGE strategy involves collaboration between various government agencies, the private sector, and civil society to achieve the outlined objectives.

Agriculture

In the realm of agriculture, the project aligns with the Agriculture and Rural Development Policy and Strategy (2003), emphasizing the transformative role of agriculture in the country's economic development. The Agricultural Development Led Industrialization (ADLI) Strategy, focused on achieving industrialization through robust agricultural growth, also resonates with the project's goals. Over the years, these policies have been translated into actionable plans, including the Sustainable Development and Poverty Reduction Plan (SDPRP), the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), and subsequent Growth and Transformation Plans (GTP-I and GTP-II). These plans prioritize environmental issues, as outlined in the Conservation Strategy of Ethiopia (CSE), which includes goals for zero deforestation, sustainable forest use, reforestation, afforestation as carbon sinks, and watershed services maintenance to address floods, droughts, and erosion.

Presently, the project is aligned with the implementation of agricultural policies, strategies, and plans through the Ministry of Agriculture's (MoA) Policy Investment Framework. This strategic framework prioritizes and plans investments to propel Ethiopia's agricultural growth and development, operationalizing the Comprehensive Africa Agriculture Development Programme (CAADP) Compact. Within this overarching framework, significant programs are dedicated to fostering agricultural growth and sustainable management of natural resources.

The primary initiative driving Agricultural Development is the Agricultural Growth Programme. Its core objective is to enhance agricultural productivity and facilitate market access for key crop and livestock products in targeted woredas, with a specific emphasis on increased participation of women and youth. This is achieved through agricultural production and commercialization, small-scale rural infrastructure

development and management, and rigorous monitoring and evaluation. Notably, the woreda-focused approach of the proposed project and its components align seamlessly with the objectives outlined in this strategic program.

In the realm of Natural Resources, the principal investment program is the Ethiopian Strategic Investment Framework (ESIF), operationalized through the Sustainable Land Management Program (SLMP), currently in its second phase. This program aims to diminish land degradation and elevate agricultural productivity, ultimately leading to higher household incomes and enhanced food security. The program emphasizes the dual benefits of ensuring land tenure security and promoting sustainable land and water management practices in watersheds. Consequently, the inclusion of sustainable land and water management options in this proposal is fully consistent with the goals of this national flagship program.

Furthermore, the Livestock Master Plan (2015), currently being revised outlines a strategic vision to improve smallholder incomes and nutritional status through targeted investments in selected livestock value chains. These investments are designed to enhance productivity and competitiveness in specific value chains, benefiting smallholders, including women, and enhancing the quality and diversity of household diets through increased consumption of livestock products. The Livestock Master Plan delineates how strategic investments in better genetics, feed, and health services, coupled with supportive policies, will contribute to achieving targets outlined in Growth and Transformation Plan II (GTP II) by enhancing productivity and total production in key livestock value chains, such as poultry, red meat-milk, and crossbred dairy cows.

Water Resources Management

A national water resources management policy and strategy are in place with the overarching objective of advancing socio-economic development through the efficient, equitable, and optimal utilization of Ethiopia's water resources. This strategy encompasses two strategic directions: water resources development and water resources management. It emphasizes the economic and social benefits of water resources development, equitable and sustainable water allocation, management of drought, flood reduction, and the conservation and protection of water resources and the overall aquatic environment on a sustainable basis.

Additionally, there is a Water, Sanitation, and Hygiene (WASH) program aligned with the government's goal of achieving universal access to water and sanitation by 2020, as part of its poverty reduction initiatives. The WASH program, developed in collaboration with the Sanitation and Water for All Partnership, focuses on providing safe and sufficient water supply and adequate sanitation services to enhance Ethiopia's urban and rural socio-economic well-being, including livestock watering.

Concerning water management, the Community-based Participatory Watershed Development (CPWD) initiative aims to conserve soil, rainwater, and vegetation for productive uses. It involves harvesting surplus water, promoting sustainable farming, stabilizing crop yields through appropriate soil, water, nutrient, and crop management practices, and rehabilitating marginal lands. This approach enhances income generation through agricultural diversification, increased employment opportunities, and cottage enterprises, particularly for vulnerable populations, all linked to the sustainable use of natural resources.

Forest

The Forest Policy and Strategy (2007) aims to accomplish the dual objectives of meeting public demand for forest and forest products while enhancing the socio-economic and environmental contributions of forests. Additionally, initiatives such as the Ethiopian Forestry Action Program (EFAP), Forest Development, Conservation, and Utilization Policy of 2007, and conservation policies like the National

Forest Priority Areas (NFPAs) align with the proposed plans for the restoration of degraded forestlands outlined in this proposal.

The key objectives of this policy is to meet public demand for forest and forest products while simultaneously enhancing the socio-economic and environmental contributions of forests. The policy aimed to strike a balance between the utilization of forest resources for economic development and the conservation of these resources for the benefit of future generations. The Forest Policy and Strategy (2007) emphasized sustainable forest management, biodiversity conservation, and the promotion of community involvement in forest-related activities. It also addressed issues related to the restoration of degraded forestlands and the sustainable use of forest resources.

Various policies promote income source diversification for farmers, exemplified by the Climate Change-Development of Agricultural Resources through Enterprise (CC-DARE) policy. This proposal builds upon these efforts, identifying new livelihoods that align with climate-resilient green growth objectives, including activities such as beekeeping, fruit production, and fish farming.

Environment

The Environmental Policy of Ethiopia was adopted in 1997. This policy provides a comprehensive framework for addressing environmental issues in the country. The Environmental Policy of Ethiopia comprises eleven-sectoral and eleven cross-sectoral policy elements, covering a wide range of environmental concerns.

The key areas addressed by the policy include:

- **Soil Husbandry and Sustainable Agriculture**: Emphasizing sustainable land use and agricultural practices to prevent soil degradation.
- **Forest Resources:** Focusing on the conservation and sustainable management of forest resources.
- **Biodiversity Resources:** Highlighting the importance of conserving Ethiopia's rich biodiversity.
- **Water Resources:** Addressing sustainable water management practices.
- **Environmental and Land Degradation:** Outlining measures to prevent and address environmental degradation and land degradation issues.

The policy is designed to promote environmentally sound development practices, taking into consideration the interconnectedness of environmental, social, and economic factors. It encourages the integration of environmental considerations into various sectors and development activities.

In response to climate change, Ethiopia has undertaken strategic and programmatic adaptation actions, including the National Adaptation Programme of Action (NAPA) (2007), the Ethiopian Programme of Adaptation to Climate Change (EPACC 2011), adaptation plans by National Regional States, City Administrations, and sectors, and an Agriculture sector adaptation strategy.

Ethiopia's Nationally Determined Contribution (NDC) outlines the country's commitment to addressing climate change and its contributions to global efforts to limit greenhouse gas emissions. Ethiopia submitted its NDC as part of the Paris Agreement, which was adopted in 2015.

Key components of Ethiopia's NDC include:

- **Reduction of Greenhouse Gas Emissions:** Ethiopia committed to reducing its greenhouse gas emissions by 64 percent by 2030, compared to a business-as-usual scenario. This reduction target includes both conditional and unconditional components.

- **Adaptation Measures:** Ethiopia's NDC includes adaptation strategies to cope with the impacts of climate change. These strategies focus on building resilience in vulnerable sectors, such as agriculture and water resources, to adapt to changing climatic conditions.
- **Climate-Resilient Green Economy (CRGE):** Ethiopia's NDC emphasizes the country's commitment to pursuing a Climate-Resilient Green Economy. This involves integrating climate considerations into economic planning and development, with a focus on sustainability and resilience.
- **Enhanced Climate Resilience:** The NDC outlines measures to enhance the resilience of vulnerable communities to the impacts of climate change, particularly in the face of challenges such as droughts and floods.
- **Renewable Energy:** Ethiopia aims to increase the share of renewable energy in its energy mix. This includes expanding the use of hydropower, wind, and solar energy to contribute to sustainable and low-carbon energy production.

Disaster Risk Management

The National Policy and Strategy on Disaster Risk Management (NPS-DRM) plays a pivotal role in underscoring the imperatives for a risk management system characterized by an ex-ante preventive or proactive, holistic, comprehensive, and integrated multi-hazard and multi-sectoral approach—a philosophy that resonates with the principles of the proposed project.

The NPS-DRM provides a framework for addressing disaster risk reduction and management in the country. Key objectives and elements of the policy typically include:

- **Risk Management System:** The policy emphasizes the need for a risk management system that applies an ex-ante preventive or proactive, holistic, comprehensive, and integrated multi-hazard and multi-sectoral approach.
- **Disaster Risk Reduction:** The overarching goal of the NPS-DRM is to reduce disaster risk and the impact of disasters through the establishment of a comprehensive and integrated disaster risk management system.
- **Programs and Frameworks:** The implementation of the policy is often carried out through programs and frameworks, one of which is the Disaster Risk Management Strategy Programme and Investment Framework (DRM SPIF). This framework aims to reduce disaster risk and impact through a comprehensive and integrated approach.
- **Main Programs:** The policy typically identifies key programs within the disaster risk management framework. For example, the Productive Safety Net Program (PSNP) is often highlighted, which aims to reduce household vulnerability, improve resilience to shocks, and promote sustainable community development in food-insecure rural areas.
- **Climate-Smart Initiatives:** The policy may include climate-smart initiatives to enhance resilience to climate-related risks, as well as strategies to manage and combat droughts and reduce and regulate floods through sustainable mitigation and prevention measures.
- **Community Engagement:** Many disaster risk management policies, including Ethiopia's, emphasize community engagement and participatory approaches. This involves increasing community awareness and preparedness for disasters.

Gender

Ethiopia has implemented various policies and strategies aimed at promoting gender equality and inclusivity. Some key policies and initiatives related to gender and inclusivity in Ethiopia include:

- **Gender Equality Policy:** Ethiopia has a National Gender Policy that outlines the government's commitment to promoting gender equality and women's empowerment. The policy addresses various aspects of gender inequality, including economic empowerment, education, health, and political participation.

- **Women's Empowerment Strategies:** Ethiopia has implemented strategies and programs focused on empowering women economically, socially, and politically. This includes initiatives to enhance women's access to education, healthcare, and economic opportunities.
- **Affirmative Action:** The government has adopted affirmative action measures to increase the representation of women in decision-making positions and public offices. This is aimed at addressing historical gender imbalances in various sectors.
- **Women's Land Rights:** Efforts have been made to strengthen women's land rights, recognizing the crucial role of land in ensuring economic security and livelihoods. Legal frameworks and policies have been introduced to enhance women's access to and ownership of land.
- **Inclusive Education:** Ethiopia has worked towards achieving inclusive and gender-responsive education. Efforts include improving access to education for girls, reducing gender-based violence in schools, and promoting gender-sensitive curricula.
- **Healthcare Access:** Initiatives to improve healthcare access for women, including maternal and reproductive health services, are part of the government's commitment to gender inclusivity.
- **Anti-Harassment Measures:** The government has taken measures to address gender-based violence and harassment. Legal frameworks and awareness campaigns aim to create a safer environment for women and girls.
- **National Strategy and Action Plan on Harmful Traditional Practices (HTPs):** Ethiopia has developed a strategy and action plan to address harmful traditional practices such as child marriage and female genital mutilation/cutting (FGM/C).

E. Consistency of the project with relevant national technical standards and complies with the Environmental and Social Policy of the Adaptation Fund

The project will adhere to the national laws, legislation, and standards that are applicable to its implementation. At the core of the national legal framework is the Ethiopian Federal Democratic Republic Constitution of 1995, which serves as the supreme law of the land, establishing overarching principles and guidelines.

The Constitution (1995): According to the Constitution, any law, customary practice, or decision contravening its provisions is deemed ineffective. The Constitution governs matters related to the ownership and use of resources, environmental concerns, and more. It affirms the right of every individual to reside in a clean and healthy environment, with the government obligated to ensure the provision of such an environment. Additionally, the Constitution places responsibility on both the government and the people of Ethiopia for the preservation of natural resources and the maintenance of ecological balances.

Environmental Law

The foundational principles for environmental conservation and management in Ethiopia are derived from the Constitution of the Federal Democratic Republic of Ethiopia (FDRE). The Constitution serves as the overarching legal framework, supplemented by accompanying proclamations to facilitate its implementation. The key legal instruments encompassing environmental laws include:

- **Environmental Policy (1997):** This policy document outlines the strategic approach and principles for environmental management and conservation.
- **Development, Conservation, and Utilization of Wildlife:** Proclamation No. 541/2007: This proclamation focuses on regulating the development, conservation, and sustainable utilization of wildlife resources.
- **Ethiopian Wildlife Development and Conservation Authority Establishment:** Proclamation No. 575/2008: This proclamation establishes the Ethiopian Wildlife Development and Conservation Authority, defining its roles and responsibilities in wildlife management and conservation.

- **Environmental Impact Assessment** Proclamation No. 299/2002: This proclamation provides the legal framework for conducting environmental impact assessments, ensuring that potential environmental effects of proposed projects are systematically evaluated.
- **National Conservation Strategy, Volume II, 1994**: This strategy document elaborates on the national approach to conservation efforts, outlining specific measures and objectives.
- **National Biodiversity Strategy and Action Plan (2005):** This document outlines strategies for the conservation and sustainable use of biodiversity in Ethiopia, aiming to address the country's unique ecological diversity.
- **Ethiopia's Pollution Control Proclamation and Standards** (Proclamation No. 300/2002): This proclamation establishes regulations and standards for pollution control, outlining measures to mitigate and control environmental pollution.

Together, these legal instruments provide a comprehensive framework for environmental protection, conservation, and sustainable management in Ethiopia. The Constitution, serving as the foundational document, sets the guiding principles that are operationalized through specific proclamations addressing various aspects of environmental governance.

The foundation for safeguarding, conserving, and promoting the environment in Ethiopia lies in the environmental policy and other relevant laws. The practical implementation of these laws involves the utilization of tools such as Strategic Environmental Assessments (SEAs) and Environmental Impact Assessments (EIAs). These tools serve as guides for integrating environmental and climate change considerations into various sectors, encompassing both agricultural and non-agricultural domains. A crucial aspect of project evaluation in the country is the mandatory requirement for both environmental and social impact assessments (ESIA) for development projects, activities, and programs.

The oversight and coordination of the ESIA process are primarily entrusted to key entities, including the Environment Protection Authority (EPA) the CRGE Facility within the Ministry of Finance (MoF), and the Ministry of Planning and Development (MPD). Furthermore, there are specific manuals and guidelines associated with the CRGE Facility, operation manuals, and appraisal guidelines. These documents collectively ensure adherence to environmental and social safeguards within the Facility/CRGE, emphasizing the importance of social inclusion in the implementation of projects.

Environmental and Social Management Framework (ESMF)

The project, including its procurement process, will adhere to the Environmental and Social Management Framework (ESMF) for the Climate-Resilient Green Economy (CRGE) initiative, which received approval in 2015. The ESMF is crafted in alignment with best practices, encompassing the screening and categorization methodologies of environmental and social safeguards policies from prominent institutions such as the World Bank, the Global Environmental Facility, the African Development Bank, and the European Investment Bank. Developed by the Government of Ethiopia (GoE), the ESSF aims to proactively address potential environmental and social issues arising from CRGE investments, integrating principles from national environmental and social policies, including the Constitution and the Environmental Impact Assessment Proclamation. This integration is designed to contribute to sustainable development by:

- Establishing internationally recognized standards and frameworks for environmental and social safeguards within CRGE investments.
- Mitigating, minimizing, or avoiding any direct, indirect, or potential adverse environmental and social impacts associated with CRGE investments.
- Defining roles and responsibilities for all relevant stakeholders and institutions throughout the life cycle of CRGE investment initiatives.

- Ensuring effective mechanisms are in place for safeguard compliance during CRGE investment implementation.

The ESMF operates based on several guiding principles, including the early application of environmental and social safeguards to foster sustainable development, stakeholder participation at all stages of CRGE investments, transparent information dissemination, prevention and mitigation of adverse impacts, and accountability and transparency by all entities involved in CRGE implementation. The framework applies to all projects financed through the CRGE Facility, encompassing screening processes to identify projects requiring an Environmental Impact Assessment (EIA) and addressing social issues as needed. Compliance with the CRGE manual and guidelines, particularly in terms of environmental and social safeguards, is integral to the operational process outlined in the CRGE Operations Manual, providing guidance on appraisal and ensuring alignment with the Facility/CRGE's principles of social inclusion.

Water Law

The Water Law in Ethiopia operates within the constitutional framework established in 1995 and the Water Policy of 1999. Central to this legal framework is the Water Resources Management (WRM) Proclamation 197/2000, which governs the utilization, conservation, protection, and administration of water resources in the country. The Constitution and the proclamation delineate the respective mandates of the Federal Government and Regional States in the domain of Water Resources Management.

Key legislative instruments include:

- Constitution of the Federal Democratic Republic of Ethiopia Proc. 1/1995
- Ethiopian Water Resources Management Proclamation Proc.197/2000
- Ethiopian Water Resources Management Regulation Reg. 115/2005
- River Basin Councils and Authority Proclamation Proc. 534/2007
- Abbay Basin Authority Reg. No. 151/2008

The Constitution confers authority upon the Federal Government, particularly empowering it to enact laws governing water management. Importantly, federal law jurisdiction extends to waters that traverse two or more regional states and those with an outlet beyond the national territory (Article 51/11).

It is noteworthy that private property, whether owned individually or collectively, is considered inviolable in Ethiopia. However, exceptions can be made in cases of public interest, with due compensation provided to owners. These policies, laws, and regulations fall under the purview of line ministries involved in the project design, and they will play a pivotal role in the implementation process. The project is committed to strict compliance with the relevant laws and regulations throughout its implementation phase. In instances where the project is undertaken by government institutions, the issuance of licenses is not deemed necessary.

Forest Law: In the forestry sector, the Forest Development, Conservation, and Utilization Proclamation (No. 542/2007) stand as the primary federal legislation in Ethiopia, superseding the Forest Conservation, Development, and Utilization Proclamation No. 94/1994. This legislation recognizes two forms of forest ownership – state and private forests. It outlines provisions for the designation, demarcation, and registration of major forestlands as state forests, offering legal acknowledgment to privately held forests. Moreover, the proclamation introduces incentives for non-state entities, including local communities and the private sector, encouraging their engagement in the management of forest reserves or the rehabilitation and reforestation of new areas.

Supporting this legal framework, there are associated policies and strategies, such as the Forest Development, Conservation, and Utilization Policy and Strategy (2007), reinforcing the overarching principles established in the Constitution. The adherence to these legal instruments, including

Proclamation No. 542/2007, ensures that the project aligns with national laws and regulations governing the forestry sector in Ethiopia.

Land Law: The primary foundation for the fundamental laws governing land ownership, management, and administration in Ethiopia is the Ethiopian Constitution of 1995, which holds supreme authority and cannot be superseded. The guiding principles for land policies are centered on social equity and tenure security. In pursuit of social equity, the Constitution, alongside other Federal and Regional Land Proclamations, emphasizes providing access to agricultural land to ensure equality among citizens in its utilization. The constitutional mandate prohibits the sale and exchange of land, asserting that land is owned exclusively by the state or public, and is considered common property of the Nations, Nationalities, and Peoples of Ethiopia, explicitly safeguarded against sale or exchange.
Article 40(3) of the constitution establishes that the right to ownership of rural and urban land, as well as natural resources, resides solely with the State and the people of Ethiopia. Consequently, land is recognized as common property and is not subject to commercial transactions. The Constitution grants user rights, as outlined in Article 40(4), which also serves as the legal basis for Ethiopian peasants to acquire land without payment and ensures protection against eviction from their possession. The most recent legal framework in this regard is the Federal Democratic Republic of Ethiopia Rural Land Administration and Use Proclamation of 2005. This proclamation is rooted in the fundamental objective of fostering sustainable rural land use planning, delineating the size and use rights of various landholdings across the country, establishing mechanisms for conflict resolution between farmers and agricultural investors, and creating a conducive system for the administration of rural land.

F. Duplication of project/programme with other funding sources

There is no duplication of the project with other funding sources in the target woredas and kebeles. The selection of these areas was guided by a rigorous and transparent process designed to avoid any overlap with existing initiatives. Key considerations included the vulnerability of the regions to climate risks, the presence of degraded land requiring rehabilitation, and the lack of clean water and irrigation infrastructure. These criteria were carefully validated through stakeholder consultations and assessments to ensure that the project focuses on highly underserved areas with urgent needs.

During the Stakeholders' Consultation Workshop held in Adama in October 2023, the issue of potential duplication with other projects was thoroughly addressed. Stakeholders from federal, regional, and local levels confirmed that the non-existence of similar projects in the targeted areas is a crucial factor in the selection process. Moreover, the absence of other funding sources, including those from previous Adaptation Fund-financed projects, was confirmed as a strict exclusion criterion. This was a key point emphasized in the workshop, ensuring that the selected regions, woredas, and kebeles are not beneficiaries of any other overlapping initiatives.

The selection criteria also explicitly excluded areas where similar initiatives, including projects financed by other international development agencies or the Adaptation Fund, were either currently operating or had recently been implemented. This careful approach guarantees that the project will not overlap with any ongoing or past interventions, thus ensuring the efficient allocation of resources. Through comprehensive assessments and consultations, the project ensures that all target areas are underserved and not currently benefiting from any other interventions.

Additionally, the project's design emphasizes unique, targeted interventions that are tailored to the specific needs of the communities in these areas. Its focus on climate-resilient agriculture, water management, and livelihood diversification is distinct and fills critical gaps in support where no other programs are active. The exhaustive selection process, combined with stakeholder confirmation, decisively ensures that this project will not duplicate efforts or funding in the selected regions. This makes the project a highly strategic and necessary investment, addressing unmet needs in areas where no other initiatives are providing similar support.

G. The learning and knowledge management component to capture and disseminate lessons learned

The implementation of the project's four components and associated activities promises valuable insights and learnings that can significantly contribute to enhancing climate resilience and sustainable development in rural areas. Each component unfolds a unique set of impacts aimed at addressing the multifaceted challenges posed by climate change.

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level

The Climate Risk Awareness Campaign seeks to elevate understanding and awareness of climate risks among communities and stakeholders. Concurrently, Capacity-building Workshops aim to empower local authorities and stakeholders, fostering their ability to actively engage in effective climate risk reduction and adaptation planning. Community Engagement and Participatory Vulnerability Assessments endeavour to install a sense of community ownership and comprehension of climate risks, fostering informed decision-making. Additionally, Mainstreaming Climate Adaptation into Development Plans strives to embed climate adaptation measures into local policies and plans, demonstrating a commitment to comprehensive integration.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

This component unfolds with Water Source Development and Protection, envisioning improved access to clean water sources. Efficient Water Infrastructure Upgrade amplifies water distribution and storage capacities, while Decentralized Renewable Energy (DRE) Systems facilitate water provision through renewable energy. Small-Scale Irrigation and Water Use Efficiency enhance agricultural water use and mitigate climate-related risks. Women-centric Capacity Building and Gender-Responsive Awareness Campaigns contribute to strengthened skills, increased participation of women in water management and agriculture, and improved gender roles. Collectively, these activities aim to empower communities, improve water access, boost agricultural productivity, and foster gender equality.

Component 3: Climate Smart Agriculture and Livestock Rearing
This component focuses on Climate-Resilient Crop Selection and Diversification to enhance resilience through diverse crop varieties. Similarly, Climate-Resilient Livestock Production and Management strive for a sustainable and resilient livestock sector. Natural Resource Management aims at sustainable land use, protected ecosystems, and increased agricultural productivity. Weather Information Dissemination improves decision-making based on weather information. Overall, the component envisions empowered communities with enhanced resilience, food security, and environmental sustainability through the adoption of climate-smart agriculture practices.

Component 4: Climate Smart Livelihood Diversification
The Identification of Gender-Responsive Diversification Options ensures a well-informed, women-centric selection of diverse livelihood options aligned with local resources, capabilities, and market demand. Technical Training and Knowledge Sharing equip women and community members with the skills necessary for the effective implementation and management of diversified livelihood activities. The Implementation of Diversification Activities aims for the successful establishment and management of diversified activities, reducing reliance on a single income source. Promotion of Market Linkages enhances economic viability, leading to improved income and better market access. This component envisions vibrant rural communities with diversified livelihoods, economic resilience, and reduced vulnerability to external shocks.

The dissemination of project results will extend beyond the project areas through established information-sharing networks and forums. The CRGE Facility, in collaboration with executing entities, will actively identify and participate in relevant scientific, policy-based, and other networks, enhancing project implementation through shared lessons learned. Additionally, the CRGE and relevant ministries will systematically identify, analyze, and share valuable insights to inform the design and implementation of similar future programs. A reciprocal flow of information will be maintained between this project and others with a similar focus.

The integration of action research throughout the project, with the active engagement of communities and research and development partners, will enable the incorporation of their recommendations to refine future approaches. The lead ministries' ongoing collaboration with academic and research institutions will be strengthened during project implementation. Development-oriented research will be conducted to identify avenues for creating or fortifying knowledge, collective learning processes, or institutions.

The CRGE Facility, as the coordinator of climate-related projects in Ethiopia, has developed a monitoring, evaluation, and learning guideline to ensure that programs/projects build on lessons from previous or ongoing climate change initiatives. This proposal, developed with insights from key lessons in Section F, adopts an integrated, multi-sectoral approach as a strategic outcome of the analysis of past initiatives. Recognizing the value of learning, the CRGE Facility institutionalizes practices of high

value. This understanding is incorporated into this proposal through a learning and knowledge transfer component.

The program will enrich its implementation processes and contribute to other development programs and policies by gaining lessons in the following ways:

- **Capturing Lessons:** Relevant stakeholders, guided by the facility's monitoring, evaluation, and learning guideline, will capture and collate lessons at various implementation levels.
- **Regional Coordination:** The program management unit will collaborate directly with the regional CRGE steering committee and sector heads at the woreda level, channeling key lessons, especially at the kebele level, to the facility through this structure.
- **Archiving and Accessibility:** Captured lessons will be archived in the CRGE registry, providing accessibility to all stakeholders for immediate application or further analysis. Workshops, exchange visits, lesson reports, engagement with the media, and policy brief development will be employed to share lessons widely.
- **Refinement and Presentation:** Lessons and feedback from this program, along with other nationwide initiatives, showing high impact or innovation in addressing climate change issues, will be refined and presented to inform high-level policy makers.
- **Learning Events:** Key lessons and outcomes will be shared during learning events, facilitating wider stakeholder participation. These events will not only disseminate lessons but also guide the institutionalization of key insights and inform CRGE strategy implementation at the national level.
- **Incorporation into Development Plans:** Lessons refined through these processes will be incorporated into the development of annual and mid-term plans, shaping the overall development strategy of the country. This iterative process ensures continuous improvement and informs future policy directions.

H. Description of project consultative process

Consultation events were organized as part of the project preparation process to ensure that the voices and concerns of relevant stakeholders and local communities, particularly vulnerable groups, were integrated into the design and implementation of the climate-smart agriculture initiative. Several stakeholders were engaged throughout the project's planning stages including representatives from government bodies drawn from federal, regional and woreda levels, vulnerable groups such as women and pastoral communities. The consultations provided a platform for open dialogue, where participants could express their concerns, share their experiences with the impacts of climate change, and contribute ideas for building resilience. Through these discussions, the project sought to align its interventions with the real needs and priorities of those most affected by climate change. Furthermore, the consultative process was structured to align with the ESMF requirements ensuring compliance with the Adaptation Fund’s Environmental and Social Policy and Gender Policy. Two consultative events were held during different phases of the project’s preparation.

October 2-3, 2023: The initial stakeholder consultation took place in Adama, Ethiopia, with 18 participants drawn from federal Ministry of Agriculture, Ministry of Water and Energy, experts from the CRGE Facility at the Ministry of Finance attended the workshop.

During the two days event, participants reflected positively on the outcomes of the previous Adaptation Fund-financed project, expressing their appreciation for the significant improvements in water access, strengthened climate resilience, and enhanced livelihoods within the target communities. Many participants highlighted how the project had successfully empowered local communities, particularly women and vulnerable groups, through capacity-building initiatives and improved access to resources. These achievements were seen as critical foundations on which the current project could build. Participants emphasized the importance of integrating these positive experiences and lessons learned

into the design and implementation of the new project to further enhance its effectiveness and long-term impact. In addition to these reflections, participants emphasized the need to ensure the sustainability of the project's outcomes, particularly in relation to climate-smart agriculture and water security initiatives. They stressed that providing local communities with the necessary skills and resources would be crucial to ensuring that the benefits of the project endure long after its completion. Capacity-building measures and local ownership were identified as key factors in achieving this sustainability.

Participants also highlighted the importance of water security and quality in the target regions and woredas. They emphasized the need for advanced water management technologies, such as solar-powered irrigation systems to address water scarcity and improve water quality in these drought-prone areas, enhancing the resilience of local communities. The inclusion of vulnerable groups, especially women and pastoralists, was underscored by participants. They stressed that equitable access to project benefits must be ensured for these groups, and that their voices should be included in decision-making processes. The role of women in water management and agriculture was seen as critical to the success of the project, and participants called for the continued involvement of women in all stages of the project's design and implementation.

Finally, participants stressed the importance of capacity building and knowledge sharing as essential to the project's success. They emphasized the need for ongoing training programs at the woreda and kebele levels to ensure that local communities are equipped with the skills necessary to implement and sustain the project's interventions effectively.

The development of the project proposal was a highly participatory and collaborative process, designed to incorporate the perspectives and expertise of a diverse range of stakeholders. Following the stakeholders' consultation workshops, representatives from the Federal Ministry of Agriculture and the Ministry of Water and Energy actively contributed to the drafting of the proposal. Their insights were critical in aligning the project's objectives with national and regional priorities for climate adaptation, agriculture, and water management.

The process also included active engagement in identifying and validating key project interventions. During the consultation, participants worked in groups to propose new interventions and validate existing ones, ensuring that they addressed barriers identified in earlier discussions. The proposed interventions were grouped into four main components: strengthening climate risk reduction and adaptation planning at the local level, water security and climate resilience with a focus on women's empowerment, climate-smart agriculture, and climate-resilient livelihood diversification. Following the identification of these interventions, participants helped formulate activities that would address these barriers and lead to the desired outcomes, ensuring the project's objectives were both comprehensive and actionable.

Moreover, consultants with expertise in climate-smart agriculture, water resource management, and gender inclusion were brought on board to provide technical input and draw from lessons learned in similar projects. These experts refined the technical aspects of the proposal, incorporating best practices such as the promotion of climate-resilient crops, water infrastructure upgrades, and gender-responsive capacity-building initiatives. Their contributions ensured that the proposed interventions were well-designed to address key issues such as potable water access, small-scale irrigation, and the promotion of climate-resilient livestock management, all of which were highlighted during the group discussions.

Through this inclusive and collaborative approach, the proposal's development reflected not only the strategic priorities of national and regional governments but also the practical needs identified by local communities and stakeholders. The participants' active role in validating selection criteria and choosing target regions further strengthened the alignment of the project with Ethiopia's broader climate resilience agenda, ensuring that the interventions are tailored to the woredas most vulnerable to climate change impacts.

November 3-4: The second stakeholders' consultation workshop for the Adaptation Fund proposal, held on November 3-4, 2023, in Adama, Ethiopia. In this workshop, 52 participants drawn from the federal, regional and project target woredas participated. The workshop was aimed to refine the proposal by incorporating lessons learned from previous projects. Participants, including federal, regional, and woreda government representatives, discussed key thematic areas, interventions, and major activities, with a focus on scaling up successful outcomes from prior initiatives.

The workshop's first day involved a recap of the initial workshop, introducing new project thematic areas and major activities, and engaging participants in group discussions to validate and prioritize interventions for the AF proposal. Critical components of the proposal include climate risk reduction and adaptation planning, water security, women's empowerment, climate-smart agriculture, and climate-resilient livelihood diversification. Gender and environmental social safeguards were also highlighted as essential aspects of the proposal's framework.

The main topics covered during the workshop include discussions on climate risk reduction, water security, and women's empowerment through infrastructure upgrades, climate-smart agriculture, and livelihood diversification. The workshop also highlighted the importance of integrating gender, environmental, and social safeguards into the project. Additionally, participants worked to validate the selection criteria for target Kebeles and provided feedback on the proposal's design, incorporating lessons learned from previous projects. Key issues raised by participants included the need for greater gender representation, challenges from previous projects, and ensuring fair and transparent selection of target Kebeles.

The second day focused on validating the proposed interventions and selecting target Kebeles, ensuring alignment with project goals. Participants actively engaged in refining project activities and discussed next steps, including consultations with key Kebele representatives and the collection of social and environmental safeguard information. Overall, the workshop was well-received, with 52 participants expressing strong satisfaction with the content and interactive nature of the sessions. Feedback indicated that the knowledge gained would be significantly beneficial for the proposal development process.

Participants from regional governments also emphasized the need for better coordination between federal and regional authorities. They highlighted the importance of clear communication channels and coordination mechanisms to ensure smooth project implementation and avoid delays. Clear delineation of roles between federal ministries, regional bureaus, and local authorities was seen as essential to achieving project objectives. The issue of gender mainstreaming was strongly emphasized, with participants calling for greater efforts to address gender inequalities in resource access and decision-making. Women's empowerment was highlighted as a key component of the project, particularly in areas such as water management and climate-smart agriculture. Participants urged for specific training and capacity-building initiatives to enable women to play a leading role in their communities.

Compliance with Environmental and Social Policy (ESP) of the Adaptation Fund

The project's stakeholder consultation processes are in compliance with the Adaptation Fund's ESP, as it adheres to the following core principles:

Principle 1: Compliance with the Law: The stakeholder consultations comply with Ethiopia's national laws and the relevant international agreements to which Ethiopia is a signatory. As outlined in the Constitution, particularly Articles 43 and 44, the right to development and environmental rights were ensured through the engagement of communities, particularly vulnerable groups, in the planning and consultation processes of this project. Public participation is guaranteed, and communities were consulted during the project design to ensure compliance with the law.

Principle 2: Access and Equity: The consultations were designed to ensure that all community members, including vulnerable groups such as women, pastoralists, and marginalized groups, had fair and equitable access to project benefits. The consultations particularly addressed the water security and livelihood needs of these groups to ensure they benefit from the project's outcomes. Community representatives were involved in validating the project's Environmental and Social Management Plan (ESMP), ensuring equitable access to project benefits.

Principle 3: Marginalized and Vulnerable Groups: The project's consultation processes ensured that marginalized and vulnerable groups were not adversely affected and that they actively participated in the planning process. Vulnerable groups, including women and pastoralists from drought-prone areas, were consulted on key issues such as access to clean water and agricultural livelihoods, both of which are critical to their survival.

*Principle 4: **Human Rights**:* The stakeholder consultations respected the human rights of all participants, ensuring that no group or individual was excluded. The project adhered to human rights principles by ensuring participation of all affected communities and offering grievance mechanisms to address potential concerns. This aligns with Ethiopia's commitment to human rights and its constitutional mandate to engage communities in development planning.

Principle 5: Gender Equity and Women's Empowerment: The project's gender-responsive consultation process ensured that women participated fully and equally in all aspects of the project's planning and design. Women's specific needs, such as access to clean water, health, and economic empowerment, were addressed during consultations. The Gender Action Plan, which was part of the stakeholder consultations, focused on enhancing women's participation in decision-making and capacity-building activities, ensuring that both men and women benefit equally from the project.

*Principle 7: **Indigenous Peoples**:* Although Ethiopia does not have specific national legislation on indigenous peoples, the provisions of this principle were respected by engaging rural and pastoralist communities in the targeted regions. Their unique needs, especially in relation to water resources and land use, were addressed during the consultation process.

Principle 10: Conservation of Biological Diversity: The consultations also considered the environmental impacts of the project on local ecosystems. Stakeholders discussed potential environmental risks, such as water pollution and degradation of natural habitats, and the need for sustainable water and land use practices was emphasized during the planning and consultation processes. This aligns with the AF's emphasis on protecting biodiversity.

Principle 12: Pollution Prevention and Resource Efficiency: During consultations, stakeholders raised concerns about water quality, where groundwater contamination with heavy metals was a key issue.

The project design includes measures to prevent pollution and ensure resource efficiency, particularly in water management, which was a core focus during consultations.

Compliance with the Gender Policy of the Adaptation Fund

The project fully complies with the Gender Policy of the Adaptation Fund, as demonstrated by its gender-sensitive stakeholder consultations and project design:

a. *Gender-Specific Consultations*: The project's consultations were specifically designed to include women's voices. Women, who are primarily responsible for household water management, were included in discussions on improving water access and security. The Gender Action Plan developed during the project explicitly aims to improve women's participation in decision-making processes related to water and agriculture.

b. *Equitable Participation and Benefit Sharing:* The project's design ensures that women and men participate equally in the project and that both genders receive comparable social and economic benefits. Women's empowerment is emphasized, particularly through capacity-building workshops aimed at involving them in climate-smart agricultural practices and water management.

c. *Addressing Gender-Specific Vulnerabilities:* Women in the project areas face significant vulnerabilities due to climate change, including increased workloads related to water collection and heightened exposure to waterborne diseases. The project addresses these vulnerabilities by focusing on improving clean water access and reducing the distances women need to travel to collect water. Moreover, the Gender Action Plan includes interventions aimed at reducing gender-based violence, which is exacerbated by long distances traveled for water collection.

d. *Grievance Mechanisms:* The project has integrated a grievance mechanism that allows stakeholders, including vulnerable groups and women, to voice concerns about project impacts. This aligns with the ESP's grievance redress principle, ensuring that any negative social or environmental impacts of the project are addressed in a timely and fair manner.

I. Justification for Adaptation Funding Requested

Ethiopia justifiably seeks funding for its climate change adaptation efforts, emphasizing the imperative of addressing the full cost of adaptation. The following key justifications underscore the necessity of financial support for Ethiopia in its pursuit of climate resilience:

- **Vulnerability and Exposure:** Ethiopia is highly vulnerable to the impacts of climate change, with an increasing frequency of extreme weather events such as droughts, floods, and erratic rainfall. These events exacerbate existing challenges, affecting the livelihoods of millions and threatening food security. The country's exposure to climate risks necessitates comprehensive and robust adaptation measures.
- **Agricultural Dependence:** A significant portion of Ethiopia's population relies on agriculture for its livelihood. Climate change poses a severe threat to this sector, impacting crop yields, livestock, and overall food production. Adaptation measures are essential to safeguarding the agricultural sector and ensuring the resilience of rural communities.
- **Water Scarcity:** Ethiopia faces challenges related to water scarcity, exacerbated by climate change. Erratic rainfall patterns and prolonged droughts impact water availability, affecting both rural and urban areas. Adequate funding is crucial to implementing sustainable water resource management strategies, securing water access, and enhancing resilience against water-related challenges.

- **Ecosystem Fragility:** Ethiopia's unique and diverse ecosystems are at risk due to climate change. Protecting biodiversity, conserving forests, and managing natural resources sustainably require financial support. Preserving these ecosystems not only contributes to global climate goals but also ensures the well-being of local communities dependent on ecosystem services.
- **Humanitarian Impacts:** The adverse impacts of climate change in Ethiopia often result in humanitarian crises, necessitating urgent responses. Adequate funding is essential to support emergency relief efforts, including providing food, water, and shelter to affected populations during climate-related disasters.
- **Community Resilience:** Building resilience at the community level is critical for adapting to the changing climate. This involves community-based initiatives, capacity-building, and participatory approaches that empower local populations to cope with climate-induced challenges. Funding is essential to ensure the effectiveness and sustainability of such initiatives.
- **Adaptation Planning and Implementation:** Comprehensive climate adaptation planning requires financial resources for data collection, vulnerability assessments, and the development of actionable strategies. Implementation of these plans, including infrastructure development, early warning systems, and community-based adaptation projects, requires sustained funding.
- **Cross-Sectoral Approach:** Climate change impacts multiple sectors simultaneously. Ethiopia's comprehensive approach to adaptation spans agriculture, water resources, forestry, and livelihood diversification. Funding is crucial to integrating and implementing strategies that address the interconnected nature of climate impacts.
- **International Commitments:** Ethiopia is committed to global climate goals, including the Paris Agreement, which recognizes the principle of common but differentiated responsibilities. Developed nations have an obligation to support developing countries in their adaptation efforts, and financial contributions are a key aspect of fulfilling this commitment.
- **Sustainable Development:** Climate adaptation is integral to Ethiopia's broader sustainable development goals. Adequate funding will not only address immediate climate challenges but will also contribute to the achievement of long-term development objectives, including poverty reduction, improved health, and enhanced economic stability.

The Government of Ethiopia recognizes the imperative of formulating policies with a climate-conscious perspective. This initiative constitutes a pivotal component of the Climate Resilient Green Economy (CRGE) strategy, embodying a climate-smart, landscape-oriented endeavor that integrates enhanced water accessibility, resource management, and livelihood diversification. Its primary objective is to empower the most vulnerable communities to adapt to heightened drought frequency. Central to this proposal is the focus on climate change adaptation, concurrently addressing the intricacies of sustainable development trajectories amid evolving climatic conditions.

Ethiopia has proactively implemented large-scale flagship programs in response to climate change-induced drought. These encompass prominent initiatives such as the Agricultural Growth Program, Sustainable Land Management Program, Livestock Growth Program, Productive Safety Nets Program, One Water, Sanitation, and Hygiene (WASH) Program, Ethiopian Forestry Action Program, Climate High-Level Investment Program, Strategic Climate Institutions Program (SCIP), and endeavours dedicated to building national capacity and knowledge on climate change resilient actions in Ethiopia. These ongoing programs collectively enhance the adaptive capacity of the Ethiopian economy to climate change while fostering livelihood diversification.

The proposed project, structured around its four components, exhibits significant synergies with existing adaptation-focused programs enumerated earlier. The alignment of this initiative with the priorities of the Adaptation Fund (AF) is evident, positioning it as a substantial contributor to the realization of

transformational impacts. The strategic coherence between the proposed project and Ethiopia's established climate resilience initiatives underscores the country's commitment to holistic climate adaptation, sustainable development, and transformative outcomes.

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level: Building Awareness, Understanding, and Ownership

This component encompasses multifaceted activities aimed at building awareness, enhancing capacity, fostering community engagement, and integrating climate adaptation into local development plans. The justification for the requested funds is delineated based on the specific outputs and the overarching goal of enabling local communities to adapt effectively to climate risks. The full cost of adaptation reasoning takes into account the diverse needs of awareness campaigns, capacity-building efforts, community engagement, policy integration, and robust project management, ensuring the effectiveness and sustainability of adaptation measures at the local level.

- **Climate Risk Awareness Campaign (1.1):** The funding is essential to conduct an impactful climate risk awareness campaign that reaches targeted communities and stakeholders. This involves designing and implementing communication strategies, producing educational materials, and organizing outreach programs. The full cost encompasses the creation and dissemination of tailored content, engagement with local media, and the mobilization of resources for community workshops.
- **Capacity-building Workshops (1.2):** The requested funds will facilitate the organization of capacity-building workshops for local authorities and stakeholders. This includes designing training modules, securing qualified trainers, providing necessary materials, and ensuring logistical arrangements. The full cost covers the development and delivery of training programs, monitoring and evaluation of workshops, and the creation of knowledge resources.
- **Community Engagement and Participatory Vulnerability Assessments (1.3):** Funding is essential for fostering community engagement and conducting participatory vulnerability assessments. This involves community mobilization, facilitation of workshops, and the collection of data. The full cost encompasses the development of assessment tools, hiring skilled facilitators, and ensuring community participation through inclusive and culturally sensitive approaches.
- **Mainstreaming Climate Adaptation into Development Plans (1.4):** The requested funds will support the integration of climate adaptation measures into local policies and plans. This involves consultations, data analysis, and the development of adaptation strategies. The full cost includes expert consultations, stakeholder engagement activities, and the incorporation of climate considerations into existing development frameworks.
- **Project Management, Monitoring, and Evaluation (1.5):** Adequate funding is crucial for effective project management, monitoring, and evaluation activities. This includes the establishment of a project management unit, development of monitoring tools, and periodic evaluation. The full cost encompasses personnel salaries, technology infrastructure, and data analysis for robust monitoring and evaluation.
- **Environment Social Safeguard Management (1.6):** The requested funds will support the implementation of environmental and social safeguard measures. This involves the development and enforcement of safeguard policies, regular monitoring, and addressing potential environmental and social risks. The full cost includes capacity-building for safeguard management, conducting impact assessments, and implementing corrective actions.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

This component entails a range of interconnected activities aimed at improving water access, enhancing infrastructure, deploying renewable energy solutions, promoting sustainable agriculture, and empowering women. The justification for the requested funds is based on the specific outputs and the overarching goal of building climate resilience, particularly in the context of water security and women's

empowerment. The full cost of adaptation reasoning considers the diverse needs of water infrastructure development, renewable energy deployment, sustainable agriculture, and gender-focused capacity building, ensuring a holistic and effective approach to climate resilience in the project area.

- **Water Source Development and Protection (2.1):** The funding is crucial for the development and protection of water sources to ensure improved access to clean water. This involves infrastructure development, watershed protection measures, and community engagement. The full cost encompasses geological assessments, construction, maintenance, and community training on water source protection.
- **Efficient Water Infrastructure Upgrade and Expansion (2.2):** Adequate funding is essential for upgrading and expanding water supply systems to enhance distribution efficiency and storage capacities. This includes the installation of water infrastructure, upgrading existing systems, and implementing sustainable distribution options. The full cost covers infrastructure materials, labor, and the incorporation of sustainable technologies.
- **Decentralized Renewable Energy (DRE) Systems (2.3):** The requested funds will support the implementation of decentralized renewable energy systems to provide water for potable and productive use. This involves the installation of renewable energy technologies such as solar pumps. The full cost encompasses equipment procurement, installation, and training on the maintenance of renewable energy systems.
- **Small-Scale Irrigation and Water Use Efficiency (2.4):** Funding is essential for the implementation of small-scale irrigation systems to enhance agricultural water use efficiency and reduce climate-related risks. This includes the design and installation of irrigation infrastructure, training for farmers, and monitoring systems. The full cost covers the entire irrigation system lifecycle, from planning to maintenance.
- **Women-Centric Capacity Building (2.5):** Adequate funding is crucial for women-centric capacity building in water management and agriculture. This involves designing and delivering training programs, creating educational materials, and providing mentorship opportunities. The full cost includes the development of training materials, engagement of qualified trainers, and the establishment of supportive networks.
- **Gender-Responsive Awareness Campaigns (2.6):** The requested funds will support gender-responsive awareness campaigns to improve gender roles and recognize women's contributions. This involves designing and implementing awareness programs, producing communication materials, and organizing community events. The full cost encompasses campaign development, community outreach, and the production of gender-sensitive educational materials.

Component 3: Climate Smart Agriculture and Livestock Rearing

This component encompasses various activities aimed at enhancing agricultural and livestock practices, promoting natural resource management, and facilitating informed decision-making based on weather information. The requested funds are crucial to implementing these activities effectively, ensuring increased resilience, sustainability, and improved productivity in the agriculture and livestock sectors. The full cost reasoning includes investments in research, training, infrastructure, and ongoing support, reflecting the holistic nature of the proposed activities and their contribution to building resilience in the agriculture and livestock sectors.

- **Climate-Resilient Crop Selection and Diversification (3.1):** Adequate funding is essential for promoting climate-resilient crop selection and diversification. This includes research on resilient crop varieties, the dissemination of improved seeds, and training for farmers on diversified farming practices. The full cost involves the development and distribution of seeds, farmer training programs, and ongoing support for sustainable crop management.
- **Climate-Resilient Livestock Production and Management (3.2):** The requested funds are critical for achieving a sustainable and resilient livestock sector. This involves investments in improved

livestock health, increased productivity, and the adaptability of herds to changing climatic conditions. The full cost includes veterinary care, improved breeding programs, and training for livestock management practices.

- **Natural Resource Management (3.3):** Funding is essential for promoting sustainable land use, protecting ecosystems, and enhancing agricultural productivity. This includes implementing conservation practices, establishing sustainable land management techniques, and promoting ecosystem protection measures. The full cost encompasses the implementation of sustainable land management programs, community engagement, and ongoing monitoring.
- **Weather Information Dissemination (3.4):** The requested funds will support the dissemination of weather information for improved decision-making. This involves developing communication channels for disseminating information to farmers, and conducting training on interpreting weather data. The full cost covers the establishment and maintenance of weather monitoring infrastructure, training programs, and communication strategies.

The diverse activities, ranging from crop diversification to livestock management and natural resource conservation, require adequate financial support to ensure successful implementation.

Component 4: Climate Smart Livelihood diversification

This component encompasses various activities aimed at promoting gender-responsive diversification options, providing technical training and knowledge sharing, implementing diversified livelihood activities, and promoting market linkages. The requested funds are crucial for realizing these outcomes and ensuring increased economic viability, income generation, and reduced vulnerability to external shocks. The full cost reasoning includes investments in research, training, implementation, and market linkages, reflecting the holistic nature of the proposed activities and their contribution to building resilient livelihoods in the target communities and has been detailed below:

- **Identification of Gender Responsive Diversification Options (4.1):** Adequate funding is essential for conducting a thorough identification of gender-responsive diversification options. This involves research, consultation, and community engagement to understand local resources, capabilities, and market demand. The full cost includes research activities, community consultations, and the development of a well-informed strategy for gender-responsive livelihood diversification.
- **Technical Training and Knowledge Sharing (4.2):** The requested funds are critical for equipping women and community members with the necessary skills and knowledge to effectively implement and manage diversified livelihood activities. This includes training programs, knowledge-sharing sessions, and the development of educational materials. The full cost encompasses the design and delivery of training programs, materials development, and ongoing support for capacity building.
- **Implementation of Diversification Activities (4.3):** Funding is essential for the successful establishment and management of diversified activities. This involves providing financial support, resources, and ongoing assistance to ensure the effective implementation of identified livelihood diversification options. The full cost covers financial support, resources, monitoring, and ongoing support for the implementation of diversified activities.
- **Promotion of Market Linkages (4.4):** The requested funds will support the promotion of market linkages, enhancing the economic viability of diversified activities and improving income for community members. This includes market research, development of market linkages, and ongoing support for sustained market access. The full cost encompasses market research, the establishment of linkages, and ongoing efforts to ensure sustained market access.

The diverse activities, ranging from gender-responsive options identification to market promotion, require adequate financial support to ensure successful and sustainable implementation.

J. Project sustainability

At a strategic level, the project aligns with national development goals and the Climate-Resilient Green Economy (CRGE) strategy. It focuses on low-regret adaptation options, emphasizing immediate benefits and future resilience. Capacity building and learning components ensure sustained outcomes, with robust monitoring and evaluation to guarantee lasting impacts. The following four sustainability anchors have been considered in developing the project and subsequent components and related outcomes.

Institutional sustainability

- **Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level**: Building Awareness, Understanding, and Ownership: Institutional sustainability for this component will be ensured by integrating climate risk reduction and adaptation planning into existing local governance structures. Establishing Local Climate Committees within administrative bodies ensures ongoing engagement and oversight. These committees, with representation from diverse stakeholders, will be embedded in local government structures to guarantee continuous attention to climate issues. Furthermore, a formalized training-of-trainers program will be instituted within local authorities, making them self-sufficient in conducting Capacity-building Workshops. This institutionalizes the knowledge transfer process, ensuring that training becomes an integral part of local governance education. The Environment Social Safeguard Management (1.6) will be incorporated into existing environmental monitoring mechanisms, aligning with national and regional monitoring frameworks.

- **Component 2: Water Security, Climate Resilience, and Women's Empowerment:** Institutional sustainability for water security and women's empowerment involves integrating project outcomes into existing local governance structures. The Water Source Development and Protection (2.1) initiative will be sustained by establishing and empowering Water Management Committees, formalizing their role in local governance. Efficient Water Infrastructure and Decentralized Renewable Energy (DRE) Systems (2.2, 2.3) will be embedded in regional water authorities and energy institutions, ensuring the longevity of water and energy-related initiatives. Women-Centric Capacity Building (2.5) will be institutionalized through partnerships with local women's associations and integrating gender-responsive training into existing agricultural extension services. The Gender-Responsive Awareness Campaigns (2.6) will be mainstreamed into local education programs and gender equality initiatives, fostering enduring change.
- **Component 3: Climate Smart Agriculture and Livestock Rearing:** Institutional sustainability for climate-smart agriculture and livestock initiatives involves aligning project outcomes with existing agricultural extension services and livestock management structures. Climate-Resilient Crop and Livestock Options, Resource Management, and Weather Information (3.1, 3.2, 3.3, 3.4) will be integrated into routine extension services provided by agricultural offices. This ensures that farmers continue to receive guidance on climate-resilient practices. Natural Resource Management (3.3) will be incorporated into existing land use planning frameworks at the regional and local levels, ensuring sustainable practices are institutionalized.
- **Component 4: Climate Smart Livelihood Diversification:** Institutional sustainability for livelihood diversification involves integrating diversified livelihood options into local economic development plans. Identification of Gender Responsive Diversification Options (4.1) will be incorporated into local economic development strategies and women's empowerment programs. Technical Training and Implementation of Diversification Activities (4.2, 4.3) will be sustained by collaborating with vocational training institutions and establishing mentorship programs as part of local economic development initiatives. Promotion of Market Linkages (4.4) will be institutionalized through partnerships with local business associations and the integration of market analysis into local economic planning processes.

Sustainability of Project Outcomes

The sustainability of the project outcomes has been a paramount consideration in the design of each project component, ensuring a holistic and enduring impact on the targeted communities. The following outlines the sustainability measures embedded in each component:

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level:

- **Climate Risk Awareness Campaign (1.1):** The sustainability is achieved through a comprehensive awareness campaign, fostering a long-lasting understanding of climate risks. Information dissemination will be accompanied by the establishment of local structures to sustain awareness efforts beyond the project timeline.
- **Capacity-building Workshops (1.2):** Sustainability is ensured by transferring skills to local authorities, creating a lasting impact on their ability to engage in climate risk reduction. Continuous training mechanisms and community-led initiatives will further sustain capacity building efforts.
- **Community Engagement and Participatory Vulnerability Assessments (1.3):** Sustainability is addressed by fostering community ownership through participatory assessments. Empowered communities will continue to engage in informed decision-making, ensuring the longevity of adaptation planning efforts.
- **Mainstreaming Climate Adaptation into Development Plans (1.4):** Integration into local policies ensures sustainability. The commitment of local authorities is embedded in development plans, creating a foundation for ongoing climate adaptation even after project completion.

Component 2: Water Security, Climate Resilience, and Women's Empowerment:

- **Water Source Development and Protection (2.1):** Sustainability is assured through the protection and development of water sources. Community involvement in water management and protection activities will enhance sustainability, ensuring long-term access to clean water.
- **Efficient Water Infrastructure Upgrade and DRE Systems (2.2, 2.3):** Investments in efficient infrastructure and decentralized renewable energy systems contribute to long-term sustainability, providing potable and productive water access beyond the project lifespan.
- **Small-Scale Irrigation and Women-Centric Capacity Building (2.4, 2.5**): Sustainable agricultural practices and enhanced gender roles are cultivated through capacity building. Empowered women and communities will continue to engage in sustainable water and agriculture practices.
- **Gender-Responsive Awareness Campaigns (2.6):** Gender equality awareness is institutionalized through campaigns, contributing to sustained recognition of women's contributions even after the project concludes.

Component 3: Climate Smart Agriculture and Livestock Rearing:

- **Climate-Resilient Crop and Livestock Options, Resource Management, and Weather Information (3.1, 3.2, 3.3, 3.4):** Sustainable agricultural and livestock practices are ensured through diversified options, resource-efficient practices, and informed decision-making based on weather information. These practices create resilient farming and livestock systems that endure beyond the project duration.

Component 4: Climate Smart Livelihood Diversification:

- **Identification of Gender Responsive Diversification Options (4.1):** The sustainable livelihood is achieved by aligning options with local resources and market demand. Informed choices by women ensure the potential for successful adoption and long-term viability.
- **Technical Training and Implementation of Diversification Activities (4.2, 4.3):** Ongoing technical training and community involvement in activity implementation contribute to the sustainability of diversified livelihoods, reducing reliance on a single income source.

- **Promotion of Market Linkages (4.4):** Enhanced market access and economic viability are sustained through established linkages, fostering improved income even after the project concludes.

Overall Impact Sustainability

- **Holistic Approach:** The project's multifaceted approach ensures a comprehensive and interconnected impact, addressing climate resilience, water security, agriculture, livestock, gender equality, and livelihood diversification.
- **Community Empowerment:** By empowering communities and local authorities, the project aims to create self-sustaining entities that will independently cope with climate challenges.
- **Long-term Commitment:** Integration into local policies, plans, and practices establishes a foundation for sustained climate adaptation efforts, fostering resilience beyond the project's timeline.

Technical Sustainability

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level: Building Awareness, Understanding, and Ownership

The initiative's inaugural component revolves around fortifying local climate risk reduction and adaptation planning. Initiatives such as the Climate Risk Awareness Campaign (1.1) aim to enhance awareness and comprehension of climate risks within communities and stakeholders. To ensure the technical sustainability of this campaign, a robust communication strategy will be devised, incorporating digital platforms, community events, and local media. Continuous communication will be overseen by local climate committees, ensuring ongoing awareness. Concurrently, the Capacity-building Workshops (1.2) will be integrated into established local government training programs, with a training-of-trainers program ensuring the perpetuation of knowledge within the community. Community Engagement and Participatory Vulnerability Assessments (1.3) will be perpetuated through community-led monitoring systems and local task forces regularly assessing vulnerabilities and updating adaptation plans. The mainstreaming of climate adaptation into development plans (1.4) will be sustained by integrating climate considerations into routine planning processes and establishing review mechanisms.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

The second component focuses on water security, climate resilience, and women's empowerment. Initiatives like Water Source Development and Protection (2.1) will be sustained by implementing community-based water management committees and continuous water quality monitoring. Efficient Water Infrastructure and Decentralized Renewable Energy (DRE) Systems (2.2, 2.3) will rely on training local technicians and integrating decentralized systems into local governance structures. Small-Scale Irrigation and Women-Centric Capacity Building (2.4, 2.5) will be embedded in the community through women-led agricultural cooperatives and the integration of climate-resilient agricultural practices into routine extension services. Gender-Responsive Awareness Campaigns (2.6) will endure by institutionalizing gender awareness training and fostering ongoing gender dialogue.

Component 3: Climate Smart Agriculture and Livestock Rearing

The third component centers on climate-smart agriculture and livestock rearing. Initiatives such as Climate-Resilient Crop and Livestock Options, Resource Management, and Weather Information (3.1, 3.2, 3.3, 3.4) will be sustained through a network of agricultural extension services for continuous technical support and the establishment of weather information dissemination systems using mobile technology.

Component 4: Climate Smart Livelihood Diversification

The fourth component focuses on climate-smart livelihood diversification. Initiatives such as the Identification of Gender Responsive Diversification Options (4.1) will persist through the creation of a database of diversified livelihood options and ongoing partnerships with market actors for continuous

market analysis. Technical Training and Implementation of Diversification Activities (4.2, 4.3) will be sustained by integrating technical training into vocational education programs and establishing mentorship programs for diversified livelihood activities. Promotion of Market Linkages (4.4) will endure through the establishment of a market information system, regular market linkage events, and forums.

Cross-Cutting Strategies:

- **Technology Adoption:** Promote the adoption of appropriate technologies that facilitate sustainability, such as climate-resilient seeds, water-efficient technologies, and renewable energy solutions.
- **Data Monitoring and Evaluation:** Implement robust data collection and monitoring systems to track the performance of technical interventions continuously. Use feedback mechanisms to adjust strategies as needed.
- **Community Participation:** Foster a culture of community participation and ownership through participatory decision-making processes. Involve communities in the design, implementation, and evaluation of technical solutions.

Capacity Building and Institutional Strengthening:

- **Local Institutional Capacities**: Strengthen local institutions through capacity-building programs, ensuring they have the knowledge and skills to manage and maintain technical interventions.
- **Training Programs:** Develop ongoing training programs for community members, technicians, and local authorities to keep them updated on the latest technologies and best practices.

Financial Sustainability

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level: Building Awareness, Understanding, and Ownership

To ensure financial sustainability, local governments will be encouraged to allocate budget lines specifically for climate risk reduction and adaptation planning. This will be achieved by integrating climate-related initiatives into the annual local budgetary processes. Additionally, partnerships with national and international climate funds will be explored to secure supplementary funding for sustained local engagement. The establishment of Local Climate Committees will enable the leveraging of funds through grant applications and collaboration with non-governmental organizations.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

Financial sustainability for water and women's empowerment initiatives involves exploring diverse funding sources. Local water tariffs and fees will be established to generate revenue for water infrastructure maintenance. The integration of water-related projects into regional development plans will make them eligible for governmental budget allocations. Partnerships with international agencies and corporate social responsibility initiatives will be pursued to secure additional funding. Women-Centric Capacity Building efforts will tap into existing government training budgets and seek collaborations with women's empowerment funds.

Component 3: Climate Smart Agriculture and Livestock Rearing

Financial sustainability for agriculture and livestock initiatives includes integrating climate-smart practices into existing agricultural extension services. This ensures that ongoing funding for extension services covers climate-resilient training. Collaboration with private sector entities for climate-resilient crop and livestock options will establish sustainable market linkages, ensuring a steady income for farmers. Partnerships with agricultural research institutions will secure funding for continuous research on climate-resilient practices.

Component 4: Climate Smart Livelihood Diversification

Financial sustainability for livelihood diversification involves embedding diversified activities in local economic development plans. Identifying Gender Responsive Diversification Options will attract funding from women's empowerment funds and local economic development grants. Technical Training and Knowledge Sharing will be sustained through partnerships with vocational training institutions, utilizing a mix of public and private funding. Implementation of Diversification Activities will explore local business partnerships and microfinance initiatives, providing a financial foundation for community-driven ventures. Promotion of Market Linkages will leverage private sector investments and explore collaborations with market development programs.

K. Overview of the environmental and social impacts and risks

Checklist of environmental and social principles	**No further assessment required for compliance**	**Potential impacts and risks – further assessment and management required for compliance**
Compliance with the Law	No further assessment required for compliance	The project components and outputs are in line with many of the provisions of the Constitution of the Federal Democratic Republic of Ethiopia.
Access and Equity	Compliance assessment during implementation may be required	-
Marginalized and Vulnerable Groups	Compliance Assessment during implementation may be required	Initial assessment of vulnerability status during project site/kebele level ESS screening phase, and compliance assessment during implementation is required
Human Rights	No further assessment required for compliance	The constitution and legal proclamations respect human rights
Gender Equity and Women's Empowerment	Further assessment required, as this is one of the focus areas of project and compliance is key.	Initial assessment during project site/kebele level ESS screening phase, and compliance assessment during implementation is required
Core Labour Rights	No further assessment required for compliance	Labor Proclamation (Proclamation No. 377/2003) protects the rights of contract employees and contains similar provisions with that of **AF Principle 6.**.
Indigenous Peoples	No further assessment required for compliance	There is no specific national legislation on this aspect as the Ethiopian population is indigenous. In the Ethiopian context this may not be relevant but the provisions are relevant to any rural community in the selected project areas.
Involuntary Resettlement	Initial screening and compliance assessment required, during implementation	Initial assessment during project site/kebele level ESS screening phase and compliance assessment during implementation is required. Since the project may appropriate land, there is a need to undertake an assessment to minimize land appropriation (to extent possible) and to ensure that communities that have lost assets, and economic and social benefits are

		compensated accordingly and as per the requirements In case of land appropriation and resettlement – a resettlement action plan is required.
Protection of Natural Habitats	Compliance Assessment during implementation may be required	Assessment to inform and strengthen the minimization of impacts on natural habitat at the project sites may be required.
Conservation of Biological Diversity	Compliance Assessment during implementation may be required	Assessment to inform and strengthen the conservation of biodiversity diversity at the project sites may be required
Climate Change	No further assessment required for compliance	-
Pollution Prevention and Resource Efficiency	No further assessment required for compliance	-
Public Health	No further assessment required for compliance	-
Physical and Cultural Heritage	Initial screening to verify that physical and cultural heritage sites are not in the vicinity	The criteria for section of project sites forbids locating project activities in the vicinity of project activities
Lands and Soil Conservation	No further assessment required for compliance	-

PART III: IMPLEMENTATION ARRANGEMENTS

L. Implementation Arrangements

Ethiopia has built strong sectoral institutions responsible for designing sectoral policies and strategies and overseeing their implementation. These institutions have benefited from extensive experience in the implementation of different national and global commitments (e.g., the MDGs, SDGs). The successful delivery of this project requires the collaborative engagement of stakeholders at federal, regional, and woreda levels.

The Ministry of Finance has the mandate, capacity, and experience of overseeing financial management and project implementation in Ethiopia. MOF, in its capacity as the Direct Access Entity, has overall responsibility and oversight for the project, including coordination of project design, implementation monitoring and evaluation, financial and procurement management, and periodic reporting. It will assume full financial and programmatic management and accountability for the funds disbursed from the Adaptation Fund. MOF has established and operationalized the Climate Resilient Green Economy Facility (CRGE Facility) as one of the mechanisms to access and mobilize bilateral and multilateral climate finance and support the implementation of projects and programs, which contribute to the realization of Ethiopia's vision of building a climate resilient and carbon neutral economy. The CRGE Facility shall coordinate the project implementation and ensure the delivery of MOF mandates to this project.

Federal Level

The federal executing entities shall be responsible for the specific project components in accordance with powers and functions bestowed on them69. The Ministry of Agriculture (MOA) and the Ministry of Water and Energy through their sub-national counterparts will execute the project. MOA shall principally lead the execution and delivery of component three of this project. MOWE shall lead the execution of actions and delivery of results under component two of the project. The executing entities along with the CRGE Facility team shall be responsible for the realization of project actions under component one and four of the project.

A national project steering committee, which is comprised of MOF, the executing entities, the Designated National Authority (DNA), and other relevant stakeholders will oversee the project implementation. The executing entities have proven and extensive track records of their duties and functions. They have vast experience of implementing similar or related during the past several years. These entities executed the previous Adaptation Fund Financed Project.

The Ministry of Water and Energy has extensive experience, expertise and capacity in leading flagship national programs and projects that have greater socio-economic and strategic significance to the country. The Ethiopia Urban Water Supply and Sanitation Project, financed by the World Bank, is one of the flagship projects managed by the Ministry of Water and Energy. With a budget of approximately USD 445 million70, this project aims to improve the provision of water supply and sanitation services in key urban areas across Ethiopia. Another significant initiative is the Ethiopia Electrification Program (ELEAP), also funded by the World Bank, with a budget of around USD 375 million71. This program is designed to increase electricity access in rural areas, where most of the population resides and where electricity coverage is typically low. The Second Urban Water Supply and Sanitation Project, with a budget of USD 300 million72, further exemplifies the Ministry's capacity to manage large-scale projects. This project focuses on enhancing the efficiency and sustainability of water supply and sanitation services in major

[69] *Proclamation 1263/2023: Definition of Powers and Duties of the Executing Organs of the Federal Democratic Republic of Ethiopia.*

[70] https://www.worldbank.org/en/country/ethiopia

[71] https://www.worldbank.org/en/country/ethiopia

[72] https://www.worldbank.org/en/country/ethiopia

Ethiopian cities. These projects highlight the Ministry of Water and Energy's proven track record in successfully managing complex, multi-million-dollar initiatives with significant socio-economic impacts. The Ministry's collaboration with the World Bank and other Multilateral Development Banks has enabled it to secure the necessary financial resources and technical expertise to implement these projects effectively. Through these efforts, the Ministry continues to play a crucial role in advancing Ethiopia's development goals, particularly in the areas of water supply, sanitation, and energy access, which are vital for the country's sustainable development and resilience against climate change impacts. Currently MOWE is implementing the National Electrification Program (NEP), which is a USD 6 billion program with a specific focus on rolling out decentralized renewable energy in off-grid areas including productive purposes such as irrigation.73 The NEP provides, next to other relevant policy frameworks like the NDC, important policy directives that underpin the project rationale.

The Ministry of Agriculture (MoA) plays a pivotal role in shaping Ethiopia’s agricultural policies and promoting sustainable development within the sector. As the primary government body responsible for overseeing agriculture, it is tasked with ensuring food security, enhancing rural livelihoods, and driving economic growth through modernized farming practices. The Ministry focuses on the development of crop and livestock production, sustainable land and water management, and the adoption of climate-resilient agricultural practices to mitigate the impacts of climate change. It has taken the lead in promoting sustainable land management and the restoration of degraded landscapes, recognizing the critical role that natural resources play in enhancing agricultural productivity and mitigating climate change impacts. Through comprehensive programs in afforestation and reforestation, the Ministry has helped to rehabilitate degraded ecosystems, conserve biodiversity, and improve water retention across drought-prone regions. The Ministry has spearheaded several flagship programs such as the Sustainable Land Management Program (SLMP), funded by the World Bank, which received more than USD 100 million74. SLMP focuses on restoring degraded landscapes, improving soil and water management, and enhancing the resilience of agricultural systems through climate-smart practices. The Climate Action through Landscape Management (CALM) project, also funded by the World Bank with an investment of USD 500 million75, builds on the successes of SLMP, aiming to increase climate resilience through reforestation, afforestation, and sustainable land management practices. Additionally, the Ethiopia Green Legacy Initiative, launched in 2019, is one of the government’s most ambitious afforestation campaigns, with a goal of planting over 20 billion trees across the country by 2024, targeting degraded lands to combat deforestation and land degradation. Other key projects include the Growth and Transformation Plan (GTP II), which integrated environmental sustainability as a core pillar in agricultural development, and the Productive Safety Net Program (PSNP), which incorporates NRM and land rehabilitation components while addressing food security challenges. These programs, together with the Ministry’s leadership in resource management, have significantly contributed to restoring ecosystems, improving the livelihoods of rural communities, and enhancing agricultural productivity in Ethiopia.

At the regional level

the Bureau of Finance Economic Development (BOFED) will coordinate implementation of the project. It will chair the regional project steering committee. The Bureau of Agriculture and the

[73] Federal Democratic Republic of Ethiopia (2019): National Electrification Program 2.0; Integrated planning for Universal Access, Ministry of Water, Irrigation, and Energy, Addis Ababa

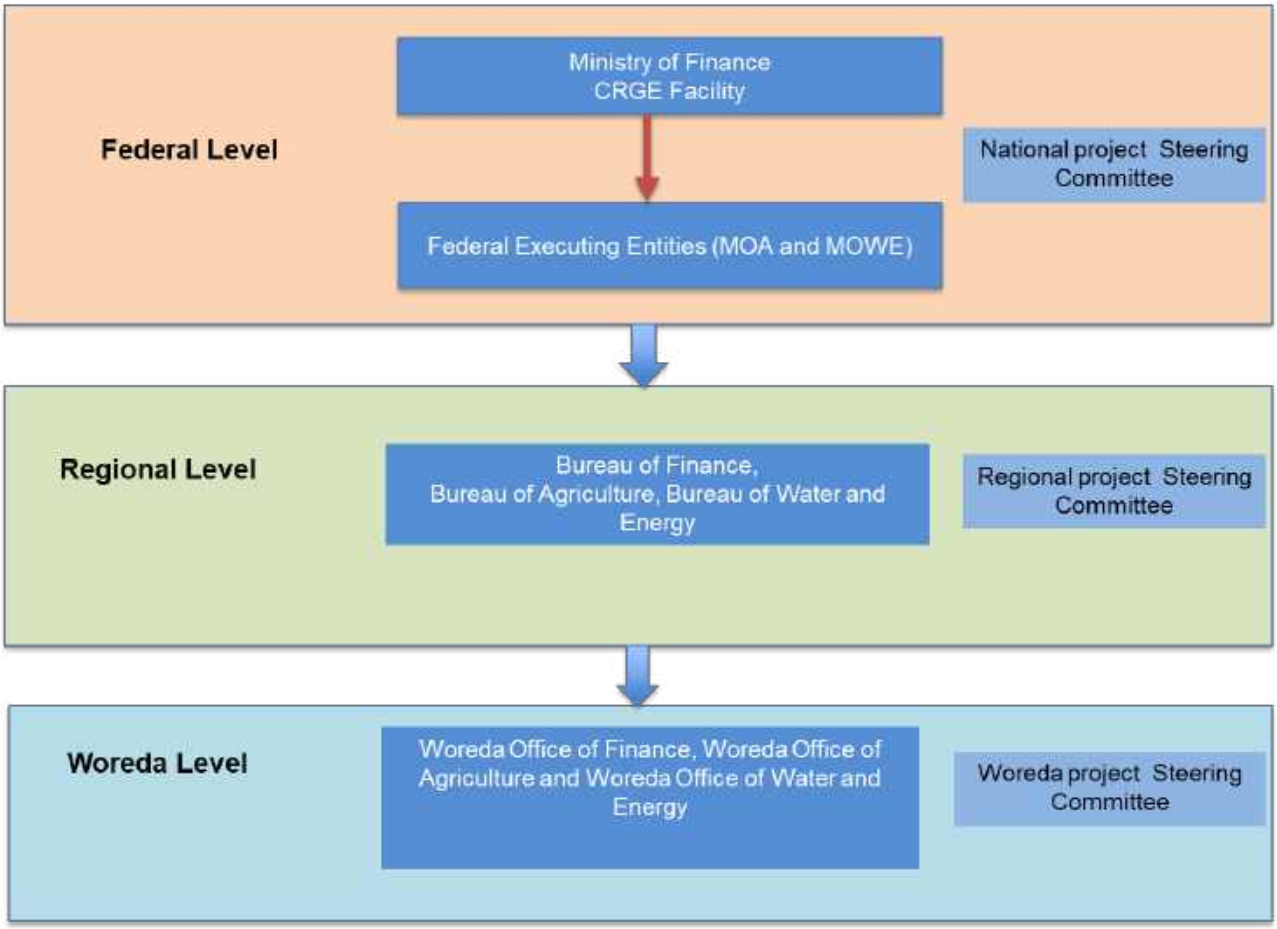
[74] World Bank Group (2017): *Sustainable Land Management Project (SLMP) in Ethiopia*.

[75] World Bank Group (20202): *Climate Action through Landscape Management in Ethiopia.*

Bureau of Water and Energy will lead the implementation of activities under the components, which they lead in accordance with the legal mandates bestowed on them. In this regard, the Bureau of Agriculture is responsible to coordinate and ensure the implementation of the crop, livestock-related climate smart watershed, alternative income source and natural resources management related activities of the project. The Bureau of Water and Energy on the other hand is responsible for the execution of clean potable water-related activities. BOFED will receive project fund directly from the Ministry of Finance in accordance with the project annual work and budget plan and disburse to the Woreda Office of Finance for the implementation of project activities in the target kebeles. BOFED also disburses fund to the Regional Bureau of Agriculture and Bureau of Water and Energy and Bureau (which are the regional equivalents of the federal level executing entities) for activities each Bureau directly implement at regional level. The existing team in the regional sector bureau who are employed by the GoE will be assisting the Project Officers who will be employed under this project.

At the Woreda level,
The Woreda Office of Finance is responsible for the financial management of the project including local procurement of goods, services, and works. A Woreda Steering Committee, which is chaired by the Woreda Administrator oversees the project implementation and renders overall guidance to the implementing sectors. This committee will be the fundamental body in ensuring the Woreda plans that shall be developed under this project are implemented at all Kebeles. Wherever possible, depending on the actual constitution of the Woreda level experts, the project will ensure at least 50% women membership to the woreda steering committee. The Woreda Office of Agriculture, Water and Energy are responsible for the day-to-day implementation of the project activities. The technical experts, hired at the woreda level, in close collaboration with the existing woreda staff are responsible for the day-to-day implementation of the project and processes, engage stakeholders, and mobilize communities at target Kebele level, in accordance with the approved work plan. They are also responsible to prepare periodic reports. In addition, finance officers will be hired within each targeted Woreda to ensure that funds are effectively disbursed, utilized, monitored, and reported back to the CRGE Facility. The project technical officers at the woreda and MOF level will be responsible to contribute monitoring and evaluation (M&E) overlook gender responsiveness is ensured throughout the project implementation. The project management and coordination structure from federal to woreda level is presented below.

Figure 14 Management and coordination structure of the project



Roles and Responsibilities of the project stakeholders

The CRGE Facility: The CRGE Facility team in the Ministry of Finance, in collaboration with the Regional Bureaus of Finance and Woreda Office of Finance is responsible for the financial and procurement management of the project, consistent with government policies. In collaboration with the federal EEs, it will facilitate annual work planning, periodic review meetings, joint monitoring missions, assess and assure the quality of the proposed program plans and reports submitted by EEs. Furthermore, it will exercise the necessary diligence, efficiency, and transparency in line with acceptable best principles and practices and ensure that grants are used according to approved work plans and budgets.

The CRGE Facility shall have the following roles and responsibilities:

- Ensure the grant is managed in accordance with the financial and procurement management policies of the Government of Ethiopia and the terms and conditions of partnership and implementation agreements.
- Facilitate fund disbursements, account auditing, periodic review, monitoring and supervision, preparation and submission of reports.
- Organize quarterly project review meetings to discuss project implementation, financial and procurement management, reporting, monitoring and supervision and related issues.
- Ensure that the Regional EEs and Finance Officers from BOFD of the target regions are invited to project technical meetings on biannual basis.
- Ensure deployment of adequate finance officers, project management team and logistics at federal, regional and woreda levels.

The Federal EEs: These constitute MOA and MOWE have clearly defined mandates, roles and responsibilities as defined on proclamation. This project is designed to allow the Federal EEs to deliver their mandates individually as well as collectively in collaboration with each other. They are responsible for the project implementation and will be accountable for the delivery of results. The Federal EEs shall ensure the project is implemented through strong management and coordination structures at federal, regional and woreda levels, ensuring adequate collaboration with each other and communication of project progress and results to all relevant audiences. They will closely collaborate with the CRGE Facility and other stakeholders at federal, regional and woreda levels. The Federal EEs are responsible for the following:

- Coordinate the preparation of annual work plans and consolidate periodic progress reports to be submitted to the CRGE Facility.
- Based on the annual work and budget plan, they initiate fund disbursement requests on bi-annual basis to be submitted to MoF and ensure the timely transfer of funds.
- Organize joint monitoring missions and periodic program level review meetings.
- Prepare and disseminate communication materials.

Regional EEs: The regional EEs will have the following roles and responsibilities:

- Ensure the timely delivery of project results and targets at regional level and monitor the project in close collaboration with BOFED and relevant public institutions.
- Ensure that the application of monitoring tools is understood, properly used and that data on project activities is regularly collected, compiled, analyzed, and submitted to federal level for compilation.
- Review and consolidate annual work plans, budgets and procurement plans submitted by woredas.
- Review and approve implementation progress reports (including M&E, safeguards, etc.) from woredas.
- Provide technical and capacity building support to the woreda project team.
- Request fund disbursements on quarterly basis.
- Coordinate annual planning, prepare periodic reports and send to the Federal EEs.
- Facilitate periodic regional project steering committee meetings.
- Facilitate periodic monitoring visits.
- Ensure proper beneficiary selection criteria are put in place to ensure women and disadvantaged groups equally benefit from the project and are adequately represented in local level management positions, committees, etc.

Regional project Steering Committees: The regional project Steering Committees are chaired by the BOFED and comprises members from the Bureau of Agriculture, Land Administration, Bureau of Water and Energy and other stakeholders. The Steering Committee will meet biannually and review program implementation progress and provide overall guidance and supervision. This committee will have the following roles and responsibilities:

- Overall supervision for project implementation.
- Annual regional work plan and procurement plan review.
- Annual implementation performance report review.
- Oversee corrective actions implementation.
- Approval and endorsement of guidelines and manuals.
- Approval of best practices.

Woreda Project Coordination Unit: The woreda project Coordination Units are responsible for the following:

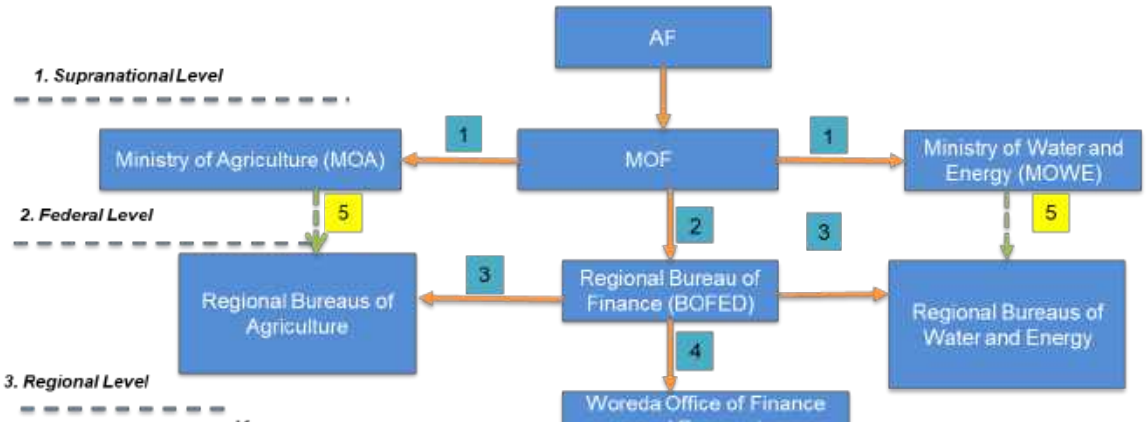
- On the ground planning and execution of activities under the project;
- The day-to-day implementation of project activities at landscapes level, including community mobilization, etc.
- facilitate annual planning, periodic reports and submits to the Regional EEs;
- Provide regular training and other capacity building activities;
- Undertake participatory monitoring and evaluation of project activities;
- In collaboration with the WOFED, facilitate procurement of goods and services at the woreda level; and
- Ensure the project budget and logistics are used for the intended purposes.

Woreda Project steering Committee: The Woreda project Steering Committees, chaired by the Woreda Administrator, will be responsible for the overall guidance and coordination of project activities. The committees shall ensure project activities are implemented in accordance with work plans and the approved budget. It will meet quarterly to review project implementation and take corrective measures if/when challenges are reported by the woreda project team. Furthermore, it will support the woreda project team in the identification of implementation sites.

Fund disbursement and Reporting Arrangement

The executing entities at federal, regional and woreda levels are responsible for submitting periodic activity based financial reports. The Federal EEs shall submit quarterly financial reports to the CRGE Facility for activities, which they directly manage and implement. Similarly, the Regional EEs (Bureau of Agriculture, Bureau of Water and Energy, Bureau of Irrigation and Lowlands Development) shall submit quarterly financial report to the BOFED for activities, which they directly manage and implement. BOFD receives financial reports from WOFD of the project target woredas on a quarterly basis for woreda level activities. It will consolidate the regional and woreda financial reports and send to the CRGE Facility. BOFED shall also share copy of the consolidated financial report to the regional EEs and provide status updates during the regional Steering Committee meetings. BOFED will receive copy of a consolidated technical report from the Regional EEs. The CRGE Facility consolidates the financial reports it receives from the BOFDs, Federal EEs and submit to the AF annually. The Facility will facilitate an annual external audit of the project and submit the audit report to the AF. BOFDs ensure and support timely submission of activity based financial reports by WOFEDs. The CRGE Facility will conduct periodic financial spot-checks and facilitate regular trainings, workshops, review meetings for the project finance officers and project technical staff. The Facility ensures preparation and dissemination of customized and fit for purpose financial and procurement management guidelines to the woreda Finance Officers. It will also ensure that financial management and procurement activities are conducted in accordance with existing government procurement and financial management policies and procedures. The project financial reporting follows the same channel, only in the reverse direction.

Figure 15 Fund disbursement and Reporting Arrangement



Key

1= disbursement to MOWE and MOA for activities, which they directly execute such as procurement of SWPs, solar panel, etc
2= Fund for activities at regional and woreda levels
3= Regional Bureau of Agriculture and Bureau of Water and Energy receive fund for activities such as TA and capacity building including trainings and workshops, which they directly executive
4= Woredas receive fund from BOFED for all project activities, which will be implemented at woreda and community level
5= EEs at federal level closely collaborate with their regional counter parts at all times. However, there is no direct fund disbursement between the Federal EEs and Regional Bureaus of Irrigation and Bureau of Water
6=Direct beneficiaries who are members of the Irrigation users associations/water user associations receive fund for procurement of agricultural inputs and other services from Woreda Office of Finance

M. Measures for financial and project/programme risk management

No	Risks	Risk Level	Mitigation
1	Delays in the disbursement of funds, procurement and Institutional inefficiencies (lengthy approval processes etc.) could potentially result in delayed project implementation.	Low	The CRGE Financial Manual has been developed and training will be given to permanent and temporary staff at all levels. The financial flow and administration will follow the government regular channel. Additional finance from the government and administrative officers will be recruited to ensure effective mobilization of funds, contracting, monitoring, and financial reporting.
2	Traditionally, projects were developed by a single Ministry and implemented by the same from Federal to Region and Woreda. This project follows a landscape based integrated approach and requires engagement of different stakeholders at macro, meso and micro levels.	Medium	The CRGE Facility has acquired lessons from the implementation of Adaptation Fund, Green Climate Fund and Fast Track Investments and will coordinate the implementation of this project through the assignment of a dedicated staff. This team will regularly communicate with the project coordination units of the executing Ministries and Bureaus.
3	Low technical knowhow of farmers and communities to use modern technologies. The project will introduce green technologies such as extracting of water and small scale irrigation using solar energy. These and other technologies require adopting the new technologies and associated practices.	Low	Technical support to the intended project beneficiaries will be provided through the project and existing government extension system. This will include, knowledge transfer on the technologies and improved practices through workshops, exchange visits, demonstration of on farm practices (e.g. using Farmers Training Centers), and training of trainers. It will also focus on capacity building on irrigation practices, farming technologies, livestock feed preparation, cut and carry, existing watershed management guidelines, and soil and water conservation practices. Proper training will also be given to government stakeholders and implementing institutions on trouble shooting, operation and maintenance of the solar PVs and the installed surface pumps.
4	The project has a number of components, which are strongly inter-related, and will be introduced in an integrated approach. The implementation of these components is expected to diversify and strengthen livelihoods and sources of income for vulnerable people in targeted areas. Full realization of the expected results of the project could be affected by improper selection of relevant areas and response to address communities' vulnerability.	Low	The project will address this risk through a number of actions. The first is compiling and examining vulnerability factors of target Kebeles. This will help to undertake relevant natural resource management approaches in a coherent and adaptive manner. The second is the rigorous approach to selection of participating communities, which ensures that the viability of the approaches has at the outset been validated in the local contexts. This pre-feasibility assessment has been conducted and integrated with the project design.

5	Communities have low awareness to climate change and are less enthusiastic to respond to the dangers brought by climate change. Unless beneficiaries have full awareness about the impact of climate change it is difficult to gain their commitment in the proposed action aimed at building resilience and adaptation.	Medium	The project will start by identifying the severity of communities' vulnerability through engagements. The project will introduce participative mechanisms to understand the impact of climate change and integrate into local planning. It will build awareness through a series of targeted activities and employs Kebele level staff to promote activities.
6	Low awareness and acceptance of the need to engage in climate change adaptation among officials of the Federal, Regional and Woreda level limits the support for action on climate change within key sectors.	Low	The implementation of CRGE strategy is overseen and supported by top government officials. Experience from the implementation of the Adaptation and Green Climate fund has shown that the project has brought together key stakeholders together and built awareness of officials at all levels through consultation and effective advocacy that was made.
7	Lack of project management capacity at Woreda and Kebele level. Most Government projects are managed at Federal and Regional level. While this project will be implemented at Wereda and Keble level there could be human and management capacity shortage.	Low	Lessons drawn from the Adaptation Fund and Green Climate Fund Projects has enabled the CRGE Facility to establish and strengthen its project management capacity. Strong project management staff will be assigned and rigorous support from Federal and Regional sector bureaus and the CRGE Facility will be extended towards this project.
8	Insufficient commitments from Woreda to support the implementation of project components. The project component implementations require significant level of human resources.	Medium	The project will use existing institutional arrangements. Thus the additional project implementation cost will be low. It will be supported by ongoing agricultural extension, DRM, livestock, natural resource and other government structures and resources as well as farmers and farmer's organizations. This will mitigate the challenge for the implementation of the project.
9	Failure to crate ownership of the project at local level results in communities' resistance.	Medium	Important institutional arrangements in organizing and sensitizing communities are already present at Kebele level. There is existing experience of participating in communal practices, such as watershed management, participatory forest management, etc. The project will use such opportunities to create ownership of the project. The project will use Development Agents in the implementation process.
10	Lack of co-ordination with other climate change projects limits the capacity of implementing agency to learn from and build on the experiences of related projects.	Low	The project has reviewed lessons from other projects and has discussed the projects with relevant Ministries and Woredas. The CRGE Facility in collaboration with MoA, MoWE and are engaged in coordinating climate change projects. The Technical Committee under the CRGE Ministerial Committee also plays important role in monitoring and coordinating climate change projects at all levels. The committee will also ensure technical level collaboration with regional entities happen periodically and cross-sectoral collaboration on matters of common interests is delivered.

11	Staff turnover in the project implementing unit may hamper progress	Low	Fair remuneration, training and technical support will be provided to the project staff.
12	Limited ability of smallholder farmers to pay for project inputs and technologies.	Medium	The project will promote access to credit to purchase and disseminate modern farming inputs and green technologies. The project will support beneficiaries to establish cooperatives to afford economies of scale and bargaining power in buying inputs and aggregating the product in sufficient quality to sell on to traders.
13	Unsustainability of project outputs. Some of the project activities may need operation and maintenance costs such as operation and maintenance of irrigation schemes and, supply and use of improved technologies. Unless a financing mechanism is established or government supports from budget the project output sustainability will be questionable.	Medium	The project will link the project outputs with the existing agricultural extension system. This will help continue to provide participatory and demand-driven services in line with the extension strategy beyond the lifespan of the project. The government is committed to further support and strengthen the extension service, which will provide increased opportunities for rolling out project results.
14	Lack of incentives for local communities to participate and cooperate in interventions that do not yield immediate financial value or reduce incomes in the short term, but aim at longer-term resilience. Furthermore if target communities perceive that the project support lacks fairness and transparency they will be reluctant to participate in the project implementation. This may reduce stakeholder engagement and participation.	Low	Tailored awareness creation will be organized on the importance of the project activities. The project will also demonstrate the benefits of CSA from successful areas. Once the owners of adjacent farmland start enjoying the outputs of project activities; both implementing institutions and communities will start promoting the importance of the project. Local stakeholders and community members have a key role to play in the implementation and monitoring of the project. At the kebele (community) levels, Development Agents (DAs) will provide advisory support and extensions services to local beneficiaries (mainly farmers). DAs will be responsible for distributing material inputs and providing technical training and backstopping in the implementation of project activities.

N. Measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund

A detailed environmental and social impact assessment has been conducted and is appended to this proposal as Annex XX. This assessment analyzes the potential environmental and social impacts of the proposed project and delineates mitigation measures to address said impacts. Additionally, the guiding principles for environmental conservation and management set forth in the Constitution of the Federal Democratic Republic of Ethiopia shall inform and direct the implementation of this project.

There are accompanied proclamations to operationalize the law.

- Environmental Policy (1997)
- Development, Conservation and Utilization of Wildlife: Proclamation No. 541/2007
- Ethiopian Wildlife Development and Conservation Authority Establishment: Proclamation No. 575/2008
- Environnemental Impact Assessment Proclamation No. 299/2002
- National conservation Strategy, Volume II, 1994,
- National Biodiversity Strategy and Action Plan (2005) Ethiopia's Pollution Control Proclamation and standards (Proclamation no. 300/2002),
- Guidelines for undertaking sector specific Environmental Impact Assessment on development projects.

The foundation for safeguarding, preserving, and advancing the environment lies in the environmental policy and related legislation. Mechanisms employed to enforce these laws encompass Strategic Environmental Assessments (SEAs) and Environmental Impact Assessments (EIAs), which provide guidance for integrating environmental and climate change considerations into various sectors, including both agricultural and non-agricultural domains. The obligatory conduction of environmental and social impact assessments (ESIA) applies to development projects, activities, and programs within the country. Oversight of the ESIA process primarily rests with the Environment Protection Authority (EPA), the CRGE Facility of the Ministry of Finance (MoF), and the National Planning Commission (NPC). Notably, the national policy framework now includes the Environmental and Social Management Framework, approved in 2015. Additionally, a set of manuals, guidelines, operation manuals, and appraisal guidelines from the CRGE Facility further ensures adherence to environmental and social safeguards, as well as fostering social inclusion.

The project, along with its procurement process, will adhere to the Environmental and Social Management Framework, officially approved in 2015. This commitment is founded on the best practices, encompassing screening and categorization, derived from the environmental and social safeguards policies of institutions such as the World Bank, the Global Environmental Facility, the Africa Developmental Bank, and the European Investment Bank. The Government of Ethiopia (GoE) has meticulously prepared the Environmental and Social Safeguards Framework (ESSF) to systematically address potential environmental and social challenges arising from any investments made under the Climate-Resilient Green Economy (CRGE) initiative. Furthermore, the formulation of this safeguards framework aligns with the stipulations and principles outlined in the national environmental and social policies and legal frameworks, including the Constitution and the Environmental Impact Assessment Proclamation. This proactive approach integrates environmental protection and social development into CRGE investments, contributing significantly to the overarching goal of sustainable development. The framework:

- Provides a set of internationally recognized standards and frameworks in environmental and social safeguards to the CRGE investment;
- Avoids, minimize or mitigate any direct, indirect, and potential adverse environmental and social impacts of CRGE investments;
- Defines and sets in place the roles and responsibilities of all relevant stakeholders/institutions in executing safeguards of CRGE investment initiatives throughout their life cycles; and
- Ensures that effective mechanisms are in place for safeguard compliance during CRGE investment implementations.

This applies with the following principles:

- **Early application of environmental and social safeguards:** Safeguards instruments should be applied proactively in the CRGE investments to contribute towards sustainable development.
- **Participation of stakeholders**: All concerned stakeholders and affected people should be given the opportunity to participate meaningfully at all stages of CRGE investment.
- **Information Dissemination:** Sufficient information should be provided in accessible and culturally appropriate ways. Providing information about the project at an early stage of the ESF/SSF process enables the public to understand the trade-offs, contribute meaningfully to project design and implementation, and to have greater trust with the coordinating and implementing entities of the CRGE projects.
- **Prevention and mitigation of adverse impacts:** one of the key principles is to prevent and/or mitigate any harm to the environment and to people by incorporating environmental and social concerns as an intrinsic part of CRGE investment cycle management. Environmental and social issues will be tracked during all stages of the CRGE investment cycle to ensure that supported investments comply with the procedures and guidelines laid out in the ESSF.
- **Accountability and Transparency:** Both CRGE implementing and executing entities are accountable for providing sufficient information on their CRGE investment proposals to the CRGE coordinating entities, and for managing the potential impacts of their CRGE investments. The CRGE coordinating entities are accountable for the decisions that are taken in line with the CRGE investments. By doing so, the ESSF would enable all entities involved in the CRGE implementation to be accountable and transparent in all their undertakings.

The ESSF is applicable to all projects funded by the CRGE Facility, extending its coverage to encompass the current proposal. The framework entails a screening process to discern projects necessitating an EIA and similarly addresses social issues, providing subsequent guidance if such assessments are deemed necessary. In addition to adherence to the ESSF, the project will also align with the CRGE manual and guidelines. The CRGE Operations Manual delineates the operational procedures, incorporating guidance on appraisal, which mandates compliance with the environmental and social safeguards of the Facility/CRGE, along with a focus on promoting social inclusion. The project has been assessed against the AF Environmental and Social Policy with a summary of the checklist for the project presented in section K.

O. Monitoring and evaluation arrangements and budgeted M&E plan

Monitoring and evaluation (M&E) of climate change adaptation encounters several challenges, as the scientific and social assumptions are inherently unpredictable and subject to change. This unpredictability extends to variables such as temperature and rainfall variability, population demographics, and economic growth trajectories. Attributing changes to a specific project proves challenging due to the intricate interplay of factors necessary for change. Increasing evidence suggests that behavioral and cognitive factors, which are not easily measured through conventional M&E methods, play a pivotal role in climate adaptation. Furthermore, there exists a significant time lag between interventions and future impacts, with a heightened likelihood of negative outcomes stemming from inherent uncertainties. The project's M&E methodology has been crafted with a thoughtful consideration of these challenges.

The monitoring and reporting system for the proposed project will align with the guidance provided by the Adaptation Fund (AF) and the Climate-Resilient Green Economy (CRGE) Monitoring and Evaluation System Manual. In accordance with both national protocols and international best practices, the M&E system encompasses six essential components: (1) strategy and objectives, (2) performance indicators, (3) monitoring and reporting, (4) evaluation, (5) roles and responsibilities, and (6) the continuous maintenance of the M&E system.

This M&E system generates information to:

- Assist with planning of CRGE activities at various levels of operations;
- Assess the relevance, effectiveness, efficiency, sustainability and likely impact of interventions funded by the CRGE Facility;
- Identify improvements to the relevance, effectiveness, efficiency, sustainability and likely impact of interventions funded by the CRGE Facility;
- Communicate to decision makers, the public and to contributors to the CRGE Facility on implementation successes and challenges;
- Contribute to sectoral reporting to the National Planning Commission; and, Contribute to global learning to support climate-resilient green growth.

The strategy employed will guarantee the establishment of a straightforward and interactive monitoring system for the project, facilitating regular reporting and continuous learning across all tiers. This system is envisioned to be grounded in the execution of fundamental core activities. The comprehensive monitoring and evaluation (M&E) efforts for the project will be overseen by the Project Management Unit (PMU) within the CRGE facility, with additional support provided by locally stationed project staff members situated at the regional and Woreda levels. These on-site personnel will be capable of executing ongoing M&E activities at the pertinent project levels.

Throughout the project implementation, outcomes, outputs, and processes will undergo meticulous monitoring, with data collection, compilation, and analysis handled by the Monitoring and Evaluation Officer. This individual will receive support from local experts and the Gender Coordinator, ensuring a robust M&E framework. In alignment with established CRGE Facility M&E practices and adhering to international best practices, a series of M&E activities will be systematically conducted throughout the project's duration.

Activity Recording/Process Documentation: Progress monitoring will provide evidence on accomplishment of the core activities planned under each component and sub-component output, which will be scrutinised by assigning milestones and implementation timelines. This will help the strategic and operational managers to identify which activities are ahead, behind or on schedule. Executing Entities at all levels will be responsible for ensuring routine monitoring on the use of inputs (including finances) and implementation of activities.

Quarterly Progress Report: The federal executing entities will submit aggregated quarterly physical progress reports to the CRGE Facility. The latter will further aggregate and submit a

consolidated report (both financial and physical) to the relevant stakeholders. Quarterly reporting will capture activity and output-level information. The narrative section of the quarterly report, therefore, will include a summary of activities and outputs contributing to expected outcomes. The report will also describe progress on implementation as well as lesson learning, a risk update and management. The report will also include the expenditure report and a workplan and budget for the following reporting period. The report will be submitted to the Project Steering Committee for regular review and approval.

Annual Performance Assessment: EEs will submit an annual Performance Assessment Report (PAR) on the project components and sub-components. The PARs inform two monitoring activities at the project coordination level - annual monitoring missions and annual reviews/reports - and leverage the lessons and insights from responses to the M&E Questions. The reporting process is similar to that for quarterly reports. EEs will aggregate component reports before submission to the project coordination unit, which will then submit to the Adaptation Fund and other st. PARs capture activity, output and outcome-level information (as much as possible), as well as lessons and insights from periodic responses to the M&E Questions. The report combines national and GCF reporting requirements, which include but are not limited to, reporting on:

Institutional Learning Events: Federal executing entities will undertake a mid-term and final learning event to reflect on the changes being observed and to take stock of progress made. These learning events will help sharing of experiences and lesson learning among the executing entities (including regional EEs, as relevant).

Annual Monitoring Missions: Joint monitoring missions will provide an opportunity to engage stakeholders of the project, including those that do not have a direct role in implementation. These missions will be organised by the CRGE Facility or federal EEs, to be undertaken annually, and involve regional executing entities, communities and other stakeholders and other development partners.

Learning and knowledge sharing: Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The CRGE Facility in collaboration with the executing entities will identify and participate through its structures, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. Further, they will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future programmes. A two-way flow of information will be maintained between this project and others of a similar focus.

Independent Project Terminal Evaluation and Reporting

At the conclusion of the project, an independent Terminal Evaluation will be commissioned by the MOF in line with the CRGE Facility's Monitoring and Evaluation (M&E) guidance. The external evaluation will be conducted by a third party, with the objective of assessing the extent to which the project has achieved its planned objectives, ensuring accountability, and providing valuable lessons for future interventions.

The terminal evaluation will be initiated three months before the project closure and will have a comprehensive focus on both the planned project results and their actual delivery. This evaluation will be critical in measuring the overall impact, sustainability, and relevance of the project’s interventions, with a particular emphasis on long-term capacity development and contributions to national and global environmental benefits, such as Ethiopia’s climate resilience and adaptation goals.

In alignment with the Adaptation Fund’s Environmental and Social Policy (ESP), the evaluation will rigorously evaluate how the project addressed environmental and social risks, ensuring

compliance with all safeguards throughout the project's implementation. The evaluation will also provide actionable recommendations for post-project activities, which will inform future programming under the CRGE Facility and other climate resilience initiatives. As part of this process, the terminal evaluation will include a formal management response to address the findings and recommendations of the evaluation.

Additionally, during the final three months of the project, the project team will prepare a comprehensive Project Terminal Report. This report will provide a detailed account of the project's performance, including the achievement of objectives, outcomes, and outputs, along with an analysis of risk management practices. Key sections of the report will focus on lessons learned, challenges faced, and areas where certain outcomes may not have been fully realized. The report will also include forward-looking recommendations to guide any necessary follow-up actions or enhancements in subsequent project phases, ensuring that the project's results are sustained and scalable.

The Project Terminal Report and Terminal Evaluation together will serve as critical reference documents, not only for assessing the effectiveness of the project but also for shaping the strategic direction of future climate finance initiatives in Ethiopia.

Table 17. Monitoring and evaluation activities and budget.

#	Activity	Responsible person	Budget US$	Timeframe
1	Baseline and periodic assessment of the performance and outcomes of the resilient livelihoods and CSA against annual climate variability (4 Federal Experts every 3 months)	Monitoring and Evaluation Officers (MoF, MoWE, and MoA)	36,000.00	Within 2 months of project starting
2	Periodic Technical and Financial Progress Reports (Regional Level)	Project Co-ordinators (MoWE, and MoA)	64,800.00	Every 3 Months
3	Environment & Social Safeguards (Ongoing Monitoring, Implementing, and reporting at each region), annual impact assessment & reporting	Trained ESS specialists at the Regional Level	54,000.00	Within 1 month of project starting
4	Ongoing Project Management, Monitoring and Evaluation through project facilitators and finance officer (Woreda Level)	(MoF, MoWE, and MoA)	43,200.00	Within 1 month of project starting
5	Environment Social Safeguard Management plan training (Woreda Level)	ESS – Woreda Level	64,212.75	Within 2 months of project starting
6	Development Agents, 15 members of the community at each Kebele	Trained members of the community at the Kebele level	81,000.00	Within 1 month of project starting
7	Project launch and closure workshops	CRGE Focal Person	Included under item # 1	Month 1 & 36
8	Inception report and annual report	CRGE Focal Person (MoF)	Included under item #1	Within 2 months of project starting

9	Annual review workshops	CRGE Focal Person (MoF)	Included under item #1	Month 12,24 & 36
10	Periodic Progress Reports	Project Co-ordinators (MoWE, and MoA)	Included under item #2	Every 3 Months
11	Inception workshop/ learning event	Project coordinators and facilitators at the regions and Woreda	Included under item #2 & 4	Within 1 month of project starting
12	Periodic field visits: Perdiem and fuel	All Levels	540,000.00	Within 1 month of project starting
13	Mid-term Evaluation	External consultant	50,000.00	Month 18
14	Final evaluation	External consultant	50,000.00	Month 36
15	Annual Audits	External auditor	9,000.00	Month 12,24, and 36
	TOTAL		**992,212.75**	

Monitoring and Evaluation Plan Matrix

Expected Results	Indicators	Definition of Indicators	Baseline	Target	Frequency	Responsible
Overall Project Impact: Improved resilience of communities and ecosystems to climate challenges through the promotion of sustainable adaptation strategies, strengthening local climate governance, and fostering sustainable livelihoods.	▪ Increase in community resilience indices.	▪ A measure of the capacity of communities to adapt to climate impacts, based on indicators such as income stability, food security, water access, and infrastructure robustness.	▪ TBD	▪ Improved resilience of targeted communities by 20%.	▪ Annual	Ministry of Finance (MOF), Ministry of Agriculture (MOA), Woreda Offices
Outcome 1: All target Kebele communities and local authorities have improved capacity and ownership in climate risk reduction and adaptation planning, resulting in well-coordinated and effective climate adaptation strategies integrated in 100% of local development plans	▪ # of kebeles with climate vulnerability assessments completed. ▪ % of target population benefiting from weather information dissemination.	▪ The number of kebeles (local communities) where comprehensive climate risk assessments have been conducted. ▪ The percentage of people receiving and using weather-related information for agriculture and disaster management.	▪ 15 kebeles 75%	▪ 100% of kebeles in the target areas. 100%	▪ Bi-annual	MOF, National Meteorology Agency, Woreda Administration
Outcome 2: Additional 16,500 households are	▪ # of households benefiting from	▪ The number of households with	▪ 37,500 households	▪ 50,000 households	▪ Quarterly	Ministry of Water and

benefiting from enhanced agricultural and livestock resilience to climate change in project target areas, as measured by improved access to potable water and enhanced irrigation systems.	upgraded potable water and irrigation systems. ▪ # of households benefiting from alternative livelihood options.	access to improved water sources and irrigation systems for agriculture. ▪ The number of households that have adopted new income-generating activities to reduce climate vulnerability.	500 households	1,000 households		Energy, MOF, Woreda Offices
Outcome 3: Atleast 2,000 women headed households achieve a 20% increase in agricultural productivity and enhanced food security through the implementation of climate-smart agricultural practices and sustainable livestock management systems.	▪ # of women-headed households benefiting from income and nutrition improvement measures. ▪ % increase in crop yields and livestock productivity.	▪ The number of women-headed households receiving support to increase income, improve nutrition, and enhance food security. ▪ The percentage increase in agricultural yields and livestock productivity due to climate-smart agricultural practices and improved livestock management.	▪ 2,000 women-headed households	▪ 2,000 women-headed households 20% increase in productivity	▪ Quarterly	Ministry of Women and Social Affairs, Ministry of Agriculture, Woreda Offices, Local NGOs
Outcome 4: A minimum of 4,000 households demonstrate increased	▪ # of households diversifying livelihoods through climate-	▪ The number of households adopting diversified livelihood options	▪ TBD	▪ 4,000 households ▪ 5,000 women	▪ Quarterly	Ministry of Finance, Ministry of Women and

economic stability and climate resilience, evidenced by diversified income sources, reduced dependence on climate sensitive activities and increased participation of gender-responsive income generation activities.	resilient income-generating activities. ▪ # of women benefiting from financial inclusion and business support services.	to reduce climate vulnerability. ▪ The number of women who have gained access to financial services and business support for climate-resilient enterprises.				Social Affairs, Woreda Offices, Local Microfinance Institutions
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level.	▪ **Output 1.1** Increased awareness and capacity of communities and local experts on climate risk vulnerabilities assessment and climate-smart planning.	▪ # of public events (climate fairs, exhibitions) organized. ▪ # of male and female community members attending awareness events.	▪ The number of public outreach events organized to raise awareness of climate risks and adaptation strategies. ▪ The number of community members attending these awareness-raising events.	▪ 30 events ▪ 3,005 participants	▪ 50 events ▪ 5,000 participants	Annually
Component 2: Water Security, Climate Resilience, and Women's Empowerment.	▪ **Output 2.1** Improved access to clean water sources.	▪ # of springs with distribution systems. ▪ # of rehabilitated hand-dug wells.	▪ The number of water springs developed with distribution systems for community access.	▪ 4 springs 7 wells	▪ 10 springs ▪ 15 wells	Quarterly

			The number of existing hand-dug wells that have been rehabilitated and upgraded.			
Output 2.2 Enhanced agricultural water use and reduced climate-related risks.	▪ Ha of land irrigated. ▪ Km of drip and sprinkler irrigation systems constructed.	▪ The total hectares of land that are under irrigation systems to improve agricultural productivity. ▪ The length of drip and sprinkler irrigation systems installed to improve water use efficiency.	▪ 560 ha ▪ 150 km	▪ 800 ha ▪ 200 km	▪ Quarterly	Ministry of Agriculture, Ministry of Water and Energy
Component 3: Climate-Smart Agriculture.	▪ **Output 3.1** Increased resilience through diverse crop varieties.	▪ # of farmers trained on diversified cropping systems. ▪ # of community seed banks established.	▪ The number of farmers trained in diverse crop production systems and conservation agriculture. ▪ The number of seed banks established to preserve and exchange climate-resilient crop varieties.	▪ 3,750 farmers ▪ 15 seed banks	▪ 5,000 farmers ▪ 20 seed banks	Bi-annually

Output 3.2 Sustainable and resilient livestock sector.	▪ # of farmers trained on livestock husbandry practices. ▪ Quintal of drought-tolerant forage seeds distributed.	▪ The number of farmers trained in livestock husbandry to increase resilience and productivity in the face of climate change. ▪ The quantity of drought-tolerant forage seeds distributed to farmers for livestock feed.	▪ 2,250 farmers 89 quintals	▪ 3,000 farmers ▪ 150 quintals	▪ Quarterly	Ministry of Agriculture, Regional Livestock Bureaus
Component 4: Climate-Smart Livelihood Diversification and Women's Empowerment.	▪ **Output 4.1** Successful establishment of diversified activities for income generation.	▪ # of women benefiting from livelihood diversification measures. ▪ # of women benefiting from market linkages.	▪ The number of women supported to diversify their income sources through new activities. ▪ The number of women who have been linked to markets for selling their products.	▪ 6,342 women ▪ 1,500 women	▪ 8,000 women ▪ 2,000 women	Quarterly
Output 4.2 Enhanced economic viability of diversified activities.	▪ # of markets identified and linkages brokered	▪ The number of markets identified and market linkages brokered	▪ 140 markets	▪ 200 markets	▪ Annually	Ministry of Agriculture, Local Cooperatives

	for smallholder families.	for smallholder farmers and families to sell their agricultural products.				

P. Project Results framework

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
Overall project impact: Improved resilience of communities and ecosystems to climate challenges through promotion of sustainable adaptation strategies, strengthening local climate governance and gender equality, fostering sustainable livelihoods.					
Outcomes:					
Outcome 1: All target Kebele communities and local authorities have improved capacity and ownership in climate risk reduction and adaptation planning, resulting in well-coordinated and effective climate adaptation strategies integrated in 100% of local development plans.	▪ # kebeles with climate vulnerability assessment		15	Project annual review, periodic monitoring missions, terminal evaluation	▪ Political will exists at all levels to mainstream climate change considerations into planning. ▪ Government enforces integrated approaches to project implementation. ▪ There is a systemic platform that readily avails climate information at all levels ▪ Government stakeholders cooperate and agree on designing and implementing risk reduction measures. ▪ No major disasters impede progress of project and damage infrastructure. ▪ Timely disbursement of project funds
	▪ # of woredas with climate smart local development plan		6		
	▪ Percentage of target population benefiting from weather information dissemination		75		
Outcome 2 Additional 16,500 households are benefiting from enhanced agricultural and livestock resilience to climate change in project target areas, as measured by improved access to potable water and enhanced irrigation systems.	▪ # of households benefiting from upgraded potable water supply and irrigation systems	37,500	50,000		
	▪ # of households benefiting from alternative livelihood options;		500		
Outcome 3: At least 2,000 women headed households achieve a 20% increase in agricultural productivity and enhanced food security through the implementation of climate-smart agricultural practices and sustainable livestock management systems.	▪ # of women headed households benefiting from income and nutrition improvement measures		4,500		

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
Outcome 4: A minimum of 4,000 households demonstrate increased economic stability and climate resilience, evidenced by diversified income sources, reduced dependence on climate sensitive activities and increased participation of gender-responsive income generation activities.	▪ Percentage reduction in households reliant solely on climate-sensitive livelihoods ▪ Number of women engaged in gender-responsive income generation activities ▪ Percentage increase in households with access to financial services		▪ 4,000 households with diversified income sources ▪ 5,000 women benefiting from financial inclusion and business support services ▪ 25% increase in households with access to financial services	▪ Quarterly and annual monitoring reports. ▪ Surveys and interviews with beneficiary households. ▪ Financial institution records for financial service access. ▪ Gender-disaggregated data reports to track women's participation.	▪ Households have sustained access to inputs, knowledge, and markets for diversified activities. ▪ Proposed activities will be resilient to climate risks and supported by the local context. ▪ Cultural factors allow or encourage women's involvement, with any necessary support in place. ▪ Financial services, suitable for rural and low-income settings, are available in or near the target areas.
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level					
Output 1.1 Increased awareness and capacity of communities and local experts on climate risk vulnerabilities assessment and climate smart planning	▪ # of public events, (climate fairs, exhibitions) organized		30	Event reports, annual performance reports	▪ Relevant stakeholders and communities are willing and interested to engage in climate fairs, exhibitions; ▪ Woreda and regional officials support the events
	▪ # of male and female community members attending climate change related awareness raising events		3,005	Training reports, annual performance reports,	▪ There is willingness and interest from the target communities to participate on trainings and awareness raising events

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
	▪ # of community leaders, women's groups, and marginalized populations capacitated;		2,250	Periodic reports, surveys,	▪ There is adequate technical support, guidance, supervision and follow up
Output 1.2 Strengthened capacity of local authorities and stakeholders to effectively engage in climate risk reduction and adaptation planning	▪ No of local experts trained on climate risk reduction and adaptation planning		75	periodic review meetings, training reports, annual reports	▪ There is willingness and interest from the target communities to participate on trainings and awareness raising events ▪ There is adequate technical support, guidance, supervision and follow up
	▪ # woreda and regional experts trained on climate change risk analysis and implementation of local adaptation strategies		250	Periodic review meetings, training reports, annual reports	
Output 1.3 Enhanced monitoring, supervision and safeguard management capabilities, at national, regional and woreda levels	▪ # of woreda experts trained on Environmental and Social Safeguards management		100	Training reports, survey	▪ Experts at all levels are willing to attend the trainings, ▪ There is adequate technical expertise; ▪ The regional and federal implementing entities closely collaborate
	▪ # of joint monitoring and supervision missions		6	Monitoring mission reports	▪ The relevant stakeholders are willing to engage in the monitoring missions; ▪ There is adequate budget allocated for monitoring and supervision
Component 2: Water Security, Climate Resilience, and Women's Empowerment					
Output 2.1 *Improved access to clean water sources*	▪ # of springs with distribution system		4	Field observation reports, annual reports	▪ Communities positively perceive benefits and are

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
	▪ # of rehabilitated hand-dug wells		7	Field monitoring mission reports,	willing to actively participate and make the necessary in kind contribution
Output 2.2 Enhanced agricultural water use and reduced climate-related risks	▪ Ha of land irrigated		560	Field monitoring reports,	▪ Communities positively perceive benefits and actively engage in adaptation interventions. ▪ Information available and appropriate to local conditions
	▪ Km of drip and sprinkler irrigation systems constructed;		150	Field monitoring reports	
Output 2.3 Strengthened skills and participation of women in water management and agriculture	▪ # of women benefiting from irrigation system		3,177	Training reports,	▪ Women are willingness and interested to participate on trainings and awareness raising events
	▪ # of women trained in water management, agriculture, and leadership roles		2,250	Training reports	
Component 3: Climate Smart Agriculture					
Output 3.1: Increased resilience through diverse crop varieties	▪ # of farmers trained on diversified cropping systems and conservation agriculture;		3,750	Training reports, surveys	▪ There is willingness among target communities to attend trainings;
	▪ # of community seed banks for preserving and exchanging climate-resilient seed varieties		15	Monitoring mission reports	▪ The local government is willing to provide the necessary support ▪
	▪ Quintal of drought tolerant and early maturing crop varieties		1,874	Monitoring mission reports, annual reports, survey	▪ Communities are willing to adopt drought tolerant species ▪ There is adequate market supply of drought tolerant crop varieties

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
	▪ Ha of land put under conservation agriculture		508	Field monitoring mission reports, surveys	▪ Communities are willing to engage in conservation agriculture; ▪ There is adequate expertise
Output 3.2 A sustainable and resilient livestock sector through improved health, increased productivity, and adaptability of the herds	▪ # of farmers trained on improved livestock husbandry practice and efficient forage utilization		2,250	Training reports	▪ Communities are willing to engage; ▪ The local government is willing to coordinate and facilitate
	▪ Quintal of drought tolerant forage seeds		89	Field mission reports, surveys	▪ Communities are willing to adopt drought tolerant species ▪ There is adequate market supply of drought tolerant crop varieties
	▪ # of experts trained on forage development and utilization		2,085	Training reports, monitoring mission reports	
	▪ # of community groups benefiting from improved livestock husbandry practices		20	Monitoring reports, annual review meeting minutes, survey	
Output 3.3 Sustainable land use, protected ecosystems and enhance agricultural productivity	▪ # of multi-purpose nurseries supported		15	Field monitoring reports, annual reports,	▪ Rural communities actively engage in adaptation interventions. ▪ Woredas and Kebeles support and help implement ecosystem based approaches; ▪
	▪ Ha of land rehabilitated/ restored		410	Field monitoring reports, annual reports	
	▪ Ha of land conserved with biological and physical conservation measures		1,123	Field monitoring reports, annual reports	
	▪ Ha of farmland treated with integrated soil fertility management		651	Field monitoring reports, annual reports	
	▪ Ha of land under area closure management		9,498	Field monitoring reports, annual reports	

Expected Results	Indicators	Baseline	Target	Means of Verification	Assumptions/ Risks
	▪ Ha of land under invasive species control		477	Field monitoring reports, annual reports	
Output 3.4 Improved decision-making based on weather information	▪ # of households trained on weather information interpretation and utilization;		3,750	Training reports, annual review meeting minutes	▪ Communities are willing and interested to attend trainings ▪ There is expertise to at woreda and kebele to interpretate weather information; ▪ Communities are willing to utilize weather information
	▪ # of farm households utilizing weather information from their mobile devices;		37,500	Training reports, annual review meeting minutes	
Component 4: Climate Smart Livelihood Diversification and Women empowerment					
Output 4.1 Successful establishment and management of diversified activities, leading to increased income generation and reduced reliance on a single source of income	▪ # of gender responsive campaigns		92	Event reports, annual reports	▪ Women are willing to participate ▪ Communication materials are culturally relevant and targeted on the basis of gender, age, location and area norms.
	▪ # of women trained and capacitated		1532	Training reports, annual review meeting minutes	
	▪ # of women benefiting from livelihoods diversification measures		6342	Monitoring reports, survey, annual reports	
	▪ # of women benefiting from nutrition sensitive agricultural practices		180	Monitoring reports, survey, annual reports	
	▪ Number of women benefiting from market linkages		1,500	Monitoring reports, survey, annual review meeting minutes	
	▪ # of gender responsive campaigns		92	Event reports, annual reports	
Output 4.2 Enhanced economic viability of diversified activities, leading to improved income and better market access for community members	▪ # of markets identified and linkages brokered for the smallholder families		140	Monitoring reports, survey, annual reports	▪ Vibrant markets are found within the vicinity of the community

Table 10 Gender Action Plan

Outcomes and outputs	Indicators & Targets	Responsible Body
Project Impact: Improved resilience of communities and ecosystems to climate challenges through promotion of sustainable adaptation strategies, strengthening local climate governance and gender equality, fostering sustainable livelihoods.		
Component 1:Strengthening Climate Risk Reduction and Adaptation Planning at the local level		
Outcome 1: *Empowered communities and stakeholders, proactive climate adaptation actions, climate-responsive decision-making, ownership of climate resilience.*		
Output 1.1 Increased awareness and capacity of communities and local experts on climate risk vulnerabilities assessment and climate smart planning	At least 40% of participants from communities are women including from FHHs	project implementing team
	Community consultations are held at times and places that are conducive to women participation	project implementing team
	Representatives from the region, woreda and Kebele gender offices participate	project implementing team
	All event reports show gender disaggregated data of participants	project implementing team
Output 1.2 Strengthened capacity of local authorities and stakeholders to effectively engage in climate risk reduction and adaptation planning	All relevant women experts at region, woreda and kebele level are included in the capacity building events	project implementing team
	Representatives from the region, woreda and Kebele gender offices participate	project implementing team
	Capacity building reports are gender disaggregated of participants	project implementing team
	At least 40% of participants from communities are women including from FHHs	project implementing team
	At least 50% of WASH committee are women including from FHHs	project implementing team
Output 1.3 Enhanced monitoring, supervision and safeguard management capabilities, at national, regional and woreda levels	Representatives from the woreda and Kebele gender offices participate in familirization workshops	project implementing team
	Representatives from the woreda and Kebele gender offices participate in workshops	project implementing team
	All relevant women experts at region, woreda and kebele level are included in the capacity building events	
	Project activity and M&E reports include sex disaggregated data	project implementing team + CRGE Facility
Component 2: Water Security, Climate Resilience, and Women Empowerment		
Outcome 2: *Improved agricultural productivity, reduced vulnerability to climate risks, enhanced gender equality, increased water security*		
Output 2.1 Improved access to clean water sources	At least 33% of participants are women	project implementing team

Outcomes and outputs	Indicators & Targets	Responsible Body
	Consultations are held at times and places that are conducive to women participating	project implementing team
	Representatives from the woreda or zone gender offices participate	project implementing team
	At least 35% of members are women	project implementing team
	At least 33% of executive committees are women	project implementing team
	At least 50% of the FHH in the project area are members	project implementing team
	All elected female officers are well trained	project implementing team
Output 2.2 Enhanced agricultural water use and reduced climate-related risks	Cooperatives/MSMEs' bylaws reflect a minimum of 35% female membership with the aim to increase that to 50% by the end of the project	project implementing team
	Cooperatives/MSMEs' bylaw puts provisions to ensure women's membership and leadership positions are compatible with women's other responsibilities	project implementing team
	Number and proportion of female representatives retained annually at a minimum; and increased if possible	project implementing team
	At least 50% of the FHH in the cooperatives/MSME report improvement of services from DAs	project implementing team
	All beneficiary FHHs receive the necessary training to properly use the irrigation systems	project implementing team
Output 2.3 Strengthened skills and participation of women in water management and agriculture	All women from beneficiary households in the kebeles are included in training	project implementing team
	At least 50% of the female participants report application of the training to support their livelihood	project implementing team
	All beneficiary households including all FHHs in the kebeles are included in training	project implementing team
	Both male and female participate from MHHs	project implementing team
	At least 50% of women from MHHs report improved situations in decision making on household spendings, asset management etc.	project implementing team
Component 3: Climate Smart Agriculture and sustainable livestock practices		
Outcome 3: *Enhanced agricultural and livestock resilience, increased productivity, reduced greenhouse gas emissions, strengthened rural livelihoods.*		
Output 3.1: Increased resilience through diverse crop varieties	At least 50% of the beneficiaries are FHHs receive improved drought-tolerant forage seeds	project implementing team

Outcomes and outputs	Indicators & Targets	Responsible Body
	At least 50% of FHHs in each kebele receive imporved seeds	project implementing team
Output 3.2 A sustainable and resilient livestock sector through improved health, increased productivity, and adaptability of the herds	At least 50% of the beneficiaries are FHHs receive improved livestock husbandry practice (Housing improvement, hygiene practice, breeding technology)	project implementing team
	At least 30% of beneficiaries are women experts trained on forage development and utilization	project implementing team
	At least 50% of FHHs are receiving drought tolerant forage seeds	project implementing team
Output 3.3 Sustainable land use, protected ecosystems and enhance agricultural productivity	At least 50% of the beneficiaries are FHHs on integrated soil fertility management	project implementing team
	At least 50% of the farm lands to be treated are of FHHs	project implementing team
	At least 50% of the farm lands to be treated are of FHHs	project implementing team
Output 3.4 Improved decision-making based on weather information	Ensure all FHHs in the kebeles have access to weather information dissemination in local language (with SMS texting option)	project implementing team
Component 4: Climate Smart Livelihood Diversification		
Outcome 4: *Reduced reliance on subsistence farming, steady revenue streams, enhanced economic resilience, improved crop pollination, and biodiversity.*		
Output 4.1 Successful establishment and management of diversified activities, leading to increased income generation and reduced reliance on a single source of income	At least 30% of beneficiaries are women; At least 30% of beneficiaries are women from FHHs; At least 30% beneficiaries are youth; people with disabilities will be given priority	project implementing team
	At least 50% of the beneficiaries from each category report improved income as a result of the additional livelihood diversification activity	project implementing team
	All relevant women experts at woreda and kebele level are included in the capacity building events; At least 50% of participants are women including those from FHHs	project implementing team
	All event reports show gender disaggregated data of participants	project implementing team
Output 4.2 Enhanced economic viability of diversified activities, leading to improved income and better market access for community members	At least 50% of of the beneficiaries are FHHs	project implementing team
	At least 50% of the beneficiaries report improved income as a result of market linkages created	project implementing team

Q. Alignment with the Results Framework of the Adaptation Fund

Project Components [1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Component 1. Strengthening Climate Risk Reduction and Adaptation Planning at the local level	• Number of public events, (climate fairs, exhibitions) organized • Number of male and female community members attending climate change related awareness raising events • Number of community leaders, women's groups, and marginalized populations capacitated; • Number of local experts trained on climate risk reduction and adaptation planning • Number woreda and regional experts trained on climate change risk analysis and implementation of local adaptation strategies • Number of woreda experts trained on Environmental and Social Safeguards management • Number of joint monitoring and supervision missions	**Outcome 1:** Empowered communities and stakeholders, proactive climate adaptation actions, climate-responsive decision-making, ownership of climate resilience	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis 2.1 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	**764,622.71**
Component 2. Enhance water security, climate resilience and promote women's empowerment	• Number of springs with distribution system • Number of rehabilitated hand-dug wells • Number Ha of land irrigated • Number Km of drip and sprinkler irrigation systems constructed; • Number of women benefiting from irrigation system • Number of women trained in water management, agriculture, and leadership roles	**Outcome 2** Enhanced agricultural and livestock resilience to climate change in the project target areas	4.1. Development sectors' services responsive to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	**4,738,828.34**
Component 3. Promote climate-smart agriculture	• Number of farmers trained on diversified cropping systems and conservation agriculture;	**Outcome 1:** Empowered communities and stakeholders, proactive	3.2. Modification in behaviour of targeted population	**1,732,299.18**

and sustainable livestock practices	• Number of community seed banks for preserving and exchanging climate-resilient seed varieties • Number of quintal of drought tolerant and early maturing crop varieties • Number of Ha of land put under conservation agriculture • Number of farmers trained on improved livestock husbandry practice and efficient forage utilization • Number of quintal of drought tolerant forage seeds • Number of experts trained on forage development and utilization • Number of community groups benefiting from improved livestock husbandry practices • Number of multi-purpose nurseries supported • Number of Ha of land rehabilitated/ restored • Number of Ha of land conserved with biological and physical conservation measures	climate adaptation actions, climate-responsive decision-making, ownership of climate resilience	5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress 5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	
Component 4. Facilitate climate-smart livelihood diversification	• Number of gender responsive campaigns • Number of women trained and capacitated • Number of women benefiting from livelihoods diversification measures • Number of women benefiting from nutrition sensitive agricultural practices • Number of women benefiting from market linkages • Number of gender responsive campaigns • Number of markets identified and linkages brokered for the smallholder families	**Outcome 3:** Improved income of women and vulnerable communities in the project target areas	6.1 Percentage of households and communities having more secure (increased) access to livelihood assets 6.2. Percentage of targeted population with sustained climate resilient livelihood	**1,522,630.38**

[1] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

R. Detailed budget Breakdown

S.N	Component and Activity Description	Unit	Unit Cost (US $)	Unit	Total Budget in USD	Total Budget in ETB	Budget per year in USD		
							Year 1	Year 2	Year 3
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level					**764622.71**	**86,402,366**	**319558.49**	**793085.89**	**224202.50**
	Climate Risk Awareness Campaign and Capacity building workshops	No.	59.41	3,005.00	178,527.05	20,173,556.65	53,558.12	71,410.82	53,558.12
	Capacity-building Workshops	No.	214.86	620.00	133,213.20	15,053,091.60		66,606.60	66,606.60
	Community Engagement and Participatory Vulnerability Assessments (contextualization and translating mainstreaming previously AF financed guideline in to local language): WCSDP preparation	No	6,053.77	15.00	90,806.55	10,261,140.15	90,806.55		
	Mainstreaming Climate Adaptation into development plans (Building woreda planner and relevant stakeholders on mainstreaming Climate Adaptation into local development plans)	No	1,145.71	75.00	85,928.25	9,709,892.25	85,928.25		
	Project Management, Monitoring and supervision (per woreda per year)	Year	11,774.16	18.00	211,934.88	23,948,641.44	63,580.46	635,804.64	84,773.95
	Environment Social Safeguard Management plan training (Woreda Level)	Woreda	10,702.13	6.00	64,212.78	7,256,044.14	25,685.11	19,263.83	19,263.83
Component 2: Water Security, Climate Resilience, and Women's Empowerment					4,738,828.34	**535,487,602**	1,401,403.92	2,597,831.55	965,291.87
	1. Potable water				-	-			
	1.1. Spring development with distribution system	No	42,626.63	4.00	170,506.52	19,267,236.76	51,151.96	119,354.56	
	1.2 Hund dug well rehabilitation	No	16,253.21	7.00	113,772.47	12,856,289.11	56,886.24	56,886.24	
	1.3. Water Infrastructure upgrade and expanding water supply systems for efficient distribution including sustainability options	kebele	75,233.00	15.00	1,128,495.00	127,519,935.00	338,548.50	789,946.50	225,699.00

	1.4. Upgrading efficiency of existing diesel powered water supply by solar power	Kebele	101,590.00	15.00	1,523,850.00	172,195,050.00	457,155.00	761,925.00	304,770.00
	1.5 Spare part and operations and maintenance for 2 years	per kebele	12,397.00	15.00	185,955.00	21,012,915.00		74,382.00	111,573.00
	2. Small-scale irrigation				-	-			
	2.1 Spring development (Reservoir + canal construction)	Ha	12,398.73	30.00	371,961.90	42,031,694.70	111,588.57	185,980.95	74,392.38
	2.2 Irrigation through canal construction from potable water supply system including from existing water supply systems	Ha	2,106.44	530.00	1,116,413.20	126,154,691.60	334,923.96	558,206.60	223,282.64
	3. Women empowerment in strengthening IWUAs and WuA Capacity building on use and administration of PW and Irrigation agronomy	No	40.25	3,177.00	127,874.25	14,449,790.25	51,149.70	51,149.70	25,574.85
Component 3: Climate Smart Agriculture and Sustainable Livestock Practices					1,732,299	**195,749,807**	576,205	992,725	118,476
	1. Climate-Resilient Crop and Diversification				-	-			
	1.1. Promotion of drought tolerant and early maturing crop varieties	Qt	105.28	1,874.00	197,294.72	22,294,303.36	78,917.89	118,376.83	
	1.2. Implementation of conservation agriculture	Ha	291.39	508.00	148,026.12	16,726,951.56		59,210.45	88,815.67
	2. Climate Resilient Livestock Production and Management (Following are Specific proposed sub-activities)				-	-			
	2.1. Provision of improved drought-tolerant forage seeds	Qt	1,701.82	89.00	151,461.98	17,115,203.74	60,584.79	90,877.19	
	2.2. Forage development and utilization (Capacity building)	No	24.06	2,085.00	50,165.10	5,668,656.30	20,066.04	30,099.06	
	2.3. Improved livestock husbandry practice (Housing improvement, hygiene practice, breeding technology)	No	6,717.15	20.00	134,343.00	15,180,759.00	53,737.20	80,605.80	

	3. Natural Resource Management (Following are Specific proposed sub-activities)			**-**	-	-	-	-	
	3.1 Watershed institutionalization and strengthening	No	5,031.95	6.00	30,191.70	3,411,662.10	12,076.68	18,115.02	
	3.2 Multipurpose Nursery/seedling production for forage/trees/crops/horticulture: (Nursery establishment and upgrading)	per woreda	32,408.00	6.00	194,448.00	21,972,624.00	77,779.20	116,668.80	
	3.3 Rehabilitation (Afforestation and reforestation)	Ha	241.14	410.00	98,867.40	11,172,016.20		69,207.18	29,660.22
	3.4. Biological and Physical soil and water conservation (Water retention structures (Terracing/Trench/Check dams), bund stabilizations)	Ha	331.58	1,123.00	372,364.34	42,077,170.42	148,945.74	223,418.60	
	3.5 Weather information dissemination in local language (with SMS texting option)	L/sum	2,992.84	15.00	44,892.60	5,072,863.80	13,467.78	15,712.41	15,712.41
	3.6. Integrated soil fertility management	Ha	103.56	651.00	67,417.56	7,618,184.28	26,967.02	40,450.54	
	3.7. Area closure management	Ha	23.73	9,498.00	225,387.54	25,468,792.02	90,155.02	135,232.52	
	3.8 Invasive species control	Ha	36.56	477.00	17,439.12	1,970,620.56	6,975.65	10,463.47	
Component 4: Climate Smart Livelihood Diversification					1,522,629	**172,057,066**	573,682	804,271	163,161
	1. Gender-Responsive Awareness Campaigns	No	750.71	92.00	69,065.32	7,804,381.16	24,172.86	24,172.86	24,172.86
	2. Women-Centric Capacity Building; Technical Training and knowledge sharing	L/sum	163.52	1,532.00	250,512.64	28,307,928.32	87,679.42	87,679.42	87,679.42
	3. Identify Gender responsive livelihood Diversification option and implementation (Apiculture/Poultry/Shoats/Horticulture)	No	155.17	6,342.00	984,088.14	111,201,959.82	393,635.26	590,452.88	
	4. Promoting nutrition sensitive agriculture	N0	278.36	180.00	50,104.80	5,661,842.40	17,536.68	17,536.68	17,536.68

	5. Promotion of Market Linkages (Irrigation inputs, production and marketing cooperative establishment and strengthening	per woreda	28,143.00	6.00	168,858.00	19,080,954.00	50,657.40	84,429.00	33,771.60
	Component Totals			0	8,758,379.13	**989,696,842**	2,870,849.26	5,187,913.76	1,471,130.83
	Program Management and Operations								
	Description of item/activity	**Unit**	**Unit Cost (US $)**	**Target**		**-**			
	Executing Entity								
1.1	**CRGE Technical persons:** MoWE and MoA (2 Experts)	Months	486.00	72.00	34,992.00	3,954,096.00	11,664.00	11,664.00	11,664.00
1.2	**Project coordinators:** 6 at the Region's	Months	442.00	216.00	95,472.00	10,788,336.00	31,824.00	31,824.00	31,824.00
1.3	**Project facilitators:** 6 at the Woreda level	Months	300.00	216.00	64,800.00	7,322,400.00	21,600.00	21,600.00	21,600.00
1.4	**Monitoring and supervision**	quarter	1,600.00	12.00	19,200.00	2,169,600.00	6,400.00	6,400.00	6,400.00
1.5	**Development Agents:** 15 members of the community at each Kebele	Months	100.00	540.00	54,000.00	6,102,000.00	18,000.00	18,000.00	18,000.00
1.6	**ESS:** Monitoring, implementation and reporting	Months	150.00	216.00	32,400.00	3,661,200.00	10,800.00	10,800.00	10,800.00
1.7	Motorbike for woreda project experts (6 woredas)	No	2,000.00	6.00	12,000.00	1,356,000.00	1,356,000.00		
1.8	Transportation service (per woreda per year)	Woreda	6,000.00	18.00	108,000.00	12,204,000.00	36,000.00	36,000.00	36,000.00
1.9	Transportation service (per region per year)	Region	6,000.00	18.00	108,000.00	12,204,000.00	36,000.00	36,000.00	36,000.00
2.0	**Office Facilities** (USD 450 per woreda and per region)	No	450.00	12.00	5,400.00	610,200.00	5,400.00		
3.0	**Computer and printers** (USD 500 per woreda and per region)	Set	500.00	12.00	6,000.00	678,000.00	6,000.00		
4.0	**Communication** (USD 300 per expert per year): All (39 Experts)	No	300.00	117.00	35,100.00	3,966,300.00	11,700.00	11,700.00	11,700.00
5.0	**Utility** (USD 260 per person/year): Woreda and Kebele (21)	No	260.00	63.00	16,380.00	1,850,940.00	5,460.00	5,460.00	5,460.00

6.0	Launching and review meetings (4 per woreda per year and USD 250 per event)	quarter	250.00	72.00	18,000.00	2,034,000.00	6,000.00	6,000.00	6,000.00
	Sub-total for executing entity				609,744.00	**68,901,072**	1,562,848.00	195,448.00	195,448.00
	Accredited Entity								
1.1	**CRGE Technical person:** MoF (1 Expert)	Monthly	486.00	36.00	17,496.00	1,977,048.00	5,832.00	5,832.00	5,832.00
1.2	**Finance managers:** 6 at the Region's	Monthly	442.00	216.00	95,472.00	10,788,336.00	31,824.00	31,824.00	31,824.00
1.3	**Finance officer:** 6 at the Woreda level	Monthly	300.00	216.00	64,800.00	7,322,400.00	21,600.00	21,600.00	21,600.00
1.4	Periodic project monitoring and financial spot checks (per quarter per woreda)	quarter	10,000.00	12.00	120,000.00	13,560,000.00	40,000.00	40,000.00	40,000.00
2.0	**Computers and printers** (USD 625 per person for the finance officers in each woreda plus the CRGE Facility expert)	Set	625.00	6.00	3,750.00	423,750.00	3,750.00		
3.0	**Communication** (USD 30 per person per month): All (13 Experts)	Month	30.00	468.00	14,040.00	1,586,520.00	4,680.00	4,680.00	4,680.00
4.0	**Utility** (USD260 per person/year (six regions and four federal level	No	260.00	30.00	7,800.00	881,400.00	2,600.00	2,600.00	2,600.00
5.0	Finance Officers monitoring and supervision (per year per woreda)	No	400.00	18.00	7,200.00	813,600.00	2,400.00	2,400.00	2,400.00
6.0	Transportation services (federal level) per year	Year	48,800.00	3.00	146,400.00	16,543,200.00	48,800.00	48,800.00	48,800.00
7.0	**Project launching and Annual review workshops**	No	26,548.00	3.00	79,644.00	8,999,772.00	26,548.00	26,548.00	26,548.00
8.0	**Final evaluation**	No	60,000.00	1.00	60,000.00	6,780,000.00			60,000.00
9.0	**Annual Audits**	Annual	5,000.00	3.00	15,000.00	1,695,000.00	5,000.00	5,000.00	5,000.00
	Sub-total for accredited entity				631,602.00	**71,371,026**	193,034.00	189,284.00	249,284.00
	Grand Total: Project cost + Implementing + Executing Entity Cost				**9,999,725.13**	**1,129,968,939.69**	**4,626,731.26**	**5,572,645.76**	**1,915,862.83**

S. disbursement schedule

Components	Disbursement Schedule		
	Year 1	Year 2	Year 3
Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level	319,558.49	793,085.89	224,202.50
Component 2: Water Security, Climate Resilience, and Women's Empowerment	1,401,403.92	2,597,831.55	965,291.87
Component 3: Climate Smart Agriculture and Sustainable Livestock Practices	576,205.22	992,725.46	118,475.89
Component 4: Climate Smart Livelihood Diversification	573,681.62	804,270.85	163,160.57
Project Management and Operations			
▪ Executing Entity	1,562,848.00	195,448.00	195,448.00
▪ Accredited Entity	193,034.00	189,284.00	249,284.00
Total	**4,626,731.26**	**5,572,645.76**	**1,915,862.83**

Implementation plan

AF Project Proposal		Year I	Year II	Year III
Component	**Major Activity**			
Component 1				
Strengthening Climate Risk Reduction and Adaptation Planning at the local level	1. Climate Risk Awareness Campaign and Capacity building workshops			
	2. Capacity-building Workshops			
	3. Community Engagement and Participatory Vulnerability Assessments (contextualization and translating mainstreaming previously AF financed guideline in to local language): WCSDP preparation			
	4. Building woreda planner and relevant stakeholders on Mainstreaming Climate Adaptation into local development plans			
	5. Project Management, Monitoring and Evaluation (Woreda Level)			
	6. Weather information dissemination in local language (with SMS texting option)			
	7. Environment Social Safeguard Management plan training (Woreda Level)			
Component 2				
Water Security, Climate Resilience, and Women's Empowerment	1. Potable water			
	1.1. Spring development with distribution system			
	1.2 Hund dug well rehabilitation			
	1.3. Water Infrastructure upgrade and expanding water supply systems for efficient distribution including sustainability options			
	1.4. Upgrading efficiency of existing diesel powered water supply by solar power			

	1.5 Spare parts good for 2 years (10% cost of 1.1, 1.2, 1.3 & 1.4)			
	2. Small-scale irrigation			
	2.1 Spring development (Reservoir + canal construction)			
	2.2 Irrigation through canal construction from potable water supply system			
	3. Women empowerment in strengthening IWUAs and WuA Capacity building on use and administration of PW and Irrigation agronomy			
Component 3				
Climate Smart Agriculture and Sustainable Livestock Practices	1. Climate-Resilient Crop and Diversification			
	1.1. Promotion of drought tolerant and early maturing crop varieties			
	1.2. Implementation of conservation agriculture			
	2. Climate Resilient Livestock Production and Management (Following are Specific proposed sub-activities)			
	2.1. Provision of improved drought-tolerant forage seeds			
	2.2. Forage development and utilization (Capacity building)			
	2.3. Improved livestock husbandry practice (Housing improvement, hygiene practice, breeding technology)			
	3. Natural Resource Management (Following are Specific proposed sub-activities)			
	3.1 Watershed institutionalization and strengthening			
	3.2 Multipurpose Nursery/seedling production for forage/trees/crops/horticulture: (Nursery establishment and upgrading)			
	3.3 Rehabilitation (Afforestation and reforestation)			

	3.4. Bio and Physical soil and water conservation (Water retention structures (Terracing/Trench/Check dams), bund stabilizations)			
	3.5. Integrated soil fertility management			
	3.6. Area closure management			
	3.7 Invasive species control			
Component 4				
Climate Smart Livelihood Diversification	1. Gender-Responsive Awareness Campaigns			
	2. Women-Centric Capacity Building; Technical Training and knowledge sharing			
	3. Identify Gender responsive livelihood Diversification option and implementation (Apiculture/Poultry/Shoats/Horticulture)			
	4. Promoting nutrition sensitive agriculture			
	5. Promotion of Market Linkages (Irrigation inputs, production and marketing cooperative establishment and strengthening			

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

Record of endorsement on behalf of the government[2]

Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:

(Enter Name, Position, Ministry)	Date*: (Month, day, year)*

Implementing Entity certification

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

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[6.] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (……list here…..) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Name & Signature Implementing Entity Coordinator	
Date: *(Month, Day, Year)*	Tel. and email:
Project Contact Person:	
Tel. And Email:	

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የፕላንና ልማት ሚኒስቴር
FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF PLANNING AND DEVELOPMENT

Addis Ababa, 31 October 2024

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for "Transforming Communities: A Nexus of Climate-Smart Agriculture, Livelihood Diversification, and Women's Economic Empowerment"

In my capacity as designated authority for the Adaptation Fund in the Federal Democratic Republic of Ethiopia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Ethiopia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Ministry of Finance and executed by the Ministry of Water and Energy and Ministry of Agriculture.

Sincerely,

Mella

Mohammed Andoshe Faynet
Desk Leader, Environment and Climate Change Planning, implementation & Coordination,
Focal point for Adaptation Fund projects in Ethiopia.
Ministry of Planning and Development
Addis Ababa, Ethiopia
Cell:+251913 28 09 61
P.O. box: 4472(office)

በኢትዮጵያ ፌዴራላዊ ዲሞክራሲያዊ ሪፐብሊክ
የገንዘብ ሚኒስቴር
FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF FINANCE

ቁጥር ሀ.ገ 2/16/1889
Ref. No
ቀን 30 OCT 2024
Date

The Adaptation Fund
1818 H Street NW
Mail Stop N 7-700
Washington, D.C., 20433
USA

Dear Sir/madam

Subject: Submission of Project Proposal

In my capacity as a state minister of Finance of the Federal Democratic Republic of Ethiopia; I certify that the preparation of the proposed project on "*Transforming Communities: A Nexus of Climate-Smart Agriculture, Livelihood Diversification, and Women's Economic Empowerment*" has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans including National Adaptation Program of Action, National Adaptation Plan, Climate Resilient Green Economy Strategy, Nationally Determined Contributions and subject to the approval by the Adaptation Fund Board, **commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund** and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Sincerely,

Semereta Sewasew
State Minister

The Federal Democratic Republic of Ethiopia
Ministry of Finance

ADAPTATION FUND

Adaptation Fund

ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK

September 2024

Table of Contents

Abbreviations

AF	Adaptation Fund
CDA	Community Development Agent
CRGE	Climate Resilient Green Economy Strategy
CSA	Climate Smart Agriculture
DRM	Disaster Risk Management
EIA	Environment Impact Assessment
EIO	Ethiopian Institute of Ombudsman
EMP`	Environment Management Plan
EPA	Environment Protection Authority
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
ESS	Environment and Social Safeguards
FHH	Female Headed Household
GHG	Greenhouse Gases
GOE	Government of Ethiopia
Kebele	Sub-district/smallest unit of local government with average population of 5000.
M&E	Monitoring and Evaluation
MILL	Ministry of Irrigation and Lowlands
MHH	Men Headed Household
MOA	Ministry of Agriculture
MOF	Ministry of Finance
MOWE	Ministry of Water and Energy
PCU	Project Coordination Unit
PGHO	Public Grievance Hearing Office
PPP	Private Public Partnership
PV	Photovoltaic
SWC	Soil and Water Conservation
ToR	Terms of Reference
Woreda	District with average population of about 100,000.

1. Introduction

1.1. Background

Ethiopia faces a distinct set of challenges and vulnerabilities due to its geographical location and socio-economic conditions. The irregularity of rainfall patterns leads to frequent droughts and floods, posing significant risks to various sectors of the economy and society. Consequently, adapting to climate variability becomes a crucial task for farmers struggling to maintain productivity and food stability.

Ethiopia is one of the most vulnerable countries to climate change. The country experiences frequent droughts and floods, which have severe impacts on agriculture, water resources, and food security[1]. In 2015, a severe drought affected over 10 million people in Ethiopia, leading to crop failures and food shortages[2]. In 2016, a series of floods caused widespread damage to infrastructure and crops, displacing over 200,000 people[3]. Climate-induced disasters such as droughts and floods are also leading to internal migration and displacement in Ethiopia[4]. In 2019, an estimated 2.4 million people were displaced due to climate-related disasters. This displacement has put a strain on resources in host communities and has made it difficult for people to access basic services such as food, water, and shelter.[5,6]

Another prevalent impact of climate change in Ethiopia is water scarcity. The country's water resources are already under pressure due to rapid population growth and increasing demand for potable water and irrigation[7]. Prolonged droughts are further reducing water availability[8]. In 2018, the Ethiopian government declared a national water crisis, warning that the country was facing its worst drought in 50 years[9]. Moreover, climate change is also threatening Ethiopia's rich biodiversity and natural ecosystems[10]. Rising temperatures and changing rainfall patterns are disrupting the balance of ecosystems, affecting wildlife, plant species, and essential ecosystem services that support human well-being[11]. For example, a recent study found that

[1] World Bank (2023). Ethiopia - Country Climate Risk Profile. Washington, DC: World Bank.
[2] Food and Agriculture Organization of the United Nations (FAO) (2020). Ethiopia Country Profile. Rome: FAO.
[3] United Nations Office for the Coordination of Humanitarian Affairs (OCHA) (2016). Ethiopia Drought Response. New York: OCHA.
[4] Internal Displacement Monitoring Centre (IDMC) (2020). Ethiopia Internal Displacement Report 2020. Geneva: IDMC.
[5] United Nations High Commissioner for Refugees (UNHCR) (2019). Ethiopia Country Operations Profile. Geneva: UNHCR.
[6] Ethiopian Disaster Risk Management Agency (DRMA) (2018). Ethiopia Disaster Risk Management Report 2018. Addis Ababa: DRMA.
[7] International Water Management Institute (IWMI) (2019). Ethiopia Water Sector Performance Report. Colombo: IWMI.
[8] United Nations Development Programme (UNDP) (2018). Ethiopia Water Security Assessment. New York: UNDP.
[9] Ethiopian Ministry of Water, Irrigation and Energy (MoWIE) (2017). Ethiopia Water Sector Master Plan. Addis Ababa: MoWIE.
[10] Ethiopian Environmental Protection Authority (EPA) (2019). Ethiopia State of the Environment Report 2019. Addis Ababa: EPA.
[11] International Union for Conservation of Nature (IUCN) (2018). Ethiopia Biodiversity Profile. Gland: IUCN.

the number of bird species in Ethiopia has declined by 12% since 1990, largely due to climate change[12].

The other impact of climate change is health risks, which, with changing weather patterns, is leading to the spread of vector-borne diseases such as malaria and dengue fever. In 2019, Ethiopia reported over 2.5 million cases of malaria, the highest number in the country's history[13.] Climate change is also increasing the risk of waterborne diseases such as cholera and typhoid[14].

1.2. Objectives and intervention areas of the project

Overall, the impact of climate change on Ethiopia's agriculture, water resources, and food security is considerable, especially in rural areas heavily reliant on rain-fed farming as their primary means of sustenance. The irregularity of rainfall patterns, rising temperatures, and more frequent extreme weather events, such as droughts and floods, pose considerable challenges to crop yields and productivity thus negatively affecting the progress made thus far. Reduced agricultural output and food insecurity result from these climate-induced impacts, negatively impacting rural communities[15]. Moreover, Ethiopia's water resources face vulnerability due to changes in precipitation patterns, leading to water scarcity and diminished availability for agriculture and domestic use. Prolonged droughts exacerbate the strain on water supplies, both surface water and groundwater sources[16]. Consequently, food security is compromised, leaving communities vulnerable to hunger and malnutrition17. The challenges extend to pastoralist communities that rely heavily on livestock for their livelihoods. Changes in temperature and rainfall patterns affect grazing land availability and water access, posing risks to livestock health and productivity18. Addressing these impacts necessitates adaptive measures and resilient strategies to ensure sustainable development and safeguard the well-being of Ethiopia's population.

By way of addressing these challenges, the overall objective of this project, is to create a holistic and integrated approach to enhance climate resilience and sustainable development in the targeted communities.

To this end, the project has four components focusing on:

1. **Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level:** This component seeks to empower local communities with the knowledge and tools necessary to assess and respond to climate-related risks effectively. This involves

[12] Global Environment Facility (GEF) (2017). Ethiopia Resilient Landscapes for Biodiversity and Climate Change Adaptation Project. Washington, DC: GEF.
[13] Ethiopian Public Health Institute (EPHI) (2018). Ethiopia Malaria Situation Report. Addis Ababa: EPHI.
[14] Centers for Disease Control and Prevention (CDC) (2019). Ethiopia Dengue Fever Outbreak. Atlanta, GA: CDC.
[15] United Nations Development Programme (UNDP) - "Climate Resilient Green Economy Strategy" (2011)
[16] Intergovernmental Panel on Climate Change (IPCC) - "Climate Change 2014: Impacts, Adaptation, and Vulnerability" (2014)
[17] Food and Agriculture Organization (FAO) - "Climate Change and Food Security in Ethiopia" (2016)
[18] United Nations Environment Programme (UNEP) - "Climate Change and Pastoralism: Impacts and Mitigation" (2010)

developing and implementing robust climate adaptation plans tailored to the specific needs and vulnerabilities of each community. By strengthening local planning processes, this component aims to improve the preparedness of these communities to face the challenges posed by a changing climate.

2. **Improving water security, climate resilience, and women's empowerment:** Water security is a fundamental aspect of climate resilience. This component emphasizes the importance of ensuring access to clean and reliable water sources, especially for women, for potable and productive use through Decentralized Renewable Energy (DRE) systems. By enhancing water infrastructure, promoting efficient water use, and involving women in decision-making processes, this component empowers them and ensures that communities can withstand the impact of climate change on water resources.

3. **Strengthening climate smart agriculture and livestock management practices:** Sustainable agriculture and livestock practices are critical for food security and economic stability in the face of climate change. This component promotes the adoption of climate-smart agricultural techniques, such as drought-resistant crop varieties and sustainable land management practices. Additionally, it focuses on enhancing livestock rearing practices to increase resilience in the face of changing weather patterns. This component aims to boost agricultural productivity and income for communities while reducing their vulnerability to climate-related shocks.

4. **Promoting climate smart livelihood diversification:** Economic diversification is vital for climate-resilient communities. This component of the project encourages communities to explore alternative livelihood options that are less susceptible to climate-related risks. This may include income-generating activities like apiculture, poultry, horticulture, shots, and establishment of women led SME's. By diversifying livelihoods, the project helps reduce the reliance on climate-sensitive activities, improving economic stability.

The goal of this project is to build self-reliant, climate-resilient communities where the local population, including women, are actively engaged in climate adaptation efforts. By addressing these four components, the project aims to create a sustainable and adaptive environment that not only mitigates climate risks but also enhances the overall well-being and livelihoods of the communities involved.

1.3. Project context

Ethiopia is constitutionally structured as a federation consisting of nine regional states based on ethnicity, along with two chartered cities. These Ethiopian regions are further subdivided into 68 or more zones, which, in turn, are composed of districts referred to as Woredas. Each Woreda is comprised of wards (kebele) or neighborhood associations, representing the smallest units of local governance in Ethiopia. The focus of this initiative is at the kebele level, specifically

targeting six particularly vulnerable woredas across six regions. Within each of these woredas, the project will be implemented in two to four of the most vulnerable kebeles.

#	Region	Woreda	Kebeles targeted
1	Oromia	Tullo	Burka Jelala, Oda Kebena, Efa Bas, Hunde Lafto
2	Amhara	Mida Weremo	Tegora, Dengore, A/Bayne
3	Tigray	Sewha Saese	Saesie, Koma Subuha
4	Afar	Awash Fentale	Kebena, Dudub
5	Somali	Shabelay	Wooble, Biyo-Cade
6	Central Ethiopia	Fofa	Semo Awasho, Upper Kesheli

These woredas were selected based on their susceptibility to climate-related risks, such as increased rainfall variability and heightened instances of drought, flood and fire. Their vulnerability to climate change, characterized by limited income diversification, crop and livestock breed variations including lack of small ruminants that can better cope to the effects of climate shocks, but also their lack to adapt to climate change, considering factors like water availability and proximity to markets, also influenced the selection. The kebeles targeted in this initiative were chosen in consultation with stakeholders from the respective regions and woredas, considering diverse agro-ecological conditions, market accessibility, and the degree of vulnerability to drought.

1.4. Scope of the ESMF

The ESMF supports an examination of the risks and potential impacts associated with projects or activities under the planned AF proposed project. The framework will set out the principles, guidelines, and procedures to assess environmental and social risks/impacts, and proposes measures to reduce, mitigate, and/or offset potential adverse environmental and social impacts and enhance positive impacts and opportunities of the above-mentioned project.

In line with the requirements of the AF, the main provisions of scope of work include:

a) Develop an Environment and Social Safeguards (ESS) screening report for the 6 Woreda's below:
   i. Amhara Region - Mida Weremo Woreda
   ii. Oromia Region – Tullo Woreda
   iii. Tigray Region - Sewha Saese Woreda
   iv. Central Ethiopia Region– Fofa Woreda
   v. Afar Region– Awash Fentale Woreda
   vi. Somali Region- Shabelay Woreda

b) Develop a comprehensive Environmental and Social Management Framework (ESMF) on the 6 Woredas above as per the Adaptation Fund requirements and standards that will be submitted along with the proposal prepared for funding from the Adaptation Fund.
c) The ESMF report shall be guided by the “Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy”.

At this stage the exact locations, scope, design, and nature of project activities are only indicative. Hence, an Environment and Social Management Framework (ESMF) is an appropriate approach for safeguards compliance and implementation.

1.5. Environmental and social risk categorization

This Environmental and Social Assessment Framework has screened the project activities against the Adaptation Fund’s Environmental and Social Policy and procedures and categorizes the project as a Low to Medium Risk (Category C to Category B) project.

This categorization is in due recognition that the project will be conducted in food-insecure and drought-affected areas and not in sensitive ecosystems (i.e. in wetlands, forests or others). Moreover, it will have minimal adverse social impacts and impact on cultural heritage. Furthermore, the anticipated impacts will be limited and restricted to the project site and will not affect a broader area beyond the immediate project implementation sites. There is also no displacement and resettlement of the community during the development or implementation of the project. Finally, all impacts identified will be addressed through implementation of mitigation measures and there will be minimal residual impact after the implementation of the proposed mitigation measures.

2. Governing policies and laws

2.1. Relevant national laws and policies

The legislative and policy basis for the provision of environmental protection, climate change, water resource management, and health, hygiene and occupational safety in Ethiopia is controlled through the following, which are discussed further below:

- **The Constitution**
- **Environment and climate change related policies, strategies and proclamations,** which highlight the environmental management requirements in the country, including:
    - The Environment Policy.
    - Proclamation 299/2002, Environmental Impact Assessment (EIA).
    - Proclamation 300/2002, Environmental Pollution Control.
    - Proclamation 513/2007, Solid Waste Management.
    - Proclamation 159/2008, Prevention of Industrial Pollution – Council of Ministers Regulation.
    - EIA Guideline, July 2000.
    - EIA Procedural Guideline, November 2003.
    - Guideline for Environmental Management Plan (draft), May 2004.
    - The Climate Resilient Green Growth (CRGE) Strategy.
- **Water resource management related policies, strategies, and proclamations**, which highlight the water resource management and the associated requirements related to integrated water resource management, including:
    - Water Resource Management Policy, 1999
    - Water Resource Management Strategy, 2001
    - Proclamation No. 197/2000, Ethiopian Water Resources Management Proclamation
    - Proclamation No. 115/2005, Ethiopian Water Resources Management – Council of Ministers Regulation
- **Health and sanitation related policies, strategies and proclamations,** which highlight requirements that have relevance to hygiene and WASH:
    - Proclamation 661/2009, Food, Medicine and Health Care Administration and Control
    - Proclamation 200/2000, Public Health Proclamation
    - National Hygiene and “On-Site” Sanitation Protocol
    - One WASH National Programme

The project will fully comply with Ethiopia’s national law.

The Constitution

The constitution adopted by Ethiopia in 1995 provides the guiding principles for environmental protection and management in Ethiopia. The concept of sustainable development and environmental rights are enshrined in Article 43, 44, 90 and 92 of the Constitution of GOE.

In Article 43: The Right to Development identifies peoples' right to:

- Improved living standards and to sustainable development; and
- Participate in national development and to be consulted with respect to policies and projects affecting their community.

Similarly, in Article 44: Environmental Rights, all persons:

- Have the right to a clean and healthy environment; and
- Who have been displaced or whose livelihoods have been adversely affected because of state programs, have the right to commensurate monetary or alternative means of compensation, including relocation with adequate state assistance.

Furthermore, in Article 90: Social Objectives highlights that - to the extent the country's resources permit, policies shall aim to provide all Ethiopians access to public health and education, clean water, housing, food, and social security.

Moreover, in Article 92: Environmental objectives are identified as:

- Government shall endeavor to ensure that all Ethiopians live in a clean and healthy environment.
- The design and implementation of programs shall not damage or destroy the environment.
- People have the right to full consultation and to the expression of views in the planning and implementation of environmental policies and projects that affect them directly.
- Government and citizens shall have the duty to protect the environment.

Environment and climate change related policy, strategies, and proclamations

Environment Policy of Ethiopia

The Environmental Policy of Ethiopia (EPE) was approved on April 2, 1997 by the Council of Ministers and consists of ten sectoral and ten cross-sectoral policies. The EPE has embraced the concept of sustainable development. As its goal, the EPE states

"to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the 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."

Some of the policy provisions relevant to the project at hand include the following:

- To promote in drought-prone and low rainfall areas water conservation which is as important as physical soil conservation for more secure and increased biomass production, including crop production.

- To develop forestry on the farm, around the homestead and on eroding and/or eroded hillsides to increase the stock of trees for fuel wood, construction material, implements and crafts, for forage and for other tree products.
- To undertake full environmental, social, and economic impact assessments of all existing irrigation schemes in the rangelands and wherever needed establish programmes of correcting their negative environmental, social and economic impacts.
- To recognize that public consultation is an integral part of EIA and ensure that EIA procedures make provision for both an independent review and public comment before consideration by decision makers.
- To ensure that forestry development strategies integrate the development, management, and conservation of forest resources with those of land and water resources, energy resources, ecosystems, and genetic resources, as well as with crop and livestock production.
- To ensure that all phases of environmental and resource development and management, from project conception to planning and implementation to monitoring and evaluation are undertaken based on the decisions of the resource users and managers.

The Environment Protection Authority (EPA), had issued several guidelines including the:

- (i) EIA Guideline Document of the EPA (2000),
- (ii) Procedural EIA Guideline of EPA (2003), and
- (iii) 2004 EPA's EIA Guidelines for sectors, including the road and railway; fisheries; forestry; hydropower production, transportation, and distribution; irrigation; livestock and rangelands; mineral and petroleum operation; water supply; and Industrial Zone/Estate Development.

Proclamation 299/2002, Environmental Impact Assessment

The EIA Proclamation makes EIA a mandatory requirement for the implementation of major development projects, programs and plans. The Proclamation is a tool for harmonizing and integrating environmental, economic, cultural, and social considerations into decision-making processes in a manner that promotes sustainable development. The why and how to prepare, methodologies, and to whom the report is submitted are described in this law. The law clearly defines:

- Why there is a need to prepare EIAs.
- What procedure is to be followed to implement EIA of the project.
- The depth of environmental impact studies.
- Which projects require full EIA reports.
- Which projects need partial or no EIA report.
- To whom the report must be submitted.

Directive No.1/2008 A Directive Issued to Determine Projects Subject to the Environmental Impact Assessment Proclamation No.299/2002 lists the projects that require EIAs. None of the activities proposed under the proposed project are listed, therefore EIAs are not expected to be required. Should this change or the need for an EIA be identified, then a full assessment would be undertaken as part of the implementation.

Proclamation 300/2002, Environmental Pollution Control

Complementary to the EIA legislation, which requires developmental activities to consider environmental impacts before their establishment, the Pollution Control Proclamation requires ongoing activities to implement measures that would reduce their degree of pollution to a set limit or quality standard. Thus, one of the dictates of the legislation is to ensure through inspection the compliance of ongoing activities with the standards and regulations of the country: i.e. environmental audit.

Proclamation 513/2007, Solid Waste Management

Proclamation 513/2007 aims to promote community participation to prevent adverse effects and enhance benefits resulting from solid waste. It provides for preparation of solid waste management action plans by urban local governments.

Proclamation 159/2008, Prevention of Industrial Pollution - Council of Ministers Regulation

As a follow up to Proclamation 300/2002, a regulation to prevent industrial pollution was developed by the Federal Environmental Protection Authority to ensure the compatibility of industrial development with environmental conservation. This regulation (Proclamation no. 159/2008) also includes comprehensive industrial pollution standards for a range of industrial and mining activities.

EIA Guideline, July 2000

The EIA Guideline Document provides essential information covering:

- Environmental Assessment and Management in Ethiopia.
- Environmental Impact Assessment Process.
- Standards and Guidelines.
- Issues for sectoral environmental impact assessment in Ethiopia covering agriculture, industry, transport, mining, dams and reservoirs, tanneries, textiles, hydropower generation, irrigation projects and resettlement projects.

The guideline also contains annexes that:

- identify activities requiring a full EIA, partial measure, or no action.
- contain sample forms for application.
- provide standards and guidelines for water and air.

EIA Procedural Guideline, November 2003

The guideline outlines the screening, review, and approval process for development projects in Ethiopia and defines the criteria for undertaking an EIA. Relevant to the project are the activities listed in Annex II, Schedules 1 and 2, which require either full or preliminary EIS. However, Directive No.1/2008 (refer above) modifies this list and consequently none of the proposed activities requires an EIA.

Guideline for Environmental Management Plan (draft), May 2004

The Guideline outlines the necessary measures for preparation of an Environmental Management Plan (EMP) for proposed developments in Ethiopia and the institutional arrangements for implementation of EMPs. This ESMP complies with the requirements of the Guideline.

CRGE Strategy, 2011

The CRGE strategy focuses on four pillars that will support Ethiopia's developing green economy:

- Adoption of agricultural and land use efficiency measures.
- Increased GHG sequestration in forestry, i.e., protecting, and re-establishing forests for their economic and ecosystem services including as carbon stocks.
- Deployment of renewable and clean power generation.
- Use of appropriate advanced technologies in industry, transport, and buildings.

In general, four initiatives for fast-track implementation have been selected under the CRGE: (i) exploiting Ethiopia's hydropower potential; (ii) large-scale promotion of advanced rural cooking technologies; (iii) efficiency improvements to the livestock value chain; and (iv) reducing Emissions from Deforestation and forest Degradation (REDD).

Water Resource Management related policies, strategies, and proclamations

Ethiopian Water Sector Policy, 1999

The water sector policy aims enhance the development of the country's water resources to make optimum contribution to an accelerated socio-economic growth. The water resources management policy is based on the constitution of the FDRE Government Macro Economic and Social policies and development strategies as well as objectives accepted by the Federal Democratic Republic of Ethiopia and the principles of water resources development objectives that would enhance the socio-economic development of the peoples of Ethiopia.

Ethiopian Water Sector Strategy, 2001

The principal objective of the water resources strategy is to translate the national water resources management policy into action. More specifically, this strategy sets the roadmap as how to make meaningful contributions towards:

- Improving the living standard and general socio-economic well-being of the Ethiopian people.
- Realising food self-sufficiency and food security in the country.
- Extending water supply and sanitation coverage to large segments of the society, thus achieving improved environmental health conditions.
- Generating additional hydropower.
- Enhancing the contribution of water resources in attaining national development priorities.
- Promoting the principles of integrated water resources management.

In doing so, the strategy seeks to make meaningful contributions towards achieving broader national development objectives of poverty alleviation and sustainable human resources development. Pursuance of these objectives makes the water strategy compatible with the national economic development strategy. More specifically, the objective of the water supply and sanitation sub-sector strategy is to develop viable and implementable guidelines that promote the sustainable, efficient, effective, reliable, affordable, and user-acceptable development of water supply and sanitation services, including livestock watering, in Ethiopia.

Ethiopian Water Resources Management Regulation (No. 115/2005)

Ethiopian Water Resources Management Regulation Part two, Article 3, Water Resources utilization provides a list of information required for an application to be submitted to the Supervising Body for a water use permit, pursuant to Article 13 of the Proclamation (Proclamation No. 197/2000) and Article 4 states the duties of the supervising body regarding the provision of license for water works.

One WASH National Programme

ONE WASH programme: brings together four ministries- Water, Health, Education, and Finance to modernise the way water and sanitation services are delivered to the people of Ethiopia; improving the health situation, decreasing the drop-out rates of children in schools, and making financing for Water Sanitation and Hygiene (WASH) more effective. OWNP contributes to achieving the government's social and economic priorities in an equitable and sustainable manner by increasing water supply and sanitation coverage and the adoption of good hygiene practices. It consolidates planning, budgeting, and reporting activities of WASH in a broad sector wide approach.

Health and sanitation related policies, strategies and proclamations

Proclamation 661/2009, Food, Medicine and Health Care Administration and Control

The proclamation provides provisions towards:

- Ensuring that handling and disposal of trans-regional solid and liquid wastes are not harmful to public health.
- Ensuring that the quality of trans-regional water supply for the public is up to the standard.
- Ensuring the availability of necessary hygienic requirements in controllable health related institutions under the federal government.

Proclamation 200/2000, Public Health Proclamation

This proclamation prohibits:

- the discharge of untreated liquid waste generated from septic tanks, seepage pits and industries into water bodies, or water convergences.
- the disposal of solid or liquid or any other waste in a way which contaminates the environment or affects public health.

2.2. Alignment of national policies and laws to the Adaptation Fund Environmental and Social Policy

This section assesses and compares, the alignment of policies and laws in Ethiopia to the 15 principles that are contained in the Environmental and Social Policy of the Adaptation Fund.

Adaptation Fund (AF) Principle 1: Compliance with the Law.

This highlights that projects and programs supported by the Fund shall comply with all applicable domestic and international law.

Ethiopia is signatory to several multilateral environmental agreements and has articulated laws and policies that are relevant to 14 specific principles that are contained in the Adaptation Fund Environmental and Social Policy.

In the context of environmental management Ethiopia's Environmental Policy defines the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance, while the EIA Proclamation (Proclamation no. 299/2002) sets a process for identifying the environmental and social risks and impacts of the project.

Furthermore public disclosure and consultations of affected parties is stipulated in constitutional provision of Article 43(2) that states *"Nationals have the right to participate in national development and, in particular, to be consulted with respect to polices and projects affecting their community."*

AF Principle 2: Access and Equity.

This stipulates that projects and programmes supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights.

In this context, the constitutional provision in *Article 43(4)* states that, "*The basic aim of development activities shall be to enhance the capacity of citizens for development and to meet their basic needs.".* Furthermore, Article 92 refers to the state's responsibility to design and implement programs and projects that do not damage the environment and establishes the joint responsibility of the government and citizens to protect the environment.

AF Principle 3: Marginalized and Vulnerable Groups.

This highlights that project and programmes supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS.

In line with these provisions the constitution of Ethiopia states "Government *shall, at all times, promote the participation of the People in the formulation of national development policies and programs; it shall also have the duty to support the initiatives of the people in their development endeavors. Government shall ensure the participation of women in equality with men in all economic and social development endeavors. Government shall endeavor to protect and promote the health, welfare and living standards of the population of the country. To the extent the country's resources permit, policies shall aim to provide all Ethiopians [including marginalized and vulnerable groups] access to public health and education, clean water, housing, food and social Security.*

Ethiopia's commitment to human rights (as described under principle 4) also addresses issues pertaining to displaced persons and refugees.

AF Principle 4: Human Rights.

This highlights projects and programmes that are supported by the Fund shall respect and where applicable promote international human rights.

The African Charter on Human and People's Rights, to which Ethiopia is a party, endorses the AF principles on Human Rights. Article 15 states "*Every individual shall have the right to work under equitable and satisfactory conditions, and shall receive equal pay for equal work". Every citizen shall have the right to equal access to the public service of his country. Every individual shall have the right of access to public property and services in strict equality of all persons before the law." The Charter recognizes right to work (Article 15), the right to health (Article 16), and the right to education (Article 17).*

Moreover, the proposed project has put in place a mechanism for project affected communities to exercise their constitutional rights and lodge their grievance as described in case of any violations.

AF Principle 5: Gender Equity and Women's Empowerment.

This stipulates that projects and programmes that are supported by the Fund shall be designed and implemented in such a way that both women and men 1) are able to participate fully and equitably; 2) receive comparable social and economic benefits; and 3) do not suffer disproportionate adverse effects during the development process.

Ethiopia has a National Policy on Women (Women's Policy) which was formulated in 1993. Moreover, these aspects are also addressed under national and international commitment that are described under AF Principle 3 and AF Principle 4.

AF Principle 6: Core Labour Rights:

Ethiopia's Labor Proclamation (Proclamation No. 377/2003) protects the rights of contract employees and contains similar provisions with that of AF Principle 6..The proclamation's provisions such asthe obligations of employers to respect human dignity of the employees, to take measures for occupational safety and health measures and has clear provisions that stipulate the obligations of the employee and the employer. It is unlawful to discriminate against female workers in matters of remuneration on the grounds of their sex; discriminate between workers based on nationality, sex, religion, political outlook or any other condition. Project implementers need to ensure that these national laws and AF performance standard are implemented at all project sites. While the PS2 recommends not to employ children under 18 years, the proclamation "prohibits employing persons under 14 years of age." In cases where there is misalignment between the national and international requirements it is advisable to respect the stringer provisions.

AF Principle 7: Indigenous Peoples.

There is no specific national legislation on this aspect as the Ethiopian population is indigenous. In the Ethiopian context this may not be relevant, but the provisions are relevant to any rural community in the selected project areas. The provisions will be addressed through the appropriate implementation of this ESMF.

AF Principle 8: Involuntary Resettlement.

Ethiopia's Proclamation to provide for the expropriation of land holdings for the public purposes and payment of compensation (Proclamation No. 455/2005), and the Rural Land Administration and Use Proclamation (Proclamation 456/2005) cover provisions contained here.

Proclamation 456/2005 includes provisions that are in line with AF Principle 8:

"Holder of rural land who is evicted for purpose of public use shall be given compensation proportional to the development he, has made on the land and the property acquired, or shall be given substitute land thereon; and *Rural lands that have gullies shall be made to rehabilitate by private and neighbouring holders and, as appropriate, by the local community, using biological and physical works."*

The Expropriation of Land Holdings for Public Purposes and Payment of Compensation Proclamation No.455/2005" states that: *"A woreda or an urban administration shall, upon payment in advance of compensation in accordance with this Proclamation, have the power to expropriate rural or urban landholdings for public purpose where it believes that it should be used for a better development project to be carried out by public entities, private investors, cooperative societies or other organs, or where' such expropriation has been decided by the appropriate higher regional or federal government organ for the same purpose."*

The law specifies procedures of expropriation, compensation payment, displacement of land holders and grievance and appeal.

No resettlement is proposed as part of this project.

AF Principle 9: Protection of Natural Habitats.

The Fund shall not support projects and programmes that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities.

To an extent this is covered under Development Conservation and Utilization of Wildlife Proclamation (No. 541 of 2007) , which makes provision with respect to the development, conservation and sustainable utilization of wildlife resources in Ethiopia, including wild animals found in Ethiopia and including those species migrating from country to country and temporarily staying in Ethiopia. Wildlife conservation areas, which shall be designated and administered by the Federal Government, shall include: (a) national parks that are nationally and globally significant and known to have representative ecological zones and embrace immense diversity of wildlife; (b) national parks and wildlife sanctuaries that are inhabited by the country's endemic and endangered species; (c) any wildlife conservation areas geographically situated within two or more regions; and (d) any transboundary wildlife conservation areas that may be established in accordance with agreements with neighbouring countries. Other wildlife conservation areas shall be administered be designated by regions or administered by private investors or local communities. Other provisions of this Proclamation concern the authorization of activities, including hunting, in wildlife conservation areas and regulation-making powers.

AF Principle 10: Conservation of Biological Diversity.

Proclamation No. 381/2004, Institute of Biodiversity Conservation and Research Establishment Proclamation delegates the Institute of Biodiversity Conservation. " to ensure the conservation of the country's biodiversity using ex-situ and in-situ conservation methods;"

Proclamation No. 482/2006 Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation's objective is "to ensure that the country and its communities obtain fair and equitable share from the benefits arising out of the use of genetic resources so as to promote the conservation and sustainable utilization of the country's biodiversity resources;" Subsequent provisions focus on access rights to genetic resources.

AF Principle 11: Climate Change.

Ethiopia has a strong set of strategies including:

- **Climate Resilient Green Economy Strategy (2011):** which outlines the country's commitment to pursuing sustainable economic growth while mitigating climate change impacts. The CRGE strategy presents a visionary and integrated approach to achieving a green economy, emphasizing the reduction of greenhouse gas emissions while ensuring climate resilience across all sectors.
- **Climate Resilience Strategies (2011 - 2018):** Ethiopia has further unpacked the CGRE strategy and developed sector and region specific Climate Resilient (CR) strategies to address the challenges posed by climate change. These strategies aim to enhance adaptive capacity and promote sustainable resource management in the face of climate impacts. The sectors included are agriculture, water, health, energy, forestry, and urban planning. Furthermore, there are region specific climate resilience strategies that were developed through inclusive processes.
- **National Adaptation Plan (2017):** Ethiopia has developed its National Adaptation Plan (NAP) to address the challenges posed by climate change and enhance the country's resilience to its impacts. The NAP is a comprehensive framework that outlines priority adaptation measures and strategies across various sectors, aiming to safeguard vulnerable communities and critical ecosystems. The plan focuses on integrating climate change considerations into national development policies and programs, aiming for a coherent and coordinated approach to climate adaptation. Through the NAP, Ethiopia aims to enhance the adaptive capacity of communities, promote sustainable resource management, and build climate resilience in sectors such as agriculture, water resources, health, and infrastructure.
- **Nationally Determined Contributions (2021):** Ethiopia had initially submitted an ambitious Nationally Determined Contributions (NDC) to the UNFCCC in 2015. The NDC outlines Ethiopia's commitments to reduce greenhouse gas emissions by 64% below business-as-usual levels by 2030.

AF Principle 12: Pollution Prevention and Resource Efficiency.

Ethiopia's Pollution Control Proclamation and standards (Proclamation no. 300/2002), starts by stating that" some social and economic development endeavors may inflict environmental harm that could make the endeavors counterproductive." And further states "it is appropriate to eliminate, or where not possible, to mitigate pollution as undesirable consequence of social and economic development activities." The proclamation has standards and penalties for waste

management and disposal, and it can be concluded that the provisions of the proclamation align well with the AF performance standard.

Principle 13: Public Health.

The Public Health Proclamation (Proclamation No. 200/2000 is now replaced by Proclamation No. 661/2009) and the Food, Medicine and Health Care Administration and Control Proclamation (Proclamation No. 661/2009)

Proclamation No. 661/2009 contains important provisions that are relevant to the project, and these include:

- *It is prohibited to give water supply service from springs, wells or through pipes unless its quality is verified by the Health Authority*
- *Any employer shall ensure the availability of occupational health services to his employees.*
- *The use of any machinery or instrument, which generates excessive noise is prohibited. Any person who uses such machinery or instrument shall install noise reducing apparatus or -instrument.*
- *No person shall dispose solid, liquid or any other waste in a manner, which contaminates the environment or affects the health of the society.*

AF Principle 14: Physical and Cultural Heritage.

Ethiopia's Research and Conservation of Cultural Heritage Proclamation (Proclamation No. 209/2000) established the Authority for 'Research and Conservation of Cultural Heritage and is mandated *to protects and supervise Cultural Heritage; collects information on Cultural Heritage, define the nature and classify the standards of same; give the necessary education and advice on the content, benefit and preservation of Cultural Heritage.*

The proclamation stipulates *"no person may, without a permit issued by the Authority, carry out building or road construction, excavations of any type or any operation that may cause ground disturbance in an area declared reserved."*

AF Principle 15: Lands and Soil Conservation.

Considering that land and soil degradation is a major concern in Ethiopia there are a number of policies and laws that are relevant to this including the Forest Development, Conservation and Utilization Proclamation No. 1065/2018 and the Biodiversity Conservation and Research Establishment Proclamation No. 381/2004.

2.3. The Accredited Entity's Environmental and Social Safeguards Framework

In order to facilitate climate action on the ground, GoE (and particularly the CRGE Coordinating Entities) developed the *'Environmental and Social Safeguards Framework (ESSF) for the CRGE Initiative'*. This ESSF guides the formulations and implementations of the CRGE initiatives and provides an enabling mechanism to GoE to meet environmental and social safeguard requirements associated with investments that it finances through the CRGE Facility and international climate change funds. It further defines roles, responsibilities, institutional framework, and provides procedures to avoid, minimize and mitigate any direct, indirect and potential environmental and social risks and impacts which may arise from the among others implementation of CRGE investments. It also addresses mechanisms for public consultation and disclosure of project documents as well as redress of possible grievances in case this is needed during project implementation.

3. Project Description, Project Components and Theory of Change

3.1. Project Description and components

The proposed project, structured around its four components, exhibits significant synergies with existing adaptation-focused programs enumerated earlier. The alignment of this initiative with the priorities of the Adaptation Fund (AF) is evident, positioning it as a substantial contributor to the realization of transformational impacts. The strategic coherence between the proposed project and Ethiopia's established climate resilience initiatives underscores the country's commitment to holistic climate adaptation, sustainable development, and transformative outcomes.

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the local level: Building Awareness, Understanding, and Ownership

This component encompasses multifaceted activities aimed at building awareness, enhancing capacity, fostering community engagement, and integrating climate adaptation into local development plans. The justification for the requested funds is delineated based on the specific outputs and the overarching goal of enabling local communities to adapt effectively to climate risks. The full cost of adaptation reasoning considers the diverse needs of awareness campaigns, capacity-building efforts, community engagement, policy integration, and robust project management, ensuring the effectiveness and sustainability of adaptation measures at the local level.

- **Climate Risk Awareness Campaign (1.1):** The funding is essential to conduct an impactful climate risk awareness campaign that reaches targeted communities and stakeholders. This involves designing and implementing communication strategies, producing educational materials, and organizing outreach programs. The full cost encompasses the creation and dissemination of tailored content, engagement with local media, and the mobilization of resources for community workshops.
- **Capacity-building Workshops (1.2):** The requested funds will facilitate the organization of capacity-building workshops for local authorities and stakeholders. This includes designing training modules, securing qualified trainers, providing necessary materials, and ensuring logistical arrangements. The full cost covers the development and delivery of training programs, monitoring and evaluation of workshops, and the creation of knowledge resources.
- **Community Engagement and Participatory Vulnerability Assessments (1.3):** Funding is essential for fostering community engagement and conducting participatory vulnerability assessments. This involves community mobilization, facilitation of workshops, and the collection of data. The full cost encompasses the development of assessment tools, hiring skilled facilitators, and ensuring community participation through inclusive and culturally sensitive approaches.
- **Mainstreaming Climate Adaptation into Development Plans (1.4):** The requested funds will support the integration of climate adaptation measures into local policies and plans. This involves consultations, data analysis, and the development of adaptation strategies. The full cost includes expert consultations, stakeholder engagement

activities, and the incorporation of climate considerations into existing development frameworks.

- **Project Management, Monitoring, and Evaluation (1.5):** Adequate funding is crucial for effective project management, monitoring, and evaluation activities. This includes the establishment of a project management unit, development of monitoring tools, and periodic evaluation. The full cost encompasses personnel salaries, technology infrastructure, and data analysis for robust monitoring and evaluation.
- **Environment Social Safeguard Management (1.6):** The requested funds will support the implementation of environmental and social safeguard measures. This involves the development and enforcement of safeguard policies, regular monitoring, and addressing potential environmental and social risks. The full cost includes capacity-building for safeguard management, conducting impact assessments, and implementing corrective actions.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

This component entails a range of interconnected activities aimed at improving water access, enhancing infrastructure, deploying renewable energy solutions, promoting sustainable agriculture, and empowering women. The justification for the requested funds is based on the specific outputs and the overarching goal of building climate resilience, particularly in the context of water security and women's empowerment. The full cost of adaptation reasoning considers the diverse needs of water infrastructure development, renewable energy deployment, sustainable agriculture, and gender-focused capacity building, ensuring a holistic and effective approach to climate resilience in the project area.

- **Water Source Development and Protection (2.1):** The funding is crucial for the development and protection of water sources to ensure improved access to clean water. This involves infrastructure development, watershed protection measures, and community engagement. The full cost encompasses geological assessments, construction, maintenance, and community training on water source protection.
- **Efficient Water Infrastructure Upgrade and Expansion (2.2):** Adequate funding is essential for upgrading and expanding water supply systems to enhance distribution efficiency and storage capacities. This includes the installation of water infrastructure, upgrading existing systems, and implementing sustainable distribution options. The full cost covers infrastructure materials, labor, and the incorporation of sustainable technologies.
- **Decentralized Renewable Energy (DRE) Systems (2.3):** The requested funds will support the implementation of decentralized renewable energy systems to provide water for potable and productive use. This involves the installation of renewable energy technologies such as solar pumps. The full cost encompasses equipment procurement, installation, and training on the maintenance of renewable energy systems.
- **Small-Scale Irrigation and Water Use Efficiency (2.4):** Funding is essential for the implementation of small-scale irrigation systems to enhance agricultural water use efficiency and reduce climate-related risks. This includes the design and installation of irrigation infrastructure, training for farmers, and monitoring systems. The full cost covers the entire irrigation system lifecycle, from planning to maintenance.
- **Women-Centric Capacity Building (2.5):** Adequate funding is crucial for women-centric capacity building in water management and agriculture. This involves designing

and delivering training programs, creating educational materials, and providing mentorship opportunities. The full cost includes the development of training materials, engagement of qualified trainers, and the establishment of supportive networks.

- **Gender-Responsive Awareness Campaigns (2.6):** The requested funds will support gender-responsive awareness campaigns to improve gender roles and recognize women's contributions. This involves designing and implementing awareness programs, producing communication materials, and organizing community events. The full cost encompasses campaign development, community outreach, and the production of gender-sensitive educational materials.

Component 3: Climate Smart Agriculture and Livestock Rearing

This component encompasses various activities aimed at enhancing agricultural and livestock practices, promoting natural resource management, and facilitating informed decision-making based on weather information. The requested funds are crucial to implementing these activities effectively, ensuring increased resilience, sustainability, and improved productivity in the agriculture and livestock sectors. The full cost reasoning includes investments in research, training, infrastructure, and ongoing support, reflecting the holistic nature of the proposed activities and their contribution to building resilience in the agriculture and livestock sectors.

- **Climate-Resilient Crop Selection and Diversification (3.1):** Adequate funding is essential for promoting climate-resilient crop selection and diversification. This includes research on resilient crop varieties, the dissemination of improved seeds, and training for farmers on diversified farming practices. The full cost involves the development and distribution of seeds, farmer training programs, and ongoing support for sustainable crop management.
- **Climate-Resilient Livestock Production and Management (3.2):** The requested funds are critical for achieving a sustainable and resilient livestock sector. This involves investments in improved livestock health, increased productivity, and the adaptability of herds to changing climatic conditions. The full cost includes veterinary care, improved breeding programs, and training for livestock management practices.
- **Natural Resource Management (3.3):** Funding is essential for promoting sustainable land use, protecting ecosystems, and enhancing agricultural productivity. This includes implementing conservation practices, establishing sustainable land management techniques, and promoting ecosystem protection measures. The full cost encompasses the implementation of sustainable land management programs, community engagement, and ongoing monitoring.
- **Weather Information Dissemination (3.4):** The requested funds will support the dissemination of weather information for improved decision-making. This involves developing communication channels for disseminating information to farmers and conducting training on interpreting weather data. The full cost covers the establishment and maintenance of weather monitoring infrastructure, training programs, and communication strategies.

The diverse activities, ranging from crop diversification to livestock management and natural resource conservation, require adequate financial support to ensure successful implementation.

Component 4: Climate Smart Livelihood diversification

This component encompasses various activities aimed at promoting gender-responsive diversification options, providing technical training and knowledge sharing, implementing diversified livelihood activities, and promoting market linkages. The requested funds are crucial for realizing these outcomes and ensuring increased economic viability, income generation, and reduced vulnerability to external shocks. The full cost reasoning includes investments in research, training, implementation, and market linkages, reflecting the holistic nature of the proposed activities and their contribution to building resilient livelihoods in the target communities and has been detailed below:

- **Identification of Gender Responsive Diversification Options (4.1):** Adequate funding is essential for conducting a thorough identification of gender-responsive diversification options. This involves research, consultation, and community engagement to understand local resources, capabilities, and market demand. The full cost includes research activities, community consultations, and the development of a well-informed strategy for gender-responsive livelihood diversification.
- **Technical Training and Knowledge Sharing (4.2):** The requested funds are critical for equipping women and community members with the necessary skills and knowledge to effectively implement and manage diversified livelihood activities. This includes training programs, knowledge-sharing sessions, and the development of educational materials. The full cost encompasses the design and delivery of training programs, materials development, and ongoing support for capacity building.
- **Implementation of Diversification Activities (4.3):** Funding is essential for the successful establishment and management of diversified activities. This involves providing financial support, resources, and ongoing assistance to ensure the effective implementation of identified livelihood diversification options. The full cost covers financial support, resources, monitoring, and ongoing support for the implementation of diversified activities.
- **Promotion of Market Linkages (4.4):** The requested funds will support the promotion of market linkages, enhancing the economic viability of diversified activities and improving income for community members. This includes market research, development of market linkages, and ongoing support for sustained market access. The full cost encompasses market research, the establishment of linkages, and ongoing efforts to ensure sustained market access.

The diverse activities, ranging from gender-responsive options identification to market promotion, require adequate financial support to ensure successful and sustainable implementation.

3.2. Project Theory of Change

Project overall Impact

Through the collaborative implementation of the components, the project seeks to achieve a transformative impact in the targeted communities. By raising awareness, enhancing water security, promoting climate-smart agriculture, and diversifying livelihoods, the project aims to

create resilient communities capable of adapting to and mitigating the challenges posed by climate change. The interconnectedness of these components is expected to lead to improved well-being, increased economic stability, and enhanced climate resilience among the target communities. By fostering ownership, collaboration, and sustainable practices, the project's impact is expected to extend beyond its duration, creating a foundation for a more climate-resilient and prosperous future for the targeted rural communities.

Component 1: Strengthening Climate Risk Reduction and Adaptation Planning at the Local Level: Building Awareness, Understanding, and Ownership

- Outcome: Empowered communities and stakeholders, proactive climate adaptation actions, climate-responsive decision-making, ownership of climate resilience.
- Outputs: Increased awareness of climate risks, improved knowledge and capacity, enhanced community engagement, gender-responsive strategies.
- Activities: Conduct awareness campaigns, facilitate knowledge sharing and capacity-building sessions, engage communities and stakeholders, develop gender-responsive strategies.
- Inputs: Awareness campaigns, knowledge sharing, capacity building and gender analysis tools.

Component 2: Water Security, Climate Resilience, and Women's Empowerment

- Outcome: Improved agricultural productivity, reduced vulnerability to climate risks, enhanced gender equality, increased water security.
- Outputs: Increased access to safe water, adoption of climate-resilient practices, enhanced women's participation, climate-responsive decision-making.
- Activities: Improve water access, promote climate-resilient agricultural practices, empower women, integrate climate resilience into decision-making.
- Inputs: Collaboration among stakeholders, water management expertise.

Component 3: Climate Smart Agriculture and Livestock Rearing

- Outcome: Enhanced agricultural and livestock resilience, increased productivity, reduced greenhouse gas emissions, strengthened rural livelihoods.
- Outputs: Diversified crops, weather information, enhanced farmer knowledge, improved soil and water management practices, increased awareness of agroforestry, improved health, increased productivity, and adaptability of the livestock, sustainable land use, protected ecosystems, and enhanced productivity.
- Activities: Provision of climate-resilient crops and seeds, forage development and utilization, livestock husbandry practice, share weather data, educate farmers on climate-responsive practices, implement sustainable soil and water management, promote agroforestry.
- Inputs: Agricultural expertise, technology, collaboration with local experts.

Component 4: Livelihood Diversification

- Outcome: Reduced reliance on subsistence farming, steady revenue streams, enhanced economic resilience, improved crop pollination, and biodiversity.
- Outputs: Diversified income sources, increased market accessibility, improved beekeeping skills.
- Activities: Introduce cash crops, vegetables, fruits, and beekeeping, provide training and technical support.
- Inputs: Training resources, community engagement.

4. Baseline of the Project Weredas and Kebeles

4.1. Amhara Region

The Amhara region is situated in the northwestern and north central part of Ethiopia. It is one of the four largest regions, with a population of 21.1 million. 84% of the population live in rural areas and are engaged in agriculture (UNICEF, 2018). Crops that are grown in the region include teff, barely, wheat, oil seeds, sorghum, maize, oats, beans, and peas (UNICEF, 2019a). Large number of livestock, 8,314,200 (27.9% of the national total), are found in the region. The region has various water resources, including Lake Tana, and several rivers that provide great potential for irrigation development (UNICEF, 2019a).

Although there has been consistent decline in monetary poverty, largely due to agricultural growth and benefits from program such as the Productive Safety Net, there is still a lot to be done to meet the SDG targets for the region. Over one-quarter (26%) of the population live below the national poverty line (the SDG target being 13%) and almost one-third (31%) live below the food poverty line (SDG target 16%).

The climate in Amhara region is affected significantly by changes and weather variations: farmers face droughts, frost, hailstorms, flooding, and landslides. Localized flooding of fields by rainfall run-off is a frequent problem. It was estimated that more than 100,000 people were at risk of flooding and more than 25,000 people were likely displaced in 2018 (UNICEF, 2019a).

According to the 2016 Ethiopia Demographic and Health Survey (EDHS), 64% of households use improved drinking water sources in the region, with only about 17% of water sources being piped. The Ethiopia Socioeconomic Survey (ESS) 2017 shows that 37% of households spend 30 minutes or more reaching the nearest water source, fetching water, and returning to their dwelling. As in other parts of the country, women and girls are mainly responsible for fetching water. The availability and sufficiency of drinking water is 82% and 75%, respectively.

In terms of gender issues, as in most other regions of Ethiopia, Amhara women and girls are traditionally labelled as nurturers and caregivers; thus, childcare responsibilities often fall exclusively on them. 83% of first marriages are decided by parents and 64% of women stop attending school after marriage, with the main reason being that they are too busy with family life (UNICEF, 2019a). Moreover, Amhara women are often denied their share of inheritance when their parents or husbands die. It is also common for women to be excluded from decisions on common property in marriage and to be denied their due share during a divorce (UNICEF, 2019a). Gender-based violence is high in Amhara region, with women aged 15-49 reporting psychological (26%), physical (22%) and sexual (10%) violence. Further, 65% of women and 46% of men believe that a husband is justified in hitting or beating his wife in various circumstances (UNICEF, 2019a). A study on gender mainstreaming in selected sectors in the Amhara region shows that, despite the existence of legal and policy frameworks, in practice gender mainstreaming is not being implemented. It is also not taken into consideration in the region's plans, implementation, monitoring and evaluation and budgeting. Therefore, more work is needed to see changes on the ground (Bishaw, A., 2015).

Amhara Region Target Area: Mida Weremo Woreda

The target woreda in Amhara region, Mida Weremo, has a total population of 119,985 (F= 60,381; M= 59,604). Literacy in the woreda is low, 18% for men and 5% for women. Current school enrolment for boys is 75% and only 39% for female mainly because of early marriage, household responsibilities and gender-based violence.

Three kebeles in the Woreda, namely Tegora, Dengore, and A/Bayne are selected for this project. The kebeles have a total area of 12,348 ha. The total population of these kebeles is 13,518 (F=6,631; M=6,887). There are 871 female headed households (FHHs) and 2,127 male headed households (MHHs) in the kebeles.

In the past five years, the kebeles have been affected by drought and 5,671 people are being provided with support. There is shortage of clean drinking water sources in the kebeles and only 30% of the total population in Tegora and Dengore kebeles and 38% in A/Bayne have access to clean water. The sources of water available include river, spring and hand dug wells. On average women and girls walk for 3 kms each day and spend 3 hours/day to collect water. Women and girls are exposed to gender-based violence while they travel to fetch water. They are also more exposed to water borne diseases. A total of 130.5 ha land is under small irrigation and 592 MHHs and 80 FHH benefit from these schemes currently.

The day-to day tasks of women and girls include household tasks such as cleaning, fetching water, collecting firewood, cooking, taking care of children and washing clothes, and farm-based tasks such as weeding, harvesting and livestock management. On the other hand, men and boys are responsible for farm-based tasks such as livestock herding, land clearing, ploughing, harvesting and post-harvest chores as well as community involvement.

Some alternative livelihoods are already carried out in the kebeles with women mostly focusing on poultry production, vegetable and herbs gardens and petty trade while men focus on weaving, livestock fattening, plantation of woodlots, crafts as well as sand and stone mining. People with disability are also involved in petty trades, cattle keeping and metal works.

The climate risk awareness of the communities in the kebeles is indicated as medium for men and low for women and youth. Some of the climate adaptation and mitigation works underway in the kebeles include physical and biological soil and water conservation measures, use of improved crop varieties, preparation of compost, planting along the contour and agroforestry, water management and small-scale irrigation.

4.2. Central Ethiopia Region

The Central Ethiopia Regional State was formed in August 2023 after a referendum. It was from the previous northern part of the Southern Nations, Nationalities and Peoples' (SNNP) Region. The new region comprises East Gurage Zone, Gurage Zone, Hadiya Zone, Halaba Zone, Kembata Zone, Silte Zone, Yem Zone, Kebena special woreda, Mareko Special woreda and Tembaro special woreda. As the region is quite new, information in this section is for the wider SNNP regional state.

SNNP Region is in the southwestern part of Ethiopia. It has an estimated population of 20 million people with 14% under 5 years of age and 47% less than 17 years of age. The average household size is 5.2. The fertility rate is decreasing and is 4.4 for women aged 15-49 (UNICEF, 2019c). About 83% of the population live in rural areas and are mostly farmers, even though there are agro-pastoralists and pastoralists communities in the region (UNICEF, 2019c).

With about 65% of the region being mountainous and above 1,500m elevation and the rest lowland with grass and bush, the region has diverse climate, topography, and ecology. The lowest-lying areas are found the southern part of the region where pastoralists reside due to little rainfall. The higher elevations on the other hand receive adequate rainfall and crop production is possible. Climatic shocks such as high temperature and rainfall, prolonged droughts and intense floods are projected for the coming decades. The high population growth

and density coupled with other factors such as competition for land, migration of the youth, poverty, poor infrastructure, degraded environment, lack of farming technology and low level of education makes it harder for communities to cope with climatic shocks. Women and girls face greater risks, burdens and impacts of climatic shocks as they exacerbate already existing gender inequalities (UNICEF, 2019c).

The region has consistently reduced monetary poverty in the past several years despite frequent shocks. People living under the national poverty line are 10.4%, while those living below the food poverty line are 12.3%. As in most of the other regions, rural monetary poverty (22%) is higher than urban poverty (14%) (UNICEF, 2019c).

There has also been progress in maternal health indicators with the rate of mothers receiving antenatal care from a health provider had reached 69% in 2019 from 27% in 2011. Child delivery in health facility has also reached 48% in 2019 which is equal to the national average. However, the quality and coverage of maternal, new-born and child health services remain low (UNICEF, 2019c).

The Ethiopia Demographic and Health Survey (EDHS) (2016) indicate 59% of households use improved drinking water sources with 84% availability and 81% sufficiency. However, pastoralists in the region still depend on unprotected water sources like river water. The average time to collect water is more than 30 minutes for 36% of households in the region. This affects mostly women and girls as they are mainly responsible to collect water for their households (UNICEF, 2019c).

According to the EDHS 2016 the median age of first marriage in the region is 18.2 years for women aged 20-49 years. Even though this is considerable high and above the national average, a significant progress is seen for those aged 20-24 with a decline from 62% in 1991 to 31% in 2016. Even though female genital mutilation is decreasing among the younger generation, it is still of high concern in the region with a prevalence rate of 62% among women aged 15-47 (UNICEF, 2019c).

Like most part of the country men in the region hold power in private and public life. The social system has rooted gender stereotypes where women and girls are expected to focus in the domestic sphere which is considered inferior (UNICEF, 2019c).

Central Ethiopia Region Target Area: Fofa Woreda

The target woreda in Central Ethiopia region, Fofa, has a total population of 49,889 (F= 28,568; M= 21,321). Two kebeles, Semo Awasho and Upper Kesheli are selected for this project. The kebeles have a total area of 2,476.48 ha. The total population of these kebeles is 6,251 (F=3,544; M=2,707). There are 224 FHHs and 950 MHHs in the kebeles.

In the past five years, the kebeles have been affected by flood, landslide, and fire and 133 people are being provided with support. There is shortage of clean drinking water sources and only 33% and 67% of the total population in Semo Awasho and Upper Kesheli have access to clean water, respectively. The sources of water available include piped, deep wells and springs. Giardia, typhus and amoeba are major health challenges faced as a result of water insecurity. On average women and girls walk for 2.2 and 1.3 kms each day and spend 2.3, and 1.3 hours/day to collect water in Semo Awasho and Upper Kesheli, respectively. A total of 27.9 ha land is under small irrigation and 401 MHHs and 101 FHH benefit from these schemes.

Women and girls are mostly engaged in water and firewood collection, over all household chores as well as farm management including harvesting while men and boys are involved in

farming and livestock husbandry. Boys also help in wood collection. Women and girls have heavy load as they are responsible for the household. As a result, girls have very limited time to be actively engaged in their education. On the other hand, boys are tied with field work and many face the challenge of unemployment.

Some alternative livelihood activities in the kebeles include vegetable and herbs gardens and crafts for men and girls and weaving and petty trades for men and boys. People with disability are engaged in crafts, poultry management and children management. The estimated level of education in the kebeles are: 40% for women, 60% for men, 75% for girls and 85% for boys.

The climate risk awareness is indicated as high for men, medium for women and low for the youth. Some climate adaptation and mitigation activities in the kebeles include biological and physical soil and water conservation practices and plantation of indigenous trees.

4.3. Oromia Region

Oromia is the largest region in Ethiopia, occupying approximately 34% of the land area and accounting for 37% of the population. The total population is over 37 million. Under-18s account for 54% of the population (CSA, 2017b). The fertility rate in Oromia is higher than the national average, with a total fertility rate of 5.4 compared to the national rate of 4.6 (CSA, 2016). The average household is also large, at 5.2 people per household compared to the national average of 4.8 people per household (CSA, 2017c).

Oromia has a diverse range of agro-ecological zones. Sedentary rain-fed agriculture and livestock production dominates in the highland areas while the lowlands are characterized by pastoralist communities who depend on livestock production (UNICEF, 2019b). The region is divided into 20 administrative zones, with 84% of the population living in rural areas (CSA, 2019). Oromia has experienced high and sustainable economic growth, due primarily to growth in the agricultural sector; however, there are limited off-farm job opportunities in the region, especially for youth (UNICEF, 2019b).

Strong agricultural growth, positive results from the Productive Safety Net Program (PSNP), and implementation of pro-poor economic and social development policies and strategies have all contributed to an increased per capita income in the region (World Bank, 2015). The region succeeded in achieving a 16% decline in monetary poverty between 2004/05 and 2015/16 (FDRE, 2017). A poverty analysis study in 2015/16 found that the poverty headcount ratio in Oromia was 23.9%, just above the national average of 23.5 percent (FDRE, 2017).

Oromia region has the most repeated beneficiaries of relief food in Ethiopia, especially between 2016 and 2018 due to extreme droughts (UNOCHA, 2019). In 2022, the region had 792,686 internally displaced persons due to conflicts and climatic shocks (IOM, 2022).

The proportion of pregnant women who gave birth in the five years and who received antenatal care from a skilled health provider during their pregnancy is 71%, the fourth lowest rate in Ethiopia. Only 44% of births are assisted by a skilled attendant (doctor or midwife) and 56% of women give birth without any assistance during delivery.

There is high prevalence of malnutrition, with serious implications for social and economic development. In Oromia, 28% of child deaths are associated with under-nutrition (CSA, 2016), with 36% of children under 5 stunted, 5% wasted and 16% underweight (EPHI, 2019). Stunting is associated with low socio-economic status and mothers' educational attainment: the children of mothers with no education are more than two times more likely to be stunted than those whose mothers have completed secondary or higher education (EPHI, 2019).

The gross enrolment ratio (GER) and the net enrolment ratio (NER) for pre-primary education in Oromia are low (29.4% and 16.4%, respectively) and far below the national average of 40.7% and 23.9%, respectively. Only 46% of students complete the first cycle of primary education (grade 4) and the dropout rate in primary schools is 20%, higher than the national average of 17.5%. Some of the reasons for high dropout rates and grade repetition include demand for child labor by rural households, child marriage, abduction of girls, long distances to schools, internal migration due to climate change, drought, and conflicts (MoE, 2018).

About 17% of water sources in Oromia are piped and 63% of households use improved drinking water sources, marginally fewer than the national average of 65% (CSA, 2016). 28% of households spend more than 30 minutes bringing water to their houses compared with the national average of 32% - reflecting progress in water infrastructure and the availability of water sources. As elsewhere in the country, women and girls are mostly responsible for fetching water (UNICEF, 2017a).

Lack of water supply and proper facilities, as well as hygiene products in schools, are major challenges for girls, leading to girls missing (and some even dropping out of) school due to menstruation. 90% of schools never have water available and 100% of schools never have soap available. There is a clear need for a gender-inclusive approach to improving water supply, sanitation and hygiene infrastructure in schools, in order to address school absenteeism, performance and completion (UNICEF, 2017b).

Dependency on land and weather for agricultural and livestock production is a key vulnerability for many households in Oromia (World bank, 2015). Climatic shocks contribute to increased internal conflicts because of trans-boundary competition over resources, such as grazing land, arable land, and water (UNICEF, 2014).

There was an increase in the average median age of marriage in Oromia between 2000 and 2011; however, progress has since stagnated and currently stands at 17.4 years. There has also been a decline in child marriage rates, from 58% in 1991 to 48% in 2016 – but still well above the national average of 40% (CSA, 2016).

In coming decades, rising temperatures, extraordinary rainfall events and more intense and prolonged droughts and floods are projected (World Bank, 2010). The high prevalence of poverty, high rates of malnutrition, high population growth and low climate adaptive capacities increase vulnerability to climate change (World Bank, 2010). Women and girls experience greater risks, burdens, and impacts of climate change, as emergencies exacerbate existing gender inequalities (CEDAW, 2018). During climate change-induced emergencies, formal and informal protection mechanisms break down and human rights abuses increase, resulting in increased gender-based violence that affects women and girls disproportionately (UNICEF, 2019b).

As in most other regions of Ethiopia, Oromia Regional State has a patriarchal society in which men hold primary power in private and public life. Women and girls have traditionally performed their roles in the domestic sphere, and these activities are often considered inferior. Women and girls are labelled nurturers and care givers, with the result that childcare responsibilities often fall exclusively on them (UNICEF, 2019b).

In line with the national average, in Oromia 35% of women (aged 15-49) decide for themselves to marry, while parents make the decision for 61% (CSA, 2016).

Oromia Region Target Area: Tullo Woreda

The target woreda in Oromia region, Tullo, has a total population of 200,656 (F= 97,920; M= 102,736). Four kebeles, Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto are selected for this project. The kebeles have a total area of 5,132 ha. The total population of these kebeles is 24,013 (F=11,747; M=12,266). There are 878 FHHs and 4,126 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and flood and 5,477 people are being provided with support. There is shortage of clean drinking water sources and only 16%, 44%,39%, and 41.5% of the total population in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto have access to clean water, respectively. The sources of water available include river, spring and wells in Burka Jelala and spring in the rest of the kebeles. It is indicated that diarrhea, giardia, and worm related diseases are common in the Kebeles as a result of water insecurity. On average women and girls walk for 2.5, 2, 1.8 and 2.7 kms each day and spend 2.3, 2, 2, and 3 hours/day to collect water in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto, respectively. A total of 267 ha land is under small irrigation and 600 MHHs and 76 FHH benefit from these schemes.

In the household women and girls are responsible mainly for cooking, water collection, childcare, goat/sheep herding, cattle herding, poultry production, firewood collection, other household chores, petty trade, and collection of animal dung, vegetable production, livestock feeding, weeding, goat rearing. Men and boys on the other hand are responsible for farming, land clearing, petty trade, work as daily labor, oxen fattening, livestock production.

The major challenges faced by the communities include lack of fuel wood due to deforestation, access to potable water, lack of livestock feed, distance to fetch water, and access to market, soil erosion, shortage of cultivable land, lack of irrigation water, lack of improved seeds, erratic rain fall due to climate change and deforestation, over grazing, lack of improved fodders, and lack of improved breeds of livestock.

The climate risk level of awareness in the selected kebeles are indicated as medium for men and youth while it low for women.

4.4. Somali Region

The Somali regional state is in the east and southeast part of Ethiopia. It is about 350,000 square kilometre and is the second largest region in the country after Oromia in terms of land mass. The total population is about six million with 16% under-five years of age and 64% between 0-19 years of age. The fertility rate was 7.2 in 2016 and is the highest in the country. Most of the population are pastoralists, followed by agro-pastoralists; very few are sedentary riverine farmers and urban-based households. Sources of income include livestock and livestock product sales, crop sales, petty trade, firewood and charcoal sales and remittances from family members abroad (UNICEF, 2019).

The region is among the four regions in the country that are identified as Developing Regional States due to high poverty prevalence and social indicators are lagging-behind the national averages. People living below the national poverty line are 22.4% in 2016 while those living below the food poverty line were 25.5%. It is the only region where rate of urban people in poverty (23%) is higher than that of rural people (22%) and urban food poverty (29%) is also higher than rural food poverty (23%) (UNICEF, 2019).

Somali region has high rates of malnutrition of children under the age of five; the region is faced with chronic food insecurity. The region has shown improvements in health infrastructure including mobile health and nutrition teams; however most maternal indicators are still below the national averages. Mothers who received antenatal care during their pregnancy from a health professional was 30.2% and those who delivered in a health facility were 26% and only 10% received postnatal care within 48 hours in 2019 (UNICEF, 2019). Not much progress is seen in reducing the neonatal mortality rate, in 2016 41 deaths were recorded per 1,000 births.

Water is a scarce resource in the region, it has the lowest percentage (42%) of households accessing improved drinking water in the country. Except for four riverine zones, the main source of water supply is ground water. Breakdown of borehole-based water supply systems is common further complicating the water challenges the communities face. Since less than 20% of households report men as primary water collectors, the shortage as well as distance to access water has a gender dimension (UNICEF, 2019).

Even though child marriage has improved in the region, the percent of women ages 20-24 years who married before age 18 was 50% in 2016, indicating there is still a long way to go (UNICEF, 2019). The female genital mutilation is the highest in the country among women aged 15-49 at 99% (UNICEF, 2019).

The Somali region is arid and semi-arid in the lower-lying areas, receiving 300 millimetres or less of rain while it gets more rainfall (400 – 600 millimetres) in the higher altitude areas. The regions have few rivers where agricultural crop production is possible. The communities face water deficits for both human and livestock consumption. The pastoralists systems which have flexibility and mobility as well as changing of herd composition has allowed the community to cope harsh challenges. However, a combination of different factors including population growth, environmental degradation and climate change affect the resource availability including pasture and water (UNICEF, 2019).

The 2016 EDHS shows that 68% of women aged 15-49 decided themselves on their first marriage while for the remaining 32% decision was made by their parents. This is a high rate of independence in making decision compared to the rest of the country. 53% indicated that they stop attending school after marriage mainly due to the high demand of family life followed by refusal of husbands to their continued education. Most girls are married before age 18 and almost none of them (1.4%) use modern contraceptive methods (UNICEF, 2019).

Of those women currently married and aged 15-49, 29% are in a polygynous union. Women however are not entitled to inheritance when parents or partners die or in divorce. They are also excluded from decision making in the household. On the other hand, only 12% of households receive some involvement from their husbands in household chores (UNICEF, 2019).

Somali women and girls experience greater risks, burden, and impact due to climate change as emergencies exacerbate existing gender inequalities (UNICEF, 2019)

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Somali region, like Afar, has not yet outlawed child marriage (Presler-Marshall, E. et al, 2022). 55% of girls aged 20-24 had married before the age of 18 (Presler-Marshall, E. et al, 2022). Girls however indicate that they choose their partners. Only 20% of sexually active young

women use contraception. The region has one of the highest (18.7%) of adolescent motherhood in the country (Presler-Marshall, E. et al, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. et al, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. et al, 2022). Nationally it is reported that 20% of children aged 7-14 are out of school but in Somali it is 54%. Due to cultural factors girls have less access to education with enrolment rates being 23% for boys and 16% for girls Presler-Marshall, E. et al, 2022).

Somali Region Target Area: Shabelay Woreda

The target woreda in Somali region, Shabelay, has a total population of 343,850 (F= 168,718; M= 175,132). Two kebeles, Wooble and Biyo-Cade are selected for this project. The kebeles have a total area of 4,821 ha. The total population of these kebeles is 30,139 (F=13,550; M=16,589). There are 1,931 FHHs and 2,484 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and 3,292 people are being provided with support. There is shortage of clean drinking water sources and only 19% and 10% of the total population in Wooble and Biyo-Cade have access to clean water, respectively. The sources of water available include deep wells, seasonal rivers, springs, and rainwater harvesting. On average women walk for 3 and 2 kms each day and spend 2, and 1.3 hours/day to collect water in Wooble and Biyo-Cade, respectively. A total of 2,467 ha land is under small irrigation and 3,563 MHHs and 1,216 FHH benefit from these schemes.

In the kebeles women are mostly responsible for household chores including water and firewood collection and the girls held me cleaning houses, cooking, and firewood collection. Women and girls also work in the farm mostly weeding. Men are responsible for farming and livestock management while boys are encouraged to focus on education. Women and girls are the least educated in the kebeles.

4.5. Tigray Region

Tigray region is in the dry lands of northern part of Ethiopia with an estimated population of 5.4 million people. In 2018, Tigray had a higher percentage (34%) of female headed household compared to the national rate (25%). Though three out of four live in rural area and depend on agriculture, urbanization has increasingly become a priority with an annual rate of 4.6% (UNICEF, 2019).

Even though the region has demonstrated impressive agricultural growth and pro-poor spending on basic services and social protection, the region still had the highest monetary poverty in the country in 2016. 13.5% of people live under the national poverty line and 16.5% live below the food poverty line. Women are more likely to live in poverty than men with 43% and 24% of women living in monetary and food poverty as compared to 22% and 11% of men, respectively (UNICEF, 2019).

The region has progressed in several child and maternal health and nutrition indicators. In antenatal care the region has performed much better than the national average. This is stated to be due to a high regional priority given to maternal mortality (UNICEF, 2019).

72.1% of households in the region use improved drinking water sources, which is the largest share of all regions and above the national average of 66%. However, still one third of

households are located more than 30 minutes away from water sources. Like in other parts of the country the responsibility of fetching water fell on women and girls (UNICEF, 2019).

There is still high level of sexual harassment and violence in the region. 65% of women believe a husband is justified in beating his wife while 31% men share the same opinion. Improvement is seen in early marriage in the region which was 43% in 2016. Female genital mutilation has also been decreasing in the region which is 24.2% and the lowest in the country (UNICEF, 2019).

The region is vulnerable to climate stress and is highly affected by environmental degradation. Drought, hailstorms, floods, and landslides put people at high environmental risk. In the lowlands and degraded highland areas of the region, minimum agricultural production and scarcity of drinkable water are high challenges. Extreme temperatures and intense rainfall and droughts are projected to be major environmental challenges in the region in the coming years (UNICEF, 2019).

In the region women and girls have limited mobility, fewer economic opportunities, and less decision-making power due to socio-cultural factors. There is inequality between men and women when it comes to ownership and decision making. While women participation in politics is increasing grassroots participation remains low (UNICEF, 2019).

A study done in parts of Tigray showed that the top climate-change related impacts that affect their livelihoods are drought (97%), flooding (76%), pests and disease (62%), and other hazards (39%). The impacts of climate-change were found to be more sever on female-headed households mainly due to their lack of resource access and control, lack of income and technology use and high dependence on natural resources. Some of the coping strategies identified in the area included water harvesting practices, soil and water conservation, irrigation, diversifying income sources and agricultural inputs and adjustment of planting dates and crop varieties (Assefa, E. and Gebrehiwot G., 2023).

Tigray Region Target Area: Sewha Saese Woreda

The target woreda in Tigray region, Sewha Saese, has a total population of 66,004 (F= 34,305; M= 31,699). Two kebeles, Saesie and Koma Subuha are selected for this project. The kebeles have a total area of 10,143.62 ha. The total population of these kebeles is 15,726 (F=8,141; M=7,585). FHH in the kebeles are slightly higher than MHH - 1,698 and 1,627, respectively. In the past five years, the kebeles have been affected by drought and 13,624 people are being provided with support. There is shortage of clean drinking water sources and only 38% and 25% of the total population in Saesie and Koma Subuha have access to clean water, respectively. The sources of water available include hand dug wells, DW, SHW and spring development. On average women walk for 5 kms each day and spend 3 hours/day to collect water. A total of 133.5 ha is under small irrigation and 1,090 MHH and 493 FHH benefit from these schemes.

4.6. Afar Region

The Afar region is in the north-eastern part of Ethiopia. It has an estimated population of about 1.9 million people (UNICEF 2019). The region is one of the regions in Ethiopia with poor reproductive health indicators with only 50.7% of women receiving antenatal care at least once (Desalegn, M. et al, 2020). The region has a high fertility rate of 5.5 in 2016 (UNICEF 2019). However about 84% of births occur at home without close supervision by a skilled provider

(Desalegn, M. et al, 2020). The region has the highest rate of teenage childbearing and lowest proportion of women who would like to limit childbearing (Desalegn, M. et al, 2020). The median age of first marriage is 16.4 years of age. Pregnancy and childbirth complications are the leading cause of death in Afar women aged 15-19 years. The number of women aged 15-49 who have undergone some form of female genital mutilation is about 98% (Desalegn, M. et al, 2020). One in five women are in polygamous union with 11% men having two or more wives (Desalegn, M. et al, 2020).

In the region child marriage is not outlawed and seem to be increasing since 2000 (Presler-Marshall, E. etal, 2022). Marriages in the region are arranged and girls are married to their maternal cousins with no choice at all (Presler-Marshall, E. etal, 2022). Only 12% of sexually active young women use contraception and the region has the highest rate (23.4%) of adolescent motherhood in the country (Presler-Marshall, E. etal, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. etal, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. etal, 2022). Nationally it is reported that 20% of children aged 7-14 are out of school but in Afar it is 66%. Due to cultural factors girls have less access to education with enrolment rates being 11% for boys and 9% for girls Presler-Marshall, E. et al, 2022).

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Afar people are mostly pastoralist or agro-pastoralist and highly depend on livestock. Agro-pastoralism is increasing because of increased irrigation systems in the region and crops like sorghum, maize, barely, teff and cotton as well as honey production are among resources the community generates income from.

A decline in poverty has been recorded for afar in recent years, with a 32% decline between 2000 and 2016. People living below the national poverty line in 2015/16 were 24% while the people living below the food poverty line was 28.3%. Both Monetary and food poverty are worse in rural areas when compared to urban areas (FDRE, 2017)

According to the Mini-EDHS key indicator report of 2019 Afar has achieved many improvements in maternal health indicators, however, most of the rates are still under the national average (EDHS, 2019).

Child malnutrition is a critical challenge in Afar with 43% prevalence rate of stunting. It is shown that 41% of children with mothers who has no education and 14% of children with mothers with higher education are stunted indicating mother's education has a role in child stunting (UNICEF, 2019). Girls who give birth at a younger age do not complete secondary school education limiting their life choices throughout the course of their lives (Desalegn, M. et al, 2020).

In the Afar region, access to good quality and quantity of food is at stake for women and girls as priority is given to men and boys (Balehey, S. et al, 2018). Women and girls eat what is left by husbands and sons. This becomes a critical challenge during drought where resources are scarce (Balehey, S. et al, 2018).

In Afar, women have limited access to wealth due to the traditional asset inheritance which does not entitle them to any kind of wealth including what they have earned and produced (Balehey, S. et al, 2018). Inequality in wealth starts at birth where female children are either totally excluded or at most receive only half of their male siblings. This inequality is also seen during divorce where women traditionally are not entitled to share any asset, while recent use of the Sharia laws entitle them to take only a third of the household asset (Balehey, S. et al, 2018). All these inequalities affect the survival ability of women during drought and other climate related stresses. Thus women and girls are regularly affected by nutrition and sanitation related health problems (Balehey, S. et al, 2018).

Women are also excluded in household decision making which at times puts the health and wellbeing of women at stake (Balehey, S. et al, 2018). Women are not involved in rangeland assessment before migration, this means priority is given to what men believe are critical such as availability of grass, absences of livestock diseases and predators etc., and other factors important to women such as proximity to water and health centres are not taken into consideration leading to a lot of suffering to the women (Balehey, S. et al, 2018).

Women's contribution to household during drought times increases as they collect famine foods to feed their family and travel longer distances to fetch water (Balehey, S. et al, 2018). Therefore, with the lower nutritional attention they get a decline in health is seen in women in addition to their exposure to sexual harassment and violence (Balehey, S. et al, 2018).

Therefore, gender-based differences in vulnerability and adaptive capacity needs to be recognized for the development and implementation of gender-sensitive adaptation measures (Balehey, S. et al, 2018).

Afar Region Target Area: Awash Fentale woreda

In the Awash Fentale Woreda, two kebeles, Kebena and Dudub are selected for this project. The kebeles have a total area of 74,200 ha. The total population of these kebeles is 12,609 (F=7,644; M=4,965). In the past five years, the kebeles have been affected by flood and 593 people are being provided with support. Similarly, several droughts in the past 10 years have resulted in lack access to grazing land and water access. Overall, there is a major shortage of clean drinking water sources and only 65% of the total population in each kebele have access to clean water.

The sources of water available include river and deep wells. Rivers in this woreda include the Awash and its tributary the Germama. A large portion of this woreda is occupied by the Awash National Park.

On average women walk for 5 and 6 kms each day and spend 3 and 4 hours/day to collect water in Kebena and Dudub, respectively. A total of 1,222 ha land is under small irrigation and 1,712 MHHs and 1,521 FHH benefit from these schemes.

5. Project Implementation Arrangements

The implementation of the ESMF will utilize the envisaged project implementation arrangements the structure of which is indicated below.

The Environment Protection Authority (EPA) has the authority to ensure ESIA is conducted for project that require them. Under the CRGE, implementing entities are Federal Government (FIE's, i.e. line ministries) and Regional Governments (RIEs, i.e. sector bureaus) while executing entities do the bulk of implementation. For this proposal, the implementing entity will be the Ministry of Finance (MOF).

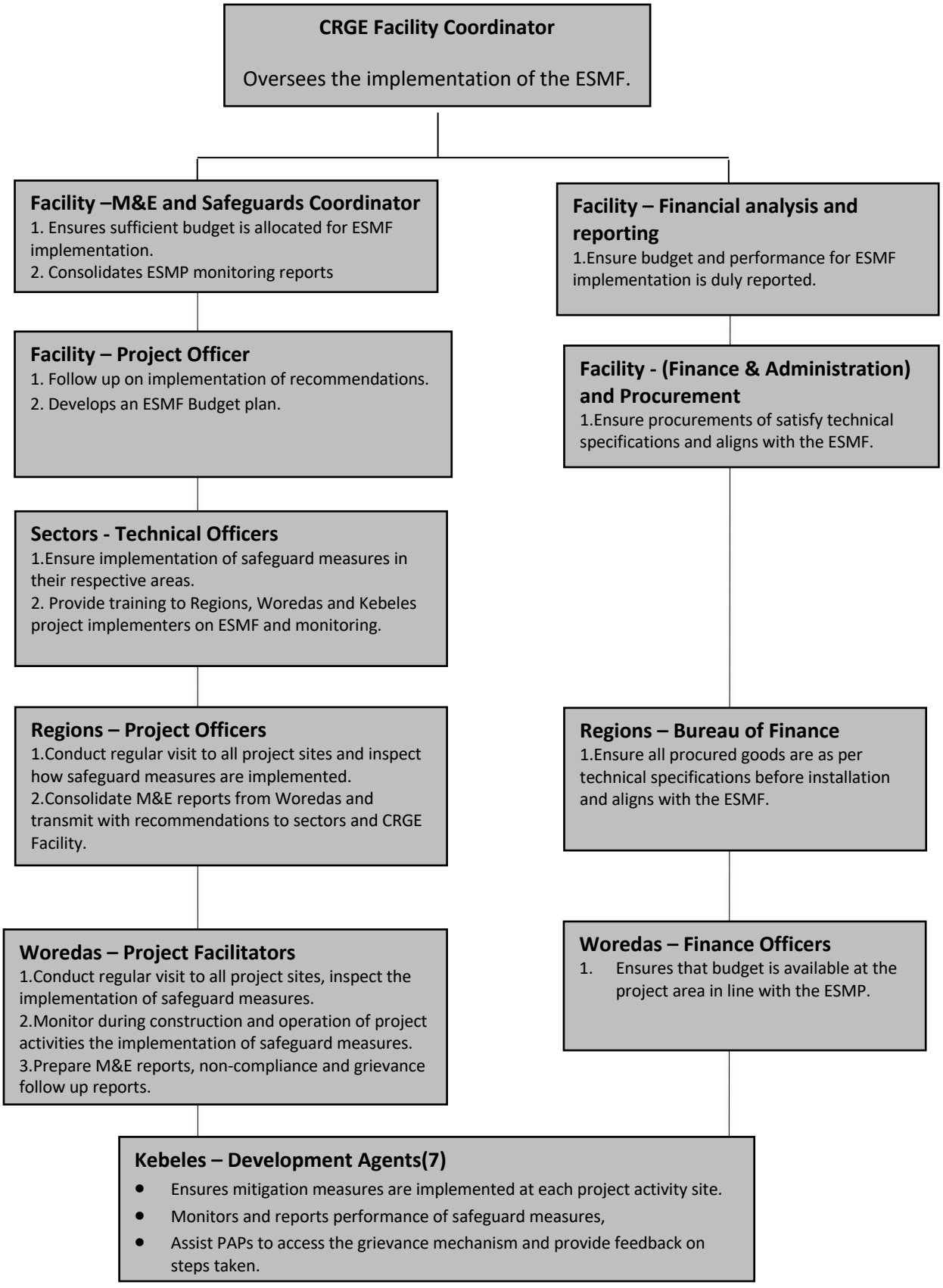
There are four Ministries of the GoE that will be executing entities, namely the Ministry of Agriculture (MOA), the Ministry of Irrigation and Lowlands (MILL), the Ministry of Water Energy (MOWE) and the Environmental Protection Authority (EPA). These federal government institutions have committed to work together under the overall coordination and leadership from the CRGE Facility of the Ministry of Finance (MOF).

The MOA, MILL, MOWE, and EPA will provide project management support for the project. In addition to carrying out the responsibilities, through its co-financing commitments, these federal government institutions will also support operations and management, and provide staff capacity and time, and provide infrastructure and facilities for project implementation. Each federal government institution has local offices at Woreda level and thus these local offices will undertake the actual implementation.

While the project is based on multisector and integrated approaches, the federal government institutions will work on a centrally coordinated basis with clear and specific responsibilities delegated to individual institution. Generally, all agriculture and natural resource related outputs will be delivered by MOA, water and energy related outputs by MOWE, forest and crosscutting climate change outputs by EPA, and irrigation by MILL. All work will be jointly planned and implemented under the coordination of the Woreda Administration Office.

The diagram below illustrates the implementation arrangement and responsibilities with regards to the ESMF development and implementation.

Figure 1: Implementation arrangement and responsibilities with regards to the ESMF development and implementation.



6. Key Issues and Proposed Actions within the ESMF

6.1. Eligibility Criteria

It is essential to ensure the activities undertaken in the context of Ethiopia's "*Climate Smart Integrated Rural Development*" project are in line with the legal requirements of the country and the AF's policies. In the previous sections the general alignment of the Ethiopian laws with the AF environment and social policy has been demonstrated.

In general, the following are ineligible activities under the proposed project, in line with national and internationally accepted principles:

a) Not significantly convert or degrade "natural habitat".
b) Not implement activities in "critical habitat".
c) Not implement activities in legally protected or internationally recognized areas unless:
d) Not develop a project on land that is traditionally owned or used by rural communities unless the risks are thoroughly assessed, rural communities are informed of their rights, rural communities continue to have access to resources, if possible, appropriate compensation is offered, and rural communities are offered a fair and equitable sharing of project benefits.
e) Not remove, significantly alter, or damage critical cultural heritage (such as internationally recognized or legally protected heritage sites), except in exceptional circumstances and in collaboration with affected communities.
f) Not discriminate but instead hire, compensate, manage, and lay off employees based on the principle of equal opportunity and fair treatment.
g) Not restrict workers from joining or forming workers' organizations or bargaining collectively, nor retaliate against workers who organize.
h) Not employ children (under 18) in any manner that is economically exploitative or harmful to the child's health, education, or social development.
i) Not employ forced labor or trafficked persons

6.2. Grievance Mechanism

The AF Environment and Social Policy states that *the implementing entities shall identify a grievance mechanism that provides people affected by projects/programmes supported by the Fund with an accessible, transparent, fair, and effective process for receiving and addressing their complaints about environmental or social harms caused by any such project/programme. The mechanism can be pre-existing, national, local, or institution, or project-specific*...[19]

The Ethiopian Institution of the Ombudsman (EIO) is a federal entity accountable to the Federal Parliament and responsible for ensuring that the constitutional rights of citizens are not violated by executive organs. It receives and investigates complaints in respect of maladministration; conducts supervision to ensure the executive carries out its functions according to the law; and seeks remedies in case of maladministration.

The Regional Public Grievance Hearing Offices (PGHOs) are regional entities accountable to their respective regional Presidents. They are responsible for receiving appeals, complaints and grievances related to public services and good governance; investigating these; and making recommendations and decisions to redress them. Most regions have established their PGHOs

[19] Adaptation Fund, Board 2016.Environnement and Social Policy (Revised in March 2016)

and have branches at zonal, woreda and kebele levels which are accountable to their respective chief administrator. At the kebele level, the Kebele Manager serves as the focal point.

A complainant has the option to lodge his/her complaint to the nearby EIO branch or the respective PGHO in person, through his/her representative, orally, in writing, by fax, telephone or in any other manner. Complaints are examined; investigated and remedial actions are taken to settle them. If not satisfied with the decision of the lower level of the GRM system, the complainant has the right to escalate his/her case to the next higher level of administration. In addition, some regions have mobile grievance handling teams at woreda level to address grievances by clustering kebeles; some have good governance command posts to handle cases that have not been settled by the Kebele Manager and woreda PGHOs. PBS 3 is supporting GRM system strengthening including the opening of new EIO branches**.**

Affected local communities should be informed about the ESMF provisions, including its grievance mechanism. Contact information of the Kebele, Woreda and Regional State **M&E and safeguard officer** should be made publicly available. As a first stage, grievances should be made to the Kebele designated **M&E and safeguard officer**, who should respond to grievances in writing within 15 calendar days of receipt. Claims should be properly filed at the office of the Woreda and Kebele Administrations, and a copy of the grievance should be provided to the Project Management Unit at MOFEC. If the claimant is not satisfied with the response, the grievance may be submitted to Project Implementation Unit at MOF.

This project will not result in involuntary resettlement and there will not be the expropriation of land. However, some components may require land for locating water wells, irrigation plots, metrological stations, storage facilities that may encroach on private properties. The Ethiopian government laws and AF principles contain appropriate provisions with regards to compensation. Proclamation 456/2005 includes provisions that are in line with AF Principles 2,8 and 9, and states, *"Holder of rural land who is evicted for purpose of public use shall be given compensation proportional to the development he, has made on the land and the property acquired, or shall be given substitute land thereon.'*

Proclamation No. 455/2005, article 3(1), states *"A Woreda or an Urban Administration shall, upon payment in advance of compensation in accordance with this proclamation, have the power to expropriate rural or urban land holdings for public purpose where it believes that it should be used for a better development project to be carried out by public entities, private investors, cooperative societies or other organs or where such expropriation has been decided by the appropriate higher Regional or Federal government organ for the same purpose ".*

The purpose of the complaint procedure is to ensure all complaints from local communities are dealt with appropriately, with corrective actions being implemented and the complainant being informed of the outcome. Both verbal and written complaints will be entered on the Complaints Log and the Complaints Action Form.

The complaints log provides a record to show that actions are tracked and carried out. It records:

- Date the complaint was reported,
- Person responsible for the complaint,
- Information on proposed corrective action sent to complainant,
- The date the complaint was closed out, and
- Date response sent to complainant.

Possible Grievance Redress procedures at the different levels of administration based on the study done for the National REDD+ Secretariat[20].

Level	Responsible Institution	Procedure
Federal Level	MOF + Project steering committee	EPA need to give response within one month
	Federal Ombudsman's Office	The Federal Ombudsman's can also give advice for unresolved issues before the case is submitted to the court
	Federal Court	Applicants may also pursue their cases through the court system, if they are not satisfied with the Grievance Redress System.
Regional Level	Regional Environment Office and PCU	If Applicants are not satisfied or referred to the regional environment office and the regional office should give response within 15 days,
	Regional Ombudsman's Office	Applicants may also get advice from the Regional Ombudsman's office
	Regional Court	Applicants may appeal to the court if it is not resolved at environment office
Woreda Level	Woreda Environment office	Applicants may raise their grievance to the Woreda environment office and response should be given within 10 days. If the Applicant are not satisfied by the response they can take the issue to the Regional PCU or Woreda formal court
	Woreda Ombudsman's Office	Applicants can also submit their apple to the Ombudsman's for advice
	Woreda Court	Applicants can submit their appeal to the formal court and continue with the formal process
Kebele* Level	Kebele Shengo	Local communities and other interested stakeholders (Applicants) may raise a grievance/complaint to the Kebele manager for grievance caused by the project and need to get a response within 10 days.

[20] MINISTRY OF ENVIRONMENT AND FOREST (MEF) OROMIA FOREST AND WILDLIFE ENTERPRISE (OFWE) 2015. OROMIA FORESTED LANDSCAPE PROGRAM (OFLP),RESETTLEMENT POLICY FRAMEWORK (RPF)

The following table provides very general guidance in consideration of compensation as related to the project at hand and the determination of compensation entitlements will have to worked out for specific sub-projects falling under the jurisdiction of government implementing agencies and types of property lost because of project implementation.

6.3. Compensation Entitlement Matrix

Loss Category	Entitlement Unit	Description of Entitlement
Loss of Trees and Crop	Landowner	▪ At least three months advance notice to be provided to farmers to harvest crop. In absence of advance notice, cash compensation based on annual value of the produce (crop compensation). ▪ Cash compensation based on annual value of the produce, in case of fruit trees and coppicing trees (for trees compensation
Loss of agriculture land	Landowner	▪ Cash compensation at replacement cost ▪ Any transfer costs, registration fees or charges ▪ Compensation for crops and trees if any ▪ Subsistence allowance equivalent to one year of minimum agriculture wages
Loss of property	households	▪ Compensation at replacement cost

6.4. Consultations and Public disclosure

The AF Environment and Social Policy requires that *"Implementing entities shall identify stakeholders and involve them as early as possible in planning any project/programme supported by the Fund. The results of the environmental and social screening and a draft environmental and social assessment, including any proposed management plan, shall be made available for public consultations that are timely, effective, inclusive, and held free of coercion and in an appropriate way for communities that are directly affected by the proposed project/programme. The secretariat will publicly disclose the final environmental and social assessment through the Fund's website as soon as it is received. The implementing entity is responsible for disclosing the final environmental and social assessment to project-affected people and other stakeholders. Project/programme performance reports including the status on implementation of environmental and social measures shall be publicly disclosed. Any significant proposed changes in the project/programme during implementation shall be made available for effective and timely public consultation with directly affected communities."*

This will allow the public and other stakeholders to comment on the possible environmental and social impacts of the project.

The IFC Guidelines on best practice in public consultation and disclosure outline issues to consider whilst undertaking public consultation and disclosure, as follows:

- Written and oral communications in local languages and readily understandable formats,

- Accessibility by relevant stakeholders to both written information and to the consultation process,
- Use of oral or visual methods to explain information to non-literate people,
- Respect for local traditions or discussion, reflection and decision-making,
- Care in assuring that groups being consulted are representative, with adequate representation of women, vulnerable groups, and ethnic or religious minorities, and separate meetings for various groups, where necessary, and
- Clear mechanisms to respond to people's concerns, suggestions and grievances.

In the context of this, consultation events were organized as part of the project preparation process. This was conducted to ensure that the voices and concerns of relevant stakeholders and local communities, particularly vulnerable groups, were integrated into the design and implementation of the climate-smart agriculture initiative. Several stakeholders were engaged throughout the project's planning stages including representatives from government bodies drawn from federal, regional and woreda levels, vulnerable groups such as women and pastoral communities. The consultations provided a platform for open dialogue, where participants could express their concerns, share their experiences with the impacts of climate change, and contribute ideas for building resilience. Special attention was given to marginalized groups, ensuring that their unique perspectives, especially regarding water access, agricultural productivity, health risks, and gender-based challenges, were captured and addressed in line with the project's goals. Through these discussions, the project sought to align its interventions with the real needs and priorities of those most affected by climate change. Furthermore, the consultative process was structured to align with the Environmental and Social Management Framework (ESMF) requirements ensuring compliance with the Adaptation Fund's Environmental and Social Policy and Gender Policy.

The initial stakeholder consultation took place on **2 and 3 October 2023** in Adama, Ethiopia, with around over 50 participants drawn from federal Ministry of Agriculture, Ministry of Water and Energy, experts from the CRGE Facility at the Ministry of Finance and relevant experts from **Oromia, Tigray, Afar, Somali, and Central Ethiopia** regions and from the project target woredas attended the workshop.

During the two days event, participants reflected positively on the outcomes of the previous Adaptation Fund-financed project, expressing their appreciation for the significant improvements in water access, strengthened climate resilience, and enhanced livelihoods within the target communities. Many participants highlighted how the project had successfully empowered local communities, particularly women and vulnerable groups, through capacity-building initiatives and improved access to resources. These achievements were seen as critical foundations on which the current project could build. Participants emphasized the importance of integrating these positive experiences and lessons learned into the design and implementation of the new project to further enhance its effectiveness and long-term impact. In addition to these reflections, participants emphasized the need to ensure the **sustainability of the project's outcomes**, particularly in relation to climate-smart agriculture and water security initiatives. They stressed that providing local communities with the necessary skills and resources would be crucial to ensuring that the benefits of the project endure long after its completion. **Capacity-building measures** and local ownership were identified as key factors in achieving this sustainability.

Participants also highlighted the importance of **water security and quality** in the target regions and woredas. They emphasized the need for advanced water management technologies, such as solar-powered irrigation systems to address water scarcity and improve water quality in these drought-prone areas, enhancing the resilience of local communities. The **inclusion of vulnerable groups**, especially women and pastoralists, was underscored by participants. They stressed that equitable access to project benefits must be ensured for these groups, and that their voices should be included in decision-making

processes. The role of women in water management and agriculture was seen as critical to the success of the project, and participants called for the continued involvement of women in all stages of the project's design and implementation.

Participants from regional governments also emphasized the need for **better coordination between federal and regional authorities**. They highlighted the importance of clear communication channels and coordination mechanisms to ensure smooth project implementation and avoid delays. Clear delineation of roles between federal ministries, regional bureaus, and local authorities was seen as essential to achieving project objectives. The issue of **gender mainstreaming** was strongly emphasized, with participants calling for greater efforts to address gender inequalities in resource access and decision-making. Women's empowerment was highlighted as a key component of the project, particularly in areas such as water management and climate-smart agriculture. Participants urged for specific training and capacity-building initiatives to enable women to play a leading role in their communities.

Finally, participants stressed the **importance of capacity building and knowledge sharing** as essential to the project's success. They emphasized the need for ongoing training programs at the woreda and kebele levels to ensure that local communities are equipped with the skills necessary to implement and sustain the project's interventions effectively.

7. Overall Social and Environmental Benefits

7.1. Social Benefits

The project has an explicit **learning component** that intends to build the capacity of the local communities and will provide opportunities for scaling up of innovative approaches and interventions in off project sites. This aspect will generate substantial social benefits in terms of enhancing local planning capacity, community involvement in decision making and will benefit wider communities later when innovative approaches are scaled up.

The overarching strategy of the project is to manage the risks from recurring droughts, floods, landslides, and erosion – both from current risks and under future climate change - through an integrated water, agriculture, and natural resource management nexus approach. enhance climate smart integrated water management, providing a reliable source of clean water for potable supply (reducing current health impacts) and reducing the climate risks from rain-fed subsistence agriculture, managing the watershed through physical and biological interventions such as bunds, trenches, terraces and afforestation and reforestation practices.

This project, through the above interventions, will provide employment opportunities to local populations. It is anticipated that the project will provide direct employment during the construction phase and at operational stage of components. Water supply systems under this program will ensure that the public in the targeted areas have access to clean water supply, a pre-requisite for health and sanitation. In promoting irrigation practice, the project will offer opportunities for high value crop productions that will increase the income of rural farmers resulting in enhancing their quality of life.

This is complemented with a low carbon, climate resilient livelihoods diversification interventions. The project is to be implemented in climate sensitive and vulnerable areas of Ethiopia. The value chain approach that ensures investment in production is complemented with efforts to ensure access to markets, will greatly benefit local communities in securing sustained income.

7.2. Environmental Benefits

The planned conservation structures by the project include stone or earth terraces, bunds, check dams and contour terraces, dams, grassed water ways, planting pits. These structures increase the time of concentration of runoff, thereby allowing more of it to infiltrate into the soil; divide a long slope into several short ones and thereby reducing amount and velocity of surface runoff; reduce the velocity of the surface runoff; protect against damage due to excessive runoff. Ultimately springs and water wells will yield more water and soil erosion will be avoided. In general, the structures will bring about environmental and social benefits to the communities of the kebeles. Conservation structures are basically environment enhancement interventions.

To accrue the environmental and social benefits of the physical structures, the structures should be designed and constructed following technical guidelines and specifications provided in the 2005 Ministry of Agriculture and Rural Development's "Community Based Participatory Watershed Development Guidelines Part 1 and 2."

Better productivity on less tilled land due to improved seeds will also contribute to soil conservation. Conservation structures are basically environment enhancing projects and agro-forestry provides sheds to plants, conserve water and protects from soil erosion.

7.3. Potential measures for the enhancement of the Environmental and Social Benefits of the Project

To enhance the benefits of groundwater wells, both hand pump and submersible pumps-based systems, proper training to operators and users should be provided. Adequate spare parts for all installations (hand pump, submersible pump, solar power systems, should be available on site along with appropriate workshops.

Ponds store rainwater or diverted water from perennial or intermittent rivers and are usually used for livestock watering. Some communities use pond water for drinking and domestic use. Pond waters are turbid and are often polluted.

Additional structures need to be incorporated to make ponds socially acceptable and fulfill environmental requirements. These include installation of hand pumps in wells dug near the ponds and construction livestock troughs away from the ponds. Considerations should also be taken in the design of the ponds for loss of water through evaporation and infiltration based on meteorological and soil characteristics around pond constructions.

Caution should be exercised to avoid polluted water from entering ponds usually from washed fertilizer and pesticides from adjacent farmlands.

The Environmental Protection Authority in its draft EIA guidelines recommends that the location of irrigation fields should be carefully selected, with a view as to not encroach on sensitive or biologically rich ecosystems, sites of cultural/historical significance, settlements of religious or scientific value, areas with flat topography or with high water tables that are at risk from salinization. It also advises that adequate health care facilities must be provided, on-going user involvement in the development of the project must be encouraged, capacity of irrigation canals to transport sediment loads must be determined, measures must be taken to prevent low irrigation efficiency caused by poor water distribution or a poor rain system management. Flood control measures should also be implemented in addition to the above measure to enhance the social and environmental benefits of irrigation projects.

With regards to plantation forests, use of the document entitled, '*FAO. 2006.Responsible management of planted forests: voluntary guidelines. Planted Forests and Trees WorkingPaper 37/E. Rome (also available at www.fao.org/forestry/site/10368/en)* is recommended.

8. Environmental and Social Impacts Assessment (ESIA)

An environmental and social impact assessment report is a statement about the likely impacts of a proposal and how the identified impacts can be mitigated and managed.

The ESIA stages include:[21]

I. Screening

The Regional State Bureau of Environment Forest and Climate Change will use the Project Screening Form (Annex 2I) to determine whether a full ESIA, limited ESIA, or no ESIA is needed for the proposed project as well as if special studies are required. The Ethiopian EIA procedural guideline recommends a prescreening consultation to be conducted. A prescreening is a stage where the proponent and the respective environmental or sectoral agencies establish contact and hold consultation on how best to proceed with the environment and social impact assessment. The undertaking of a pre-screening consultation is advisable for it saves time and fosters a mutual understanding about the requirements of the AF and the GOE.

The AF Environmental and Social Policy (Approved in November 2013; Revised in March 2016) states *"Projects/ programs likely to have significant adverse environmental or social impacts that are for example diverse, widespread, and irreversible should be categorized as Category A. Projects/programs with potential adverse impacts that are less adverse than Category A projects/programs, because for example they are fewer in number, smaller in scale, less widespread, reversible or easily mitigated should be categorized as Category B. Those projects/programs with no adverse environmental or social impacts should be categorized as Category C. Regardless in which category a specific project/program is screened, all environmental and social risks shall be adequately identified and assessed by the implementing entity in an open and transparent manner with appropriate consultation.* "

Initial examination of the project components and activities pending the conduct of the screening exercise*, the project may be categorized as* ***Category B and C****, that is, 'project is expected to have limited adverse social and/or environmental impacts that can be readily addressed through mitigation measures'".* In case some project components and sub projects are required to pass through the whole EIA process, a generic screening form is attached to this report. (Annex 3)

II. Scoping

The Regional State Environment Protection Bureaus (through a consultant) will develop a preliminary examination of the impacts likely to occur because of the proposed project, and which should be covered by the ESIA. The scoping phase must include stakeholder engagement to help identify issues. Based on the results of the scoping phase, the Executing Entity will draft the TOR for the full ESIA. Although the Woredas and the Kebeles within each Woreda have been identified, the location and nature of the specific project activities are not known in sufficient detail to conduct a project specific environment and social impact assessment. The ESMF will set the framework that will enable the project planners and implementers to put in place an environment and social management system that will assist them to conduct and manage environment and social impact assessment for specific projects.

[21]Adapted and modified from Global Environmental Facility,2015. Environnent and Social Management Framework

The draft TOR is disclosed to stakeholders prior to the submission of the TOR to the Environmental Protection Authority (EPA) and approval is received from EPA for the TOR before any work can commence.

III. Implementation of the (full) ESIA:

Overall project assessment and any specialist studies, as identified during the Scoping Phase, are conducted. Special studies are guided by the safeguard issues raised during scoping. They deal with the concerns of stakeholders in these areas. For adverse impacts, alternatives are identified to establish the most environmentally sound and benign option(s) for achieving project objectives.

IV. Draft Report

The Sector Line Ministries or Regional States submits findings as an ESIA document/report. This discusses mitigation and impact management (measures to avoid, minimize, or offset adverse impacts), monitoring and reporting. Where appropriate, draft mitigation plans are incorporated into a draft ESMP. The reports must be clear, impartial, publicly available, and address stakeholder concerns.

V. Review and Final Report

It is the responsibility of the EPA to review and approve the final ESIA report to ensure that it complies with the Terms of Reference and stakeholder engagement requirements, and appropriately addresses AF concerns and national laws.

VI. Decision-making

An environmental compliance certificate may be issued by EPA.

VII. Monitoring, reporting, and enforcement

The PMU at the CRGE Facility will monitor whether the project implementers ensure compliance with the mitigation measures as incorporated in project design and monitored by the indicators of the Project-level ESMP.

9. Potential Adverse Impacts and Mitigation Measures

Project component and activities		Potential environmental/social impacts/risks	Proposed Mitigation Measures
Component 1:Strengthening Climate Risk Reduction and Adaptation Planning at the local level			
1.1	Climate Risk Awareness Campaign	These are predominantly desk-based activities, including workshops and other stakeholder related engagements. No adverse impacts expected.	Here capacity building activities should focus on ESMF implementation.
1.2	Capacity-building Workshops (area shall be related AF thematic area)		
1.3	Strengthening Water Institution		
1.4	Building woreda planner and relevant stakeholders on Mainstreaming Climate Adaptation into local development plans		
1.5	Project Management, M&E		
Component 2: Water Security, Climate Resilience, and Women Empowerment			
2.1	**Potable water**		
2.1.1	- Potable Water Source Development and Protection - Replacing failed diesel or manual water pump with solar - Shallow wells (less than 75m depth), hand dug wells, springs	Potential impacts associated to activities 2.1.1, 2.1.2, and 2.1.3: - Decrease in surface and/or groundwater water quality resulting from drilling and operational activities. - Dumping of construction waste, and solid waste and oil spills from decommissioning of diesel pumps. - Excessive use of groundwater leading to draw down of water table and possible land subsidence (although this is less likely due to	- Provision of designated areas for storage of fuels, oils, chemicals, or other hazardous liquids. The area should be protected by an impermeable base to avoid contamination of soil and water (surface and groundwater) - Refueling to be undertaken in areas away from water systems during construction. - Pump tests and groundwater quality studies should be carried out to determine suitability of groundwater and the safe yield.
2.1.2	Water Infrastructure Upgrade and expand water supply systems for efficient distribution including sustainability options (IWA, O&M, Spare parts)		
2.1.3	Decentralized Renewable Energy (DRE) Systems		

Project component and activities		Potential environmental/social impacts/risks	Proposed Mitigation Measures
		the development of shallow wells, hand dug wells, and springs. - Noise and dust during construction phase of the project - Occupation health and safety issues, including impact on safety of workers and communities due to exposure to equipment installed.	- Provide workers with personal protective equipment as per the dictates of the Labor Proclamation (377/2003) - To the extent possible use dust suppression techniques and noise screens - Ensure all electrical and mechanical fixtures fulfill safety standards and that they are not exposed and accessible. - Ensure all users of facilities are aware of the dangers and post warning signs at appropriate places.
2.2	**Small-scale irrigation development and improved water efficiency**		
2.2.1	Replacing diesel or manual water pump, shallow wells (less than 75m depth), hand-dug wells, spring, water harvesting structure: Pond Construction)	- Solid waste and oil spills from decommissioning of diesel pumps.	- Provision of designated areas for storage of waste fuels and oil during the diesel pump replacement process. The area should be protected by an impermeable base to avoid contamination of soil and water (surface and groundwater)
2.3	**Women empowerment**		
2.3.1	Women-Centric Capacity Building	These are predominantly desk-based activities, including workshops and other stakeholder related engagements. No adverse impacts expected.	Here capacity building activities should focus on ESMF and gender action plan implementation.
2.3.2	Gender-Responsive Awareness Campaigns		
Component 3: Climate Smart Agriculture			
3.1	**Climate-Resilient Crop and Diversification**		

Project component and activities		Potential environmental/social impacts/risks	Proposed Mitigation Measures
3.1.1	Promotion of drought tolerant and early maturing crop varieties	- Potential risk of import of seeds of alien invasive species along with required seeds and seedlings', which will have impacts on the natural habitat and biodiversity. - Potential impact resulting from the expropriation of land for conservation and planting activities.	- Strict control and screening of imported seeds before dissemination - In the less likely case of expropriating of land from individual farms, compensation should be made in line with the requirements of the rural land administration and use proclamation (No. 456/2005)
3.1.2	Implementation of conservation agriculture		
3.2	**Climate Resilient Livestock Production and Management (Following are Specific proposed sub-activities)**		
3.2.1	Provision of improved drought-tolerant forage seeds	- Long-term anticipated conflict related to benefit sharing, which will arise between pastoral communities which have improved grazing land due to the project interventions. - Potential risk of import of seeds of alien invasive species along with required seeds and seedlings', which will have impacts on the natural habitat and biodiversity.	- There should be a community lead and owned by-law, which clearly stipulates benefit sharing. Moreover, benefit sharing should be a condition set on communities for participating in the project. - Strict control and screening of imported seeds before dissemination.
3.2.2	Forage development and utilization (Capacity building)		
3.2.3	Improved livestock husbandry practice (Housing improvement, hygiene practice, breeding technology)		
3.3	**Weather information**		
3.3.1	Weather information dissemination in local language (with SMS texting option)	This is a predominantly desk-based activity. No adverse impacts expected.	-
3.4	**Natural Resource Management (Following are Specific proposed sub-activities)**		
3.4.1	Bio and Physical soil and water conservation - Water retention structures (Terracing/Trench/Check dams)	- Potential for use of degraded communal land for this, with little consultation of communities. resulting in loss of access to free grazing land. - Long-term anticipated conflict related to benefit sharing, which will arise from the	- There should be a well-structured consultation process and a practice undertaking conservation measures including use of communal lands. There should be a community lead and owned by-law, which
3.4.2	Integrated soil fertility management		

Project component and activities		Potential environmental/social impacts/risks	Proposed Mitigation Measures
		benefits of these water and soil conservation and retention structures. - Potential conflict during boundary demarcations.	clearly stipulates benefit sharing and is endorsed by the community. - To the extent possible, the site for conservation structures should be on communal land and there should be extensive consultation and buy-in from the community for the intended use of the communal land. - Demarcation of boundaries of private properties is sensitive and should be done in the presence of kebele officials and with agreement of owners sharing boundaries.
Component 4: Climate Smart Livelihood Diversification			
4.1	Identify Gender responsive and socially inclusive livelihood Diversification option and implementation mainly Apiculture, Poultry, Sheep-goats (Shoats), Horticulture	- Potential risk of import of seeds of alien invasive species along with seeds and seedlings - Generation of solid waste (hazardous and non-hazardous) and impacts of site level infrastructure construction. - Resistance to the gender focus of the project in identifying participants/beneficiaries.	- Solid waste (hazardous and non-hazardous) should be managed as per the requirements of Ethiopia's Solid Waste Management Proclamation (517/2007). - Used oil traps and other effluent/discharge management interventions should be put in place. - Dust suppression technique should be in place. - Provide workers operating in these areas personal protective equipment, including
4.2	Technical Training and knowledge sharing		
4.3	Promotion of Market Linkages		

Project component and activities		Potential environmental/social impacts/risks	Proposed Mitigation Measures
			mufflers, as per the requirements stipulated in the Labour Proclamation (No. 377/2003). - During seed dissemination stage ensure the quality of seeds and ensure that no alien invasive seed species are disseminated. - Conduct prior consultation with communities to explain why the project has a gender focus.

10. Environment and Social Management Plan

The ESMP consists of a set of mitigation, monitoring, and institutional measures, including policies, procedures, and practice – as well as the actions needed to implement these measures – to achieve the desired social and environmental sustainability outcomes.

An ESMP will consist of separate sections on:

1. Social and environmental impact mitigation,
2. Social and environmental sustainability monitoring,
3. Capacity development,
4. Stakeholder engagement,
5. Implementation action plan.

The hierarchy of social and environmental impact mitigation includes, in descending order: a) Avoid, prevent or eliminate environmental and social risks and adverse impacts; b) identify measures and actions to minimize and mitigate impacts; c) identify measures to offset them by enhancing the proposed project and d) identify compensatory measures to balance the residual adverse impacts.

The ESMP is presented in a tabular form in which the following key environment and social management issues are outlined with respect to impacts triggered by the various interventions of the project:

Environment Parameters: key parameters include Flora and Fauna, Surface and Groundwater Quality, Erosion, Drainage and Sediment Control, Noise and Vibration, Air Quality, Waste Management and Social Management.

Source and Potential impacts: the source of impact and description of the impacts are indicated in this column.

Mitigation/Management measures: The mitigation and management measures for each of the impacts are included in this column.

Project phase: the impacts and their respective measures and the appropriate time of action is addressed in this column.

Responsible party: The party responsible for undertaking the mitigation measures is indicated in this column.

Indicators: key indicators that need to be measured to show compliance or non-compliance and progress are indicated in this column.

Monitoring and Reporting: What is to be monitored by whom and the frequency of monitoring are indicated in this column. The purpose of monitoring and reporting is to ensure that project impacts are addressed by the parties responsible on a timely basis and complaints of project affected persons (PAPs) are seriously considered in addressing their concerns.

Environmental Management Plan

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
Flora and Fauna (impact on natural habitat and biodiversity)	**Source:** Site clearance for project activities and access roads **Impact:** Habitat loss and disturbance of fauna	Limit vegetation clearing and minimize habitat disturbance through adequate protection and management of retained vegetation. Avoid any damage to the trees near and around project activities.	Construction	Site Supervisor as per design and construction specifications.	The areas that have been rehabilitated during the preceding month. Increase in vegetated area and saved trees	Report to EPA on any loss of endemic flora and non-compliance with the ESMF, twice a year during the construction period. Report to EPA at the end of the project on vegetated area and saved trees.
	Source: Noise, vibration and dust from construction work, equipment for water facilities and vehicles **Impact:** Disturbance to fauna	Ensure that construction work is only undertaken in defined/limited working hours to reduce extent of impact. Ensure that noise, and dust suppression systems are maintained.	Construction	Contractor	Observed impact on vegetation. Frequency of complaints of community on impacts to fauna Noise level measurement	Daily (visual) observations Maintaining records
	Source: Leaks/ spillages from equipment, vehicles & storage compounds.	Ensure proper storage for oils and fuels and in case of spill put in place cleaning equipment and clear instructions on cleaning spills.	Construction	Contractor	Frequency of spills and damage extent	Daily observation and maintain records.

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
	Impact: Soil contamination and impacts on vegetation.					
	Source: Introduced flora and fauna species **Impact:** proliferation of alien species	Prevent introduction of weeds/pests/diseases by sourcing appropriate weed/pest/disease free seed and stock Re-vegetate disturbed areas using native and locally endemic species that have high habitat value.	Post-construction/ implementation	MILL, MOA, and Development Agents	Seed stock	Professional screening of imported seeds and reporting to MOA and MILL
Surface and groundwater quality	**Source:** irrigation malpractice **Impact:** Water logging and salinization due to irrigation malpractice	Provide training to farmers on proper irrigation practices.	Post-construction/ implementation	MILL, MOA, and woreda project officers	Water quality parameters	Maintain records. Report both compliance and non-compliance with the set quality standards
	Source: construction activities and equipment operation.	Implement surface and groundwater monitoring systems. Take precautionary measures in protecting water sources;	Construction and post-construction/ implementation	Contractor	Water quality parameters	Maintain records

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
	Impact: pollution of surface and ground water					
	Excessive use of groundwater leading to draw down of water table and possible land subsidence	Pump tests and groundwater quality studies should be carried out to determine suitability of groundwater and the safe yield.	Pre-construction	Site supervisor and MILL and MOA.	Water table	Maintain records on earth movements/subsidence.
Erosion, Drainage and Sediment Control	**Source:** earthwork activities **Impact:** Loss of soil material and surface and ground water affected by sedimentation	Minimize earthwork using machinery. Relocate soil stockpiles from the vicinity of well sites and water bodies.	Construction	MILL, MOA, Woreda project officers	Soil depth eroded in centimeters	Conduct site inspections on a weekly basis and measure soil depth eroded at representative sites-by Woreda M&E officer
Noise and Vibration	**Source**: vehicles and drilling machines **Impact:** excessive noise disturbing residential and other community centers	Minimize all noise and vibration from trucks and drilling machines [the extent of use of such noise sources is limited due to the nature of the project]	Construction	MOWE and contractors	It is not practical to use decibel as threshold due to the impracticality of using instruments to measure noise levels. Thus, frequency of complaints from community members	Record number of complaints

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
					may be taken as indicator	
Air Quality	**Source:** Dust from site clearance and construction works **Impact:** Dust emissions resulting in potential nuisance, human health and aesthetic impacts	Implement dust suppression measures for all stockpiles.	Construction	Contractors	Number of complaints from community members	Kebele Development Agents make regular observations and record such incidents and complaints of residents
	Source: Emissions from construction equipment and vehicles **Impact**: Reduced air quality with consequent nuisance and Greenhouse Gas emissions	Ensure turning off of all equipment when not in use. The nature of the project and the frequency and duration of use of such emitting equipment is not significant.	Construction	Contractors	- Complaints from community members - Visual observation	Kebele DAs make regular observation and record such incidents and complaints of residents

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
Waste Management	**Source:** packaging material disposal, construction material, animal waste, **Impact:** health impact and aesthetic disturbance	Waste generation is minimized through avoidance, reduction, reuse, and recycle. Remove litter from project sites due to activities of site personnel;	Pre and during construction	Site supervisors and Contractor	- Complaints from community members - Visual observation	Maintain records of number of complaints by community members.
	Source: waste generated by project workers. **Impacts**: communicable disease that may affect communities	Provide proper sanitary facilities to workers.	Pre and during construction	Site supervisors and Contractor	- Complaints from community members - Visual observation	Maintain records of number of complaints by community members.
Social Management	**Source:** Changes in land use **Impact:** Social conflict due to shortage of land	Carry out community consultation on the purpose and benefits of making changes to land use and get community buy-in on change of land use. Ensure community consultation and participation throughout the project.	Pre-construction and construction	Regional sector Bureaus and Woreda sector offices	- Complaints - Conflict	Maintain records on frequency of conflicts

Environment Parameters	Source and Potential impacts	Mitigation and Management	Project phase	Responsible party	Indicators	Monitoring and Reporting
		Ensure long-term social and economic benefits are achieved for the community				
	Source: deep well drilling **Impact**: exposure to accidents due to vehicles and equipment movements	Avoid adverse impacts to local community during construction and operations and where not possible, minimize, restore. Ensure due attention is given to protect community health and safety.	Pre-construction and construction	Regional sector Bureaus and Woreda sector offices	- Number of accidents	Maintain frequency of accidents.
	Source: project land requirement for interventions **Impact**: Land appropriation and loss of livelihoods	Ensure community land use is optimized and to extent possible reduce land appropriation from community. Compensate for loss of land and livelihoods. Ensure cultural heritage is not adversely impacted. Ensure complaint and grievance redress mechanisms is in place	Pre-construction and construction	Regional sector Bureaus and Woreda sector offices	- Land appropriated	Maintain records of cases of land appropriations and grievances and results of grievances.

11. ESMF Monitoring Plan

Monitoring activities during the implementation phase provides crucial information about the environmental and social impacts of the project and the effectiveness of mitigation measures. Monitoring is an important tool to inform decision makers and communities on trends of project implementation and operation. This table includes some elements from the ESMP table above in addition to the overall ESMF monitoring plan.

Important Impact issues	Proposed Action/ Measures	Implementation tool/criteria	Responsibility
• Potential risk of import of seeds of alien species along with basic seeds	• During seed dissemination stage ensure the quality of seeds and ensure that no alien invasive seed species are disseminated.	Seed certification acquired. ***[indicator** –certificate]*	MOA should circulate the seed certification to all woredas. Grievance mechanism should be utilized in case of alienation by Kebele Development Agents
• Potential risk of alienation of households from getting such assistance due to the social standing, religion, political stance, gender	• During dissemination of seedlings to households, mechanism should be put in place to ensure all households are treated equally and impartially	By laws on distribution of inputs in place, *[**indicators**-number of conflict cases and number of resolved cases]*	

Important Impact issues	Proposed Action/ Measures	Implementation tool/criteria	Responsibility
• Potential impact resulting from the expropriation of land for conservation and planting activities.	• To the extent possible, the site for conservation structures should be on communal land and there should be extensive consultation and buy-in from the community for the intended use of the communal land. • In the less likely case of expropriating of land from individual farms, compensation should be made in line with the requirements of the rural land administration and use proclamation (No. 456/2005) • The planned conservation activities should be well designed and executed with full participation of communities along with long term benefit sharing mechanisms for managing benefits resulting from rehabilitation and conservation activities	Acquire the official commitment of Woreda offices for availing communal land for AF projects implementation. ***[indicator**-letter of commitment**]*** Conduct awareness meetings for woreda and kebele officials and staff on implementation of proclamation (No. 456/2005) ***[indicator-**number of participants**]*** Design of the various sub projects (conservation structures, hand dug wells, shallow wells, ponds, etc.) should be designed following existing guidelines and should be reviewed and approved by the project CRGE Facility and responsible line ministries, including long term benefit sharing mechanism. ***[indicator-**design and approval documents**]***	WOA: Woreda to submit the letter of commitment to CRGE Facility. MOA and MOWE In case of expropriation Grievance mechanism should be utilized by Kebele Development Agents CRGE Facility and line ministries should act on the grievance report

Important Impact issues	Proposed Action/ Measures	Implementation tool/criteria	Responsibility
Long-term anticipated conflict related to benefit sharing, which will arise due to the positive natural resource rehabilitation outcomes of the project's intervention.	There should be a community lead and owned by-law, which clearly stipulates benefit sharing and is endorsed by the community.	Prepare the bylaw and pretest it at selected woredas and kebeles before making use of the bylaws in project implementation. *[**indicator-**approved bylaw document]*	Line ministries through use of consultants, who will also quarterly report on conflict incidences.
Generation of solid waste (hazardous and non-hazardous) and site level infrastructure construction/ development for improving production of poultry, and apiculture.	• Solid waste (hazardous and non-hazardous) should be managed as per the requirements of Ethiopia's Solid Waste Management Proclamation (517/2007); • Used oil traps and other effluent/discharge management interventions should be put in place. • Dust suppression technique should be in place. • Provide personal protective equipment to workers operating in these areas, including mufflers, as per the requirements stipulated in the Labour Proclamation (No. 377/2003	Provide training for woreda, kebele and PCU staff on waste disposal and implementation of Proclamation (517/2007); including handling of used oils. dust and use of protective gears. *[**indicator**-number of participants]* Monitoring and ensuring such arrangements are in place and functioning. *[**indicators**-as per design and monitoring documents]*	Line ministries through use of consultants including on site practical training. DAs to inspect waste disposal situation at all project sites and submit inspection report to Woreda M&E expert monthly. Woreda M&E experts to provide DAs with inspection checklist.

Important Impact issues	Proposed Action/ Measures	Implementation tool/criteria	Responsibility
• Land subsidence due to draw down of water level during over pumping. • Water logging and salinization due to irrigation malpractice • Water allocation conflict	• proper pump test should be carried out to determine the safe yield and care must be exercised not to over pump. • provide training to farmers on proper irrigation practice. • priority should be given to domestic water supply in case of water shortage during drought period/	• Carefully prepare the contractual document for well drilling to ensure land subsidence does not occur. • Provide training to farmers in proper irrigation practice. • Woreda and kebele employees should be trained in conflict resolution. *[**indicators**-salinity level measurements, land subsidence measurements, number of trained farmers, number of cases of conflicts]*	Line ministries contractors and pump operators. [Safe yield of wells and pump operating duration made clear to operators]; field salinity level measurements on annual basis to be reported to MOA.
• Some invasive tree species consume large amounts of water; this lowers the water table, reduces water flow, and increases soil erosion. • land-use change Impacts. • Impacts of spraying of toxic chemical fertilizers and herbicides.	• Avoid the use of invasive species and water consuming species for plantation. • Carry out community consultations on the purpose and benefit of making such change in land use. • The application of pesticides and herbicides should follow the national guidelines	• Use national guidelines and mechanisms for seed certification. *[**Indicators**-seed examination reports]* • Agreement of the beneficiaries on proposed land use changes should be secured. *[**Indicator**-agreement document]* • Use of integrated pest management and other national guidelines. ***[Indicator**-spraying reports]*	line ministries

12. Responsibilities for ESMF implementation

Project Phase	Tasks	Responsible
Feasibility study and ESMF preparation	Review and approve the ESMF	EPA
Detailed Project Design and implementation Plan preparation including tender documents preparation	Review and approve if design and tender documents have integrated the ESMF requirements	EPA in collaboration with federal government institutions and consultants.
Review and Approval of ESMF	• Review sub-project proposal for safeguard impacts and social risks. • Assess the adequacy and feasibility of the safeguard measures. • Assess the capacity of environment units of line ministries, regional states and Woreda offices to implement safeguard measures. • Publicly disclose safeguard related information.	CRGE Facility Coordination Unit
Review and approve ESIA and ESMP for some components as per the screening exercise	• Conduct and review project specific and location specific ESIAs	Federal government institutions and consultants.
Project Implementation, construction	• Ensure the implementation of all safeguard measures during implementation	Federal government institutions and contractors
Operation stage	• Ensure all operation guidelines are made available to kebeles where projects are located	Federal government institutions and regional and Woreda counterparts.
Monitoring and Evaluation	• Ensure project completion reports include implementation of safeguard measures. • Put in place a standing procedure for submission of monitoring reports on safeguard measures functioning and grievance reporting	Federal government institutions and Woreda M&E Experts (Kebele Development Agents should be trained to handle the M&E and reporting tasks)

13. Training and Capacity Building Requirements

The successful implementation of the ESMF requires capacitated federal, regional states and Woreda organizations that are planning and implementing the project and the mitigation measures recommended by the ESMF and project specific ESIAs.

The capacity building activities include short term trainings, awareness workshops, office equipment and vehicles. The details should be based on capacity gaps analysis at federal, regional and Woreda levels. There are possibilities that implementing line ministries and regional and Woreda level offices may also contribute to their capacity building needs by providing the necessary office space and facilities for the implementation of the ESMF.

The following table summarizes the training aspect of the capacity building component.

	Issue	Participants	Duration and frequency
1.	National and international safeguard policies	Regional Bureaus, Woredas Offices 16 participants	1 round for 2 days
2.	ESIA planning and implementation	Regional Bureaus, Woredas Offices 16participants	1 round for 3 days
3.	Monitoring and evaluation	Regional Bureaus, Woredas offices and kebel Development agents 24 participants	1 round for 2 days
4.	Structural and non-structural mitigation measures	Regional states, Woredas PCU staff and environment units staff 22 participants	2 rounds 2 days each
5.	Conflict resolution and grievance mechanism and procedures	Regional Bureaus, Woredas Offices, Kebele Development agents 24 staff	2 rounds 2 days each

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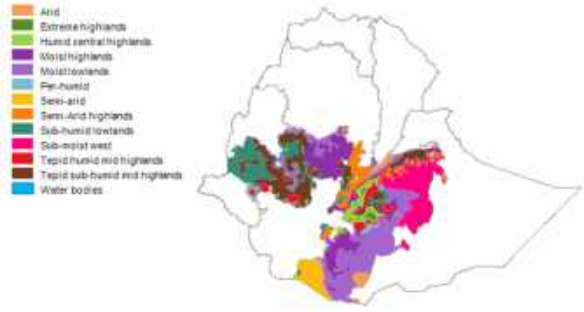
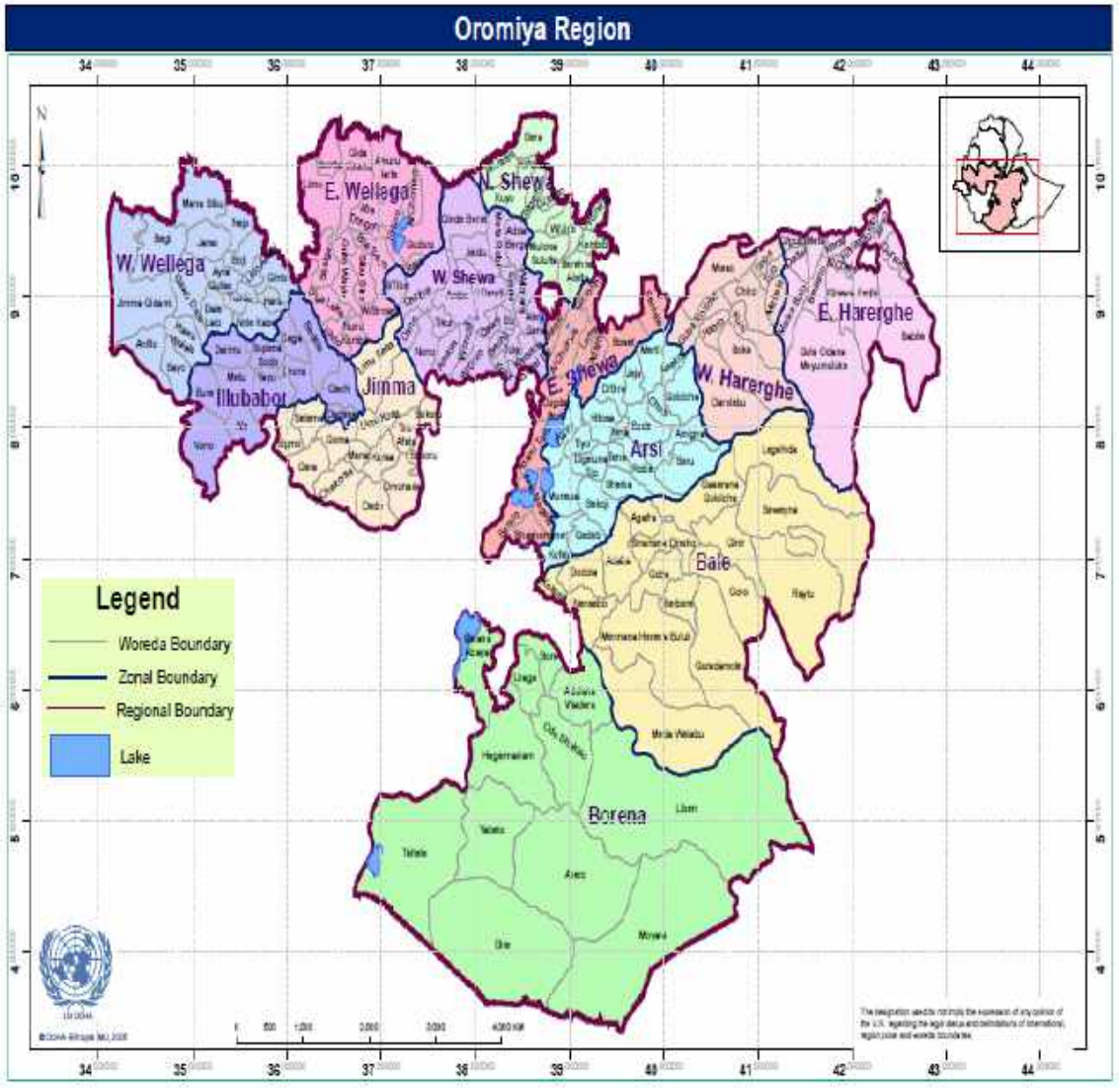
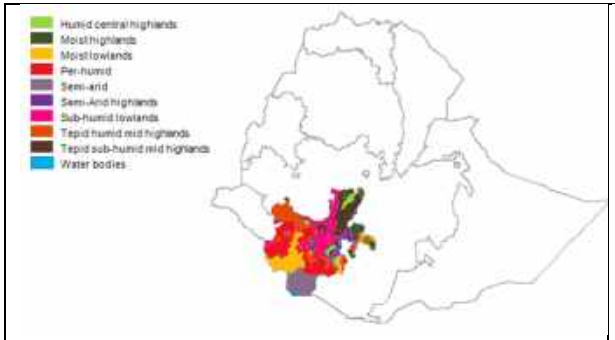
Annex 1. Brief description of baseline Information at the Regional level [compiled from Regional Adaptation plans, Regional CSE]



Oromiya (Oromia) region

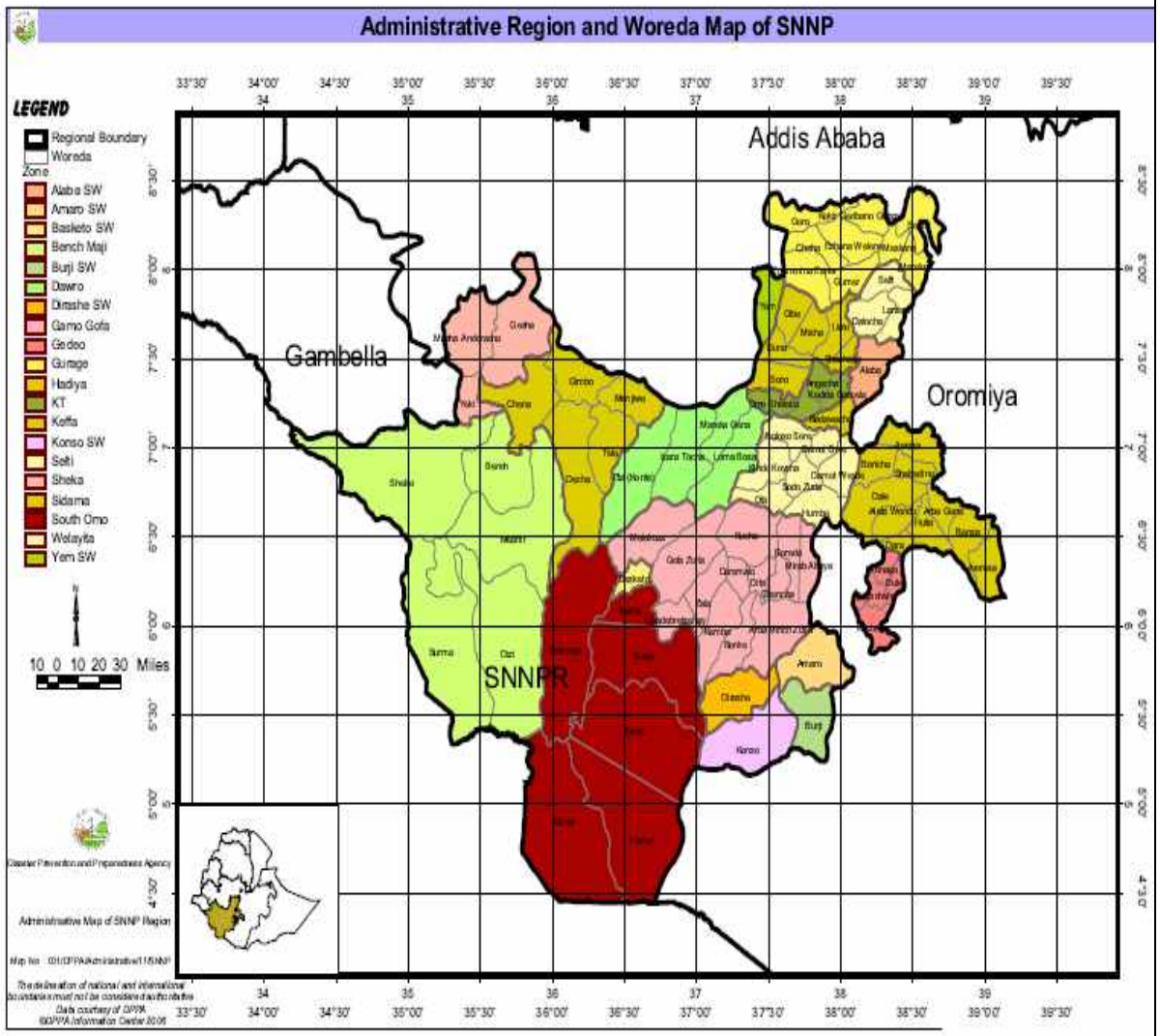
The region extends from 3º24'20"–10º 23'26"N latitudes and 34º07'37" - 42º58'51"E longitudes. The total area of the Region is 363,136km^2, accounting for about 34.3 percent of the total area of the country. Administratively, the region is divided into 18 administrative zones, 304 woredas (out of which 39 are towns structured with the level of woredas and 265 rural woredas), more than 6,342 peasants and 482 Urban Dweller Kebeles. Its relief ranges from less than 500 m asl to high ranges that culminate into Mt. Tullu Dimtu (4,377masl). The climate types include dry climate (the hot arid, semi-arid, dry sub-humid climates), tropical rainy climate (the tropical humid and tropical sub-humid climates) and temperate rainy climate (the warm temperate humid, the warm temperate per humid and the cool highland climates). Aleletu and Adama Weredasare located in the rift valley.

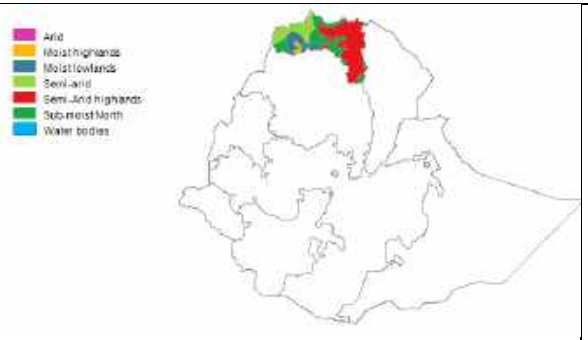




SNNPR

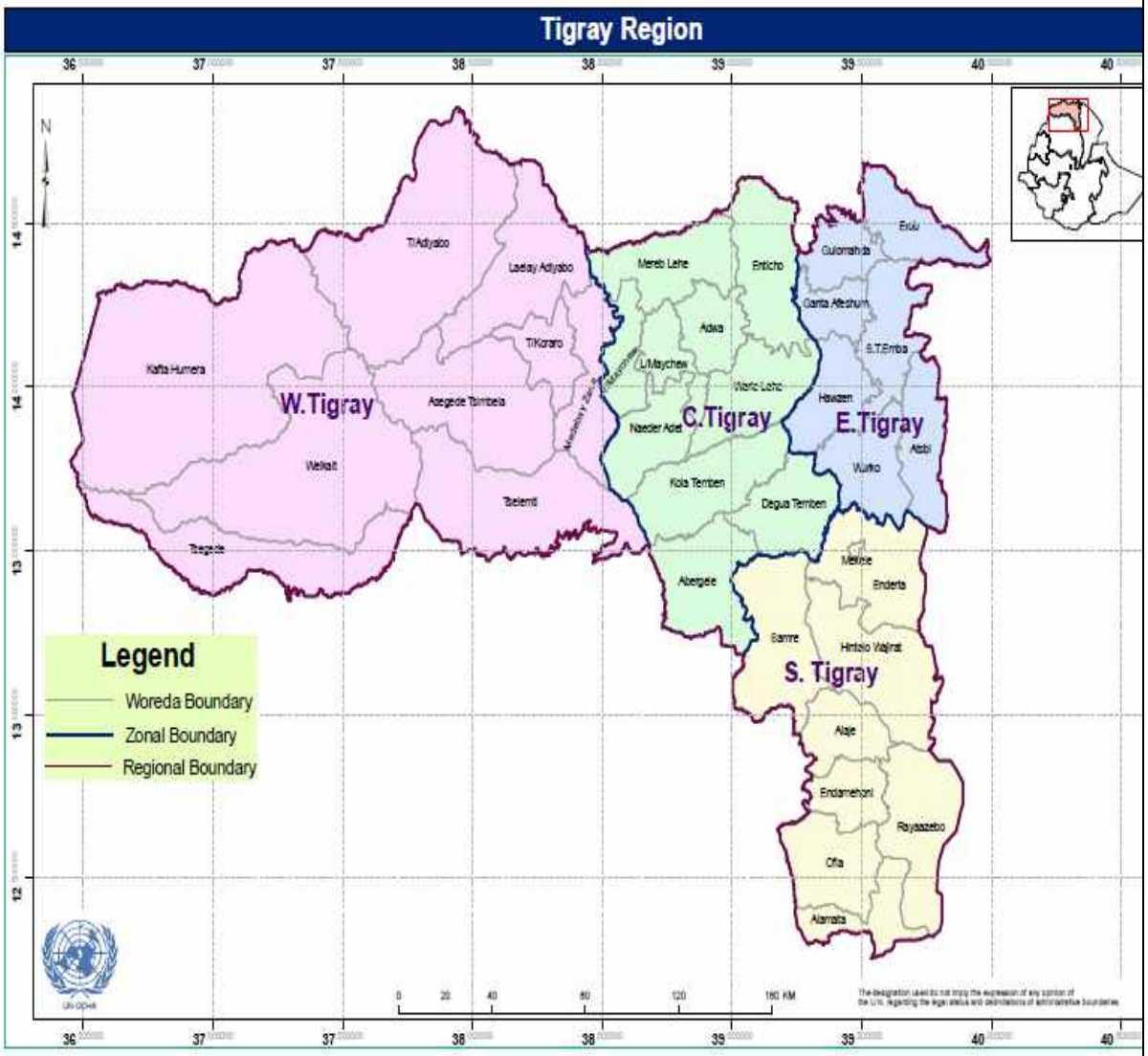
SNNPR is located 4º43º-8º58º North and 34º88º-39º14º East and altitudinal ranges from 350masl in Lake Turakana area to 4200masl in the mount Guge area and has an area of 110,932 sq.km. The regional state has 13 zones ,8 special Woredas, and 126 ¨Weredas 22 urban administration 3,689 urban and 238 rural kebeles. The region has 5 agroecological zones, 6.2% semi-arid and water deficit, 49.8% dry lowland, 36.5% temperate moist, 6.8% humid, 0.7% per-humid. Average temperature varies between 7.5 c and 27.5 c and annual rainfall ranges between 400 and 2200mm.

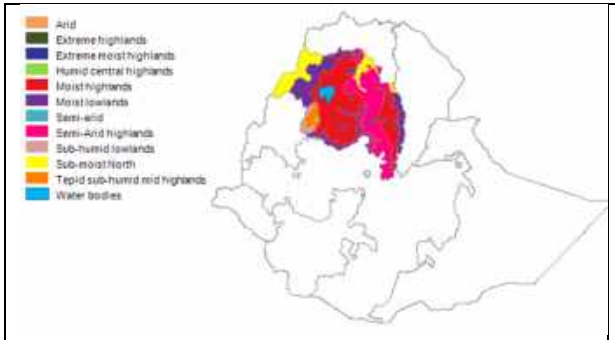




Tigray

The zone lies in the kolla agro-ecology and plains, and undulating mountains dominate the terrain. The availability of sufficient farmland, fertile soils. Soil erosion, deforestation and water depletion are the major environmental problems reported in the woreda. Shortage of water including for livestock, poor saving habit, poor land condition and shortage of improved agricultural inputs are additional challenges in the area. Shortage of water (due to drought) is a major challenge indicated in the woreda. Communal tap is the main source of drinking water followed by ponds and rivers. However, 79% of the households use the water without any type of treatment. With regards to sanitation, 20% of the households reported to have no toilet facility, while 79% reported using outdoor latrine.

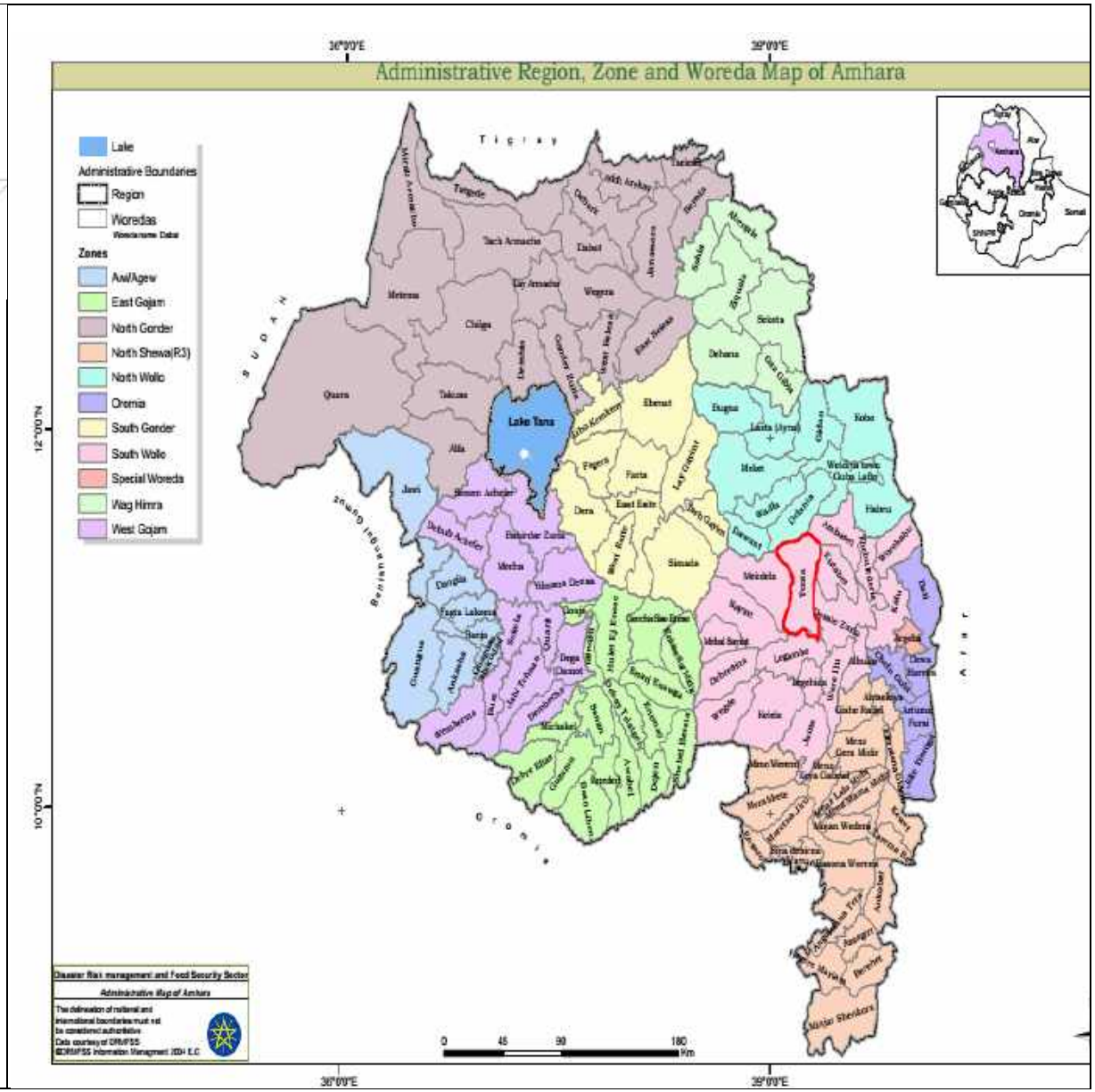




Amhara

The Amhara Nation Regional State extends from 90 to 130 45'N and 360 to 400 30"E. It covers approximately 170,152km^2. The region therefore has climatic zones ranging from hot dry tropical (800-1500m) sub-tropical (1500-2300m), temperate (2300-3000m), and alpine (over 3000m). The highlands above an altitude of 1500 m experience relatively cool temperatures conditions in contrast to the lowlands.

Water pollution, soil erosion, land slide and deforestation are the major environmental problems in the area. 58% of the household drink water from river or stream and covered well or borehole and 92% of the household drinks water without any treatment.



Annex 2. Directive No. 1/2008: Directive Issued to Determine Projects subject to Environmental Impact Assessment

WHEREAS Article 5 of the Environmental Impact Assessment Proclamation No. 299/ 2002: provides for the determination of categories of projects requiring environmental impact assessment.

NOW, THEREFORE, this directive is issued in accordance with Article 9(3) of the Environmental Protection Organs Establishment Proclamation No. 295/2002.

1. **Designation**

This directive may be cited as the ''Directive No. 2/ 2008 issued to determine the Categories of projects subject to the Environmental Impact Assessment Proclamation No. 299/2002 "

2. **List of Types of Projects Requiring Environmental Impact Assessment**

The Environmental Impact Assessment Proclamation No. 299/ 2002 shall be applied to the types of projects listed under these directives.

3. **Regional Directive**

Any Regional Environmental Agency may issue other directives based on this directive.

4. **Effective Date**

This Directive shall enter into force as of the date signed by the Chairperson of the Council.

Done at Addis Ababa, this ---- day of ------- 2008.

Chairperson of the Environmental Council

	Project Types Subject to Environmental Impact Assessment
1.	Mine Exploration that is subject to Federal Government Permit
2.	Dam and Reservior Construction
3.	Irrigation Development
4.	Construction of Roads (Design Standard DS1, DS2 and DS3) with a traffic
5.	Taking Fish from Lakes on a commercial Scale
6.	Horticulture and Floriculture Development for export
7.	Textile Factory
8.	Tannery
9.	Sugar Refinery
10.	Cement Factory

	Project Types Subject to Environmental Impact Assessment
11.	Tyre Factory with Production Capacity of 15 000 Kg/day or more
12.	Construction of urban and industrial waste disposal facility
13.	Paper Factory
14.	Abattoir Construction with Slaughtering Capacity of 10 000/Year or more
15.	Hospital Construction
16.	Basic Chemicals and Chemical Products Manufacturing Factory
17.	Any project planned to be implemented in or near areas designated as
18.	Metallurgical Factory with a Daily Production Capacity of Equal or More Than
19.	Airport Construction
20.	Installation for the Storage of Petroleum Products with a Capacity of 25,000
21.	Establishment of Industrial Zone
22.	Condominium construction

Annex 3. Screening Checklist for Environmental and Social Safeguards[22]

Project location

	Description of the issue:
- Is the project area in or close to -	
- densely populated area	
- cultural heritage site	
- protected area	
- wetland	
- buffer zone of protected area	
- special area for protection of biodiversity	

Environmental impacts

	Description of the issue,
- Will project require temporary or permanent support facilities?	
- Will project cause any loss of precious ecology, ecological, and economic functions due to construction of infrastructure?	
- Are ecosystems related to project fragile or degraded?	
- Will project cause impairment of ecological opportunities?	
- Will project cause increase in peak and flood flows? (including from temporary or permanent waste waters)	
- Will project cause air, soil or water pollution?	
- Will project cause soil erosion and siltation?	
- Will project cause increased waste production?	
- Will project cause Hazardous Waste production?	
- Will project cause threat to local ecosystems due to invasive species?	
- Will project cause Greenhouse Gas Emissions?	
- Will project cause use of pesticides?	
- Does the project encourage the use of environmentally friendly technologies?	
- Other environmental issues, e.g. noise and traffic	

[22]**Adapted from United Nations Environment Program, (2015).** *Checklist for Environmental and Social Safeguards*

Social impacts

	Description of the issue:
- Does the project respect internationally proclaimed human rights including dignity, cultural property and uniqueness and rights of indigenous people?	
- Are property rights on resources such as land tenure recognized by the existing laws in affected countries?	
- Will the project cause social problems and conflicts related to land tenure and access to resources?	
- Does the project incorporate measures to allow affected stakeholders' information and consultation?	
- Will the project affect the state of the targeted country's institutional context?	
- Will the project cause change to beneficial uses of land or resources? (incl. loss of downstream beneficial uses (water supply or fisheries)?	
- Will the project cause technology or land use modification that may change present social and economic activities?	
- Will the project cause dislocation or involuntary resettlement of people?	
- Will the project cause uncontrolled in-migration (short- and long-term) with opening of roads to areas and/or possible overloading of social infrastructure?	
- Will the project cause increased local or regional unemployment?	
- Does the project include measures to avoid forced labour and/or child labour?	
- Does the project include measures to ensure a safe and healthy working environment for workers employed as part of the project?	
- Will the project cause impairment of recreational opportunities?	
- Will the project cause impairment of indigenous people's livelihoods or belief systems?	
- Will the project cause disproportionate impact to women or other disadvantaged or vulnerable groups?	
- Will the project involve and or be complicit in the alteration, damage or removal of any critical cultural heritage?	
- Does the project include measures to avoid corruption?	

Annex 4. Terms of Reference for Program Activities Requiring an ESIA

(Based and adapted from Ministry of Environment and Forest (2016). Oromia Forested Landscape Program Environmental and Social Management Framework)

I. **Objective of the TOR:** This section should state the scope of the ESIA in relation to the screening category and the proposed program activities. It needs to stipulate the process and the timing of the ESIA preparation and implementation stages to adequately address the safeguards requirements of the GOE and the World Bank/IFC.

II. Introduction and Context: The TOR needs to provide information on program activity objective, the name of the program activity proponent, the rational for conducting the ESIA, specific components of the program activity, program activity area with location map, short briefing of social and environment of settings and applicable national and international safeguard policies.

III. Location of the study area and likely major impacts: State the area involved and the boundaries of the study area for the assessment. Identify adjacent or remote areas which should be considered with respect to the impacts of aspects of the program activity.

IV. Mission/Tasks: The ESIA study team/consultant should clearly execute the following tasks.

Task A: Description of the proposed program activity: Describe the location, size and nature of the program activity, environmental assessment category, brief description of program activity alternatives, time schedule for phasing of development (i.e. preconstruction, construction, operation/maintenance, decommissioning), and resources (finance, human, material, and technology) required for the program activity, among others.

Task B: Baseline information (biophysical and social-economic description): Describe the baseline biophysical and socio-economic characteristics of the environment where the program activity will be implemented; and the area of influence. Include information on any changes anticipated before the program activity commences.

Task C: Administrative and legal policy framework: In addition to the required administrative and institutional setup for the implementation of the program activity, this part needs to identify pertinent policies, regulations, and guidelines pertinent to the study that include:

- National laws and/or regulations on environmental and social assessments,
- Regional environmental and social assessment regulations,
- Environmental and social assessment regulations of any other financing organizations involved in the program activity,
- Relevant international environmental and social agreements/conventions to which Ethiopia is a party, and
- World Bank/IFC safeguards policies.

Task D: Identification of potential impacts of the program activity: Identify all potential significant impacts that the program activity is likely to generate. Assess the impacts from changes brought about by the program activity on baseline environmental conditions as described under.

Task E. The analysis should address both the positive and negative impacts of the program activity. Wherever possible, describe impacts quantitatively, in terms of environmental and social costs and benefits.

Task F: Propose program activity alternatives: Alternatives extend to site, design, technology selection, construction techniques and phasing, and operating and maintenance procedures.

Compare alternatives in terms of potential environmental and social impacts; capital and operating costs; suitability under local conditions; and institutional, training, and monitoring requirements.

Task G: Preparation of an Environmental and Social Management Plan (ESMP): Describe the mitigation measures for adverse environmental and social impacts, staffing/institutional and training requirements, schedules, and other necessary support services to implement the mitigating measures. Provide environmental and social protection clauses for application by contractors and consultants, if any. The TOR should state that the concerned and affected parties should agree on the proposed mitigating measures before they are included in the ESMP.

Task H: Monitoring Plan: This organizes a comprehensive plan to monitor the implementation of mitigating measures and the impacts of the program activities. It should also address an estimate of capital and operating costs and a description of other inputs (such as training and institutional strengthening) needed to implement the plan.

V. Qualification of the ESIA study team/Consultant: The TOR should provide clear guidance on the qualification of the ESIA study team.

VI. Duration of the ESIA Study: This should be determined according to the type of the program activity.

VII. Preparation of the final Report: The ESIA study team/consultant will produce the final report one week after receiving comments from program activity proponent and concerned stakeholders. The final report will include comments from these institutions.

VIII. Suggested Contents of the ESIA Report:

The contents of the ESIA report should contain the following elements (EPA, 2003).

- Executive Summary
- Introduction
- Methodology
- Administrative, legal and policy requirements
- Description of program activity (need, objectives, technical details, size, location input and other relevant requirements)
- An outline of the main development alternatives
- Description of baseline information/environmental and socio-economic conditions
- An account of the prediction and assessment of each impact at all stages of the program activity cycle for each alternative
- Description of the methodology and techniques used in assessment and analysis of the program activity impacts.
- Description of environmental and social impacts for program activity
- Environmental and Social Management Plan (ESMP) for the project including the proposed mitigation measures.
- Institutional responsibilities for monitoring and implementation; Summarized table for ESMP.
- Conclusions and recommendations
- References
- **Annexes**
- List of Persons/Institutions met.
- List of the ESIA study team members
- Minutes of consultations

Annex 5. Suggested Template for Environmental & Social Management Plan Compliance Monitoring

A. Program Activity Information

1.1. Name of subproject proponent:

1.2. Subproject Title:

1.3. Subproject category:

1.4. Subproject location:

1.5. Reporting period:

B. Main findings of the monitoring, including feedback/grievance received from stakeholders:

C. Impacts/issues as per the ESMP of the subproject:

Issues (Potential Impact)	Mitigating Measures	Schedule / Duration of Mitigating Measures	Compliance Progress Indicator	Status of Compliance	Means of Verifications	Remarks

Factors Affecting Safeguards Compliance

D. Conclusions and recommendations:

E. Experts / team leader who prepared/approved the report.

Name Sign. Date

Prepared by: 1----------2---------- 3----------

Approved by: ----------

Adaptation Fund

Gender Assessment and Action Plan

October 2024

Contents

Executive Summary

This gender assessment is prepared to inform the proposed Adaptation Fund project on the gender roles and power relations observed in the Ethiopian context. It is carried out to support the design of the project by taking into consideration the different needs, priorities and knowledge of women and men.

Africa has been identified as highly vulnerable to climate change due to low adaptive capacity and high reliance on climate-sensitive sectors such as rain-fed agriculture (Gebrechorkos, S.H. et al. 2019; Girvetz, E. et al., 2019). Ethiopia is one of the sub-Saharan African countries that is highly vulnerable to the impacts of climate change and variability (Birara, H. et al., 2018).

Ethiopia, has a population of over 107 million people (ESS, 2023), out of which 83% are smallholder farmers accounting for 95% of the total agricultural land and 90% of agricultural output (Welteji, D. 2018). Evidence of climate change impacts has become clear in Ethiopia in the last 50 years (Zeleke et al., 2017; Weldearegay, S.K. and Tedla, D.G., 2018).

A study on agricultural productivity change caused by climate change up to the year 2050, finds that, at national level, crop production will be adversely affected during the coming four decades, with increased severity over the time period. The study indicates that climate change will cause a loss of 31% of agricultural GDP by 2050 (Solomon, R. et al., 2021).

Ethiopia has a value of 0.921 in the Gender Development Index and is in Group Four, which includes countries with medium to low equality in HDI achievements between women and men. The Gender Inequality Index, on the other hand ranks Ethiopia at 129 out of 191 countries, with a value of 0.520 (UNDP, 2022).

The livelihoods of the majority of rural women are directly dependent on agriculture and environmental resources. A study shows the uptake of climate smart agriculture by women smallholders is limited due to access to credit, extension services, restricted cooperative and water user associations membership, lack of access to skill, training, information as well as restricted mobility (Tsige, M. et al, 2020). Further, compared to female-headed households, male-headed households have larger plot sizes, a larger proportion of cultivable land and a larger fraction of registered land (World Bank, 2019a). Rural households, on average, own 1 hectare of land; while, on average, male-headed households own 1.12 ha, female-headed households own 0.6 ha (CSA, 2020). Another study shows that although all rural Ethiopian households are vulnerable to climate change, the magnitude of the effect differs, and female-headed households are more vulnerable. In the study, on average, household income in male-headed households declined by 5.7% while income in female-headed households declined by 12.4% due to climate variability (Tesfamicahel, W., 2016).

In 2016, of the population aged 15-49, about half of women (48%) and 28% of men aged 15-49 had no formal education. The median age at first birth among women aged 25-49 is 18.7 years (EPHI, 2021). Women who marry early are more likely to drop out of school earlier and less likely to spend time acquiring valuable skills for economic success (World Bank, 2019a).

Ethiopian women aged 18-19 spend 4.1 hours per day on domestic tasks, compared to 1.5 hours for boys of the same age (A. Pankhurst et al., 2016). Women are much more likely than men to spend time collecting water and fuel wood; about 49% of female household members engage in these activities daily, compared with only 25% of male members (CSA, 2020).

Securing water and energy for the household, along with maintaining overall household well-being, is the role of women in rural Ethiopia. Therefore, extreme climate events such as floods, droughts, and rising temperatures place greater pressures on women. In addition, during emergencies men are mostly forced to migrate while women are left behind with children, assuming additional responsibilities without necessarily having the right skills and knowledge (MoANR, 2017).

The development of the Climate Resilient Green Economy (CRGE) Strategy in 2011 has provided a strong basis for climate-resilient development planning across sectors and levels of government in Ethiopia (FDRE, 2011; MoF, 2021a). In 2012, the Ethiopian government established the CRGE Facility as a financial mechanism to support the implementation of priorities identified by the CRGE Strategy (MoF, 2021a). Although studies indicate that the CRGE Strategy, as well as the Climate Resilient Strategies for Agriculture and Forest, and Transport, fail to explicitly address the gender dimension of climate change (Azeb, A and Van Laerhoven, F., 2019; MoF, 2019), recent efforts by the CRGE Facility have tried to ensure gender is taken into account in the implementation of programs and projects managed through the Facility (MoF, 2021b). Further, the recently launched LT-LEDS, recognizes the need for gender equality and social inclusion in climate action (FDRE, 2023).

A number of instruments are also used to mainstream gender issues in the country's social, economic and political affairs. These include the 1993 National Ethiopian Women's Policy, the 2006 National Action Plan for Gender Equality, and the National Women's Development and Change Strategy and Package.

Further, the Women's Affairs Office was upgraded to a Ministry in 2005 and was restructured as the Ministry of Women and Social Affairs in 2021. Proclamation no 691/2010 expanded the Ministry's mandate to render comprehensive protection and promotion of women's rights and to coordinate the efforts of the Women's Affairs Directorates (WADs) established in the sectoral ministries (MoF, 2019).

Several legislative and policy frameworks have been established to provide directions on how climate change effects can be eradicated or at least reduced. The frameworks range from stand-alone climate change mitigation and adaptation processes to the mainstreaming of climate change into decision-making processes at a national level.

The proposed project aims to create a holistic and integrated approach to enhance climate resilience and sustainable development in the targeted sites. The proposed initiatives include enhancing local level adaptation responses by strengthening climate risk reduction and adaptation planning; water security and climate resilience with an emphasis on women empowerment; climate smart agriculture and livestock rearing; and climate smart livelihood diversification.

The project will be implemented in six woredas of six selected regions. The woredas were selected based on their susceptibility to climate-related risks, their vulnerability to climate change, and their low ability to adapt to climate change. The selected sites are:

- Afar region, Awash Fentale woreda
- Amhara region, Mida Weremo woreda
- Central Ethiopia region, Fofa woreda
- Oromia region, Tullo woreda
- Somali region, Shabelay woreda
- Tigray region, Sewha Saese woreda

Part I: Gender Assessment

I. Background and National Context

Ethiopia is located in the horn of Africa and is home to over 107 million people (ESS, 2023). Over 83% of the population are smallholder farmers, of whom 26% are female-headed households (MoF, 2019). The number of farmers cultivating in less than 0.9 ha and in very fragmented landscapes account for about 60% of farmers (Zerssa,G., et al, 2021). Smallholder agriculture contributes over 85% of total employment, over 90% of foreign exchange earnings, and approximately 50% of gross domestic product (GDP) (Welteji, D, 2018). Smallholder farmers account for 95% of the total area under agriculture and these farmers provide more than 90% of total agricultural output (Welteji, D, 2018).

However, these farming systems are facing critical challenges including land degradation, low soil quality and limited resources which is negatively affecting sustainable crop production and food security (Zerssa,G., et al, 2021). Natural resources are key in the country's economic growth and development, as well as the livelihoods of the rural population. As a result, growth in the agriculture sector can play a critical role in reducing the poverty rate – a 1% increase in agricultural output leads to a decrease in poverty of nearly 1% (World Bank, 2016a).

Eighty percent of the Ethiopian population currently live in rural areas. Recent rapid economic growth, however, signals the advent of a demographic transition, as urban services and industry are expanding rapidly (World Bank, 2019a). In the past decade, Ethiopia's average annual economic growth rate was slightly over 10%, exceeding the regional average of 5%. In this period, services grew by 12%, industry by 21% and agriculture by 7% (World Bank, 2019a).

Public investment, which increased from 5% of GDP in the early 1990s (Rodrik D, 2016) to 15.3% in 2022 (Terry M et al., 2022), plays a significant part in Ethiopia's growth. More recently, foreign direct investment (FDI) has influenced Ethiopia's growth and the country has attracted about US$ 8.5 billion in FDI (CIA, 2021). The sustained economic growth Ethiopia maintained over the past decade reduced the poverty rate from 30% to 24% between 2011 and 2016 (World Bank, 2019a).

However, in 2022 inflation rose to 34% and the real GDP growth fell to 5.3% while it still remained above East Africa's average, which was 4.4% (ADB, 2023). The growth as well as inflation were negatively affected by drought, internal conflict as well as increased commodity prices as a result of the Russian and Ukraine war. Remittances also declined by 10% in 2020, and Foreign Direct Investment inflows were 20% lower (FDRE, 2021).

Ethiopia is among the poorest countries in the world. The Human Development Index (HDI), which measures average achievements in long and healthy lives, knowledge and a decent standard of living, places Ethiopia in the low human development category: at rank 175 (out of 191 countries), with a value of 0.498 (UNDP, 2022). The 2023 global multidimensional poverty index shows that 68.7% of the population in multidimensional poverty, with 23.5% living below the national poverty line (UNDP and OPHI, 2023).

Ethiopia is highly vulnerable to impacts of climate change despite its very low global greenhouse gas emissions contribution (0.04% of global emissions) (Crippa, M. et al., 2019). Evidence of climate change impacts has become clear in Ethiopia in the last 50 years. An average of around 1°C in temperature increase has been recorded since the 1960s. Occurrences of extreme weather events such as drought and floods have increased in the last ten years while annually, 25-50% mean rainfall variations are observed. These circumstances are expected to further increase the risk of conflict over scarce resources and food insecurity, affect human health, put infrastructure at risk and exacerbate environmental degradation. Therefore, to manage vulnerability to climate risks and hazards, sustainable adaptation and resilience measures are crucial (FDRE, 2021).

Women constitute half of the Ethiopian population (49.87%) (ESS, 2023) and 22.1% of the total heads of households (World Bank, 2019b). The livelihoods of the majority of rural women are directly dependent on agriculture and environmental resources; hence they are engaged in productive activities (including crop farming and livestock herding) as well as the management of natural resources and household assets (AU, 2012). A study shows the uptake of climate smart agriculture by women smallholders is limited due to access to credit, extension services, restricted cooperative and water user associations membership, lack of access to skill, training, information as well as restricted mobility (Tsige, M. et al, 2020).

Ethiopia has a value of 0.921 in the Gender Development Index, which is the ratio of female to male HDI values; it is in Group Four, which includes countries with medium to low equality in HDI achievements between women and men. The Gender Inequality Index, which reflects inequality in achievement between women and men in reproductive health, empowerment, and the labor market, ranks Ethiopia at 129 out of 191 countries, with a value of 0.520 (UNDP, 2022).

This gender assessment is carried out to inform the proposed Adaptation Fund project on the gender roles and power relations observed in the Ethiopian context. It is expected to support the design of the project by taking into consideration the different needs, priorities and knowledge of women and men.

Ethiopia Gender Profile

Population

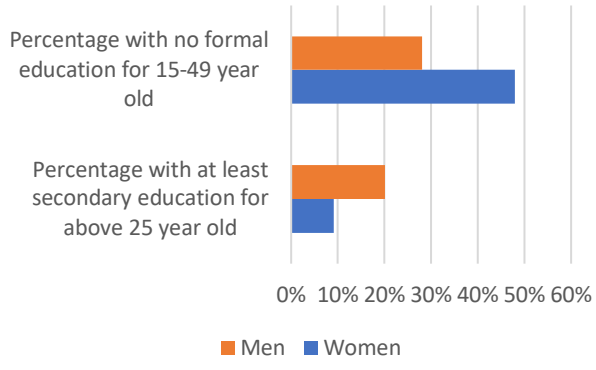
Ethiopia has a population of 105 million and a population growth rate of 2.85%. It is the second-largest country in Africa (World Bank, 2019a). 50% of the total population are women, while 44% are under the age of 15 and 4% are above the age of 65 (EPHI, 2021). Average household size is 5.2 persons in rural areas and 3.6 in urban areas (CSA, 2020).

Education

Literacy is key in preparing a skilled workforce. Participation in a broader range of work opportunities, including more profitable and high-value-added sectors, are determined by the technical and vocational skills of an individual (Hallward-Driemeier, M., 2013). Education is also strongly linked with socioeconomic variables such as lifestyle, income, and fertility.

The gender development index of the 2021/22 Human Development Report indicates that the mean year of schooling in Ethiopia is 2.2 years for females and 4.2 for males, while the gender inequality index shows that only 9.1% of females and 20.1% of males above the age of 25 have at least some secondary educations (UNDP, 2022).

Fig. 1: Percentage of men and women with no formal education and with at least secondary education



Source: CSA, 2017a; UNDP 2022

Based on a survey conducted in 2016 men are better educated than women in Ethiopia. Of the population aged 15-49, about half of women (48%) and 28% of men aged 15-49 had no formal education. Urban women complete a median of 7.7 years of education, while the median among rural women is 0. The corresponding figures among men are 9.3 and 2.9 years, respectively. Additionally, 48% of women are literate, as compared to 69% of men (CSA, 2017a; EPHI, 2021).

In 2019, 35% of females attended some primary schooling, 6% completed primary education, 11% had some secondary schooling and 7% completed secondary school or had more than a secondary education. Improvement is seen the parentage of

women being educated as the percentage of women with no education fell from 75% in 2000 to 48% in 2016 and 40% in 2019 (EPHI, 2021).

The median age for a mother's first birth in Ethiopia is 18.7 years (EPHI, 2021). Women who give birth in their teenage years are more likely to drop out of school, it is also shown that they will continue to struggle with decisions related to fertility, motherhood, and the labor market throughout their adult life (CSA, 2017a).

The gender gap in adult education is also wide with 70% of illiterate men enrolled in adult education programs, while only around 40% of illiterate women are enrolled in such programs. This is due to the fact that women are likely to experience more time and social constraints with age relative to men. In order to facilitate women's involvement in continuing education programs, it may be effective to offer financial incentives to offset time costs associated with attendance and travel (UN Women, 2014).

Health

In Ethiopia, health problems are largely attributable to preventable infectious ailments and nutritional deficiencies. Infectious and communicable diseases account for about 60-80% of diseases in the country. The health status of women, is poor, largely due to the higher rate of illiteracy and poverty among women, which has impeded their access to health services, information, and decision-making in health matters (JICA, 2006).

The median age at first birth among women aged 25-49 is 18.7 years, in Ethiopia (EPHI, 2021). The 2022 gender inequality index shows that, there are 69.2 births per 1,000 women aged 15-19. The age at which childbearing commences is an important determinant of the health and well-being of a mother and child.

Family planning is essential for women to minimize unplanned or unwanted pregnancies as well as unsafe abortions. Additionally, it enables women to space the births of their children, which benefits the health of the mother and child. The 2019 mini demographic and health survey showed that 96% of married women aged 15-49 know at least one method of contraception. The contraceptive prevalence rate in 2019 was 41% and has steadily increased from 14% in 2005 (EPHI, 2021).

Health care services during pregnancy and after delivery are yet another important factor for the survival and well-being of both the infant and the mother. Skilled care during pregnancy, childbirth and the postpartum period is essential in reducing maternal and neonatal morbidity and mortality. A 2019 survey shows that the percentage of women aged 15-49 who received antenatal care from a skilled provider were 74, which has increased from 62% in 2016. Further, 48% of births occurred in a health facility, which has increased from 26% in 2016 and just 5% in 2005. The gender inequality index of 2021/22 shows that the mortality ratio for Ethiopia is 401 maternal deaths/100,000 live births, which needs considerable improvement to meet the SDG target of 70/100,000 by 2030. Although institutional delivery has been promoted in Ethiopia, home delivery is still common, primarily due to distance, scarce transport, and lack of appropriate facilities (EPHI, 2021).

Twenty percent of women and 38% of men aged 15-49 have comprehensive knowledge of HIV. The national HIV prevalence rate is 1.2% and 0.6% for females and males, respectively (CSA, 2017a). With regard to female genital mutilation (FGM), 65% of women aged 15-49 (a decrease from 74% in 2005 and 80% in 2000) are circumcised. Among women who have heard of female circumcision, 24% believe that the practice is required by their religion and 18% believe that the practice should be continued (CSA, 2017a). Though a lot of progress has been observed since a national strategy and action plan were developed in 2013 to address harmful traditional practices, it is evident that more work is needed in raising awareness and taking actions to eliminate the practice of FGM (MoWCYA, 2013; CSA, 2017a).

The 2019 EPHI survey shows that most of the positive outcomes on women's health indicators are higher for women in urban areas and for those that have at least a secondary education. This is an indication that a focus on education can improve the health of both women and men in Ethiopia.

Participation in the formal and informal economy
Gender serves as a strong predictor of workforce participation in Ethiopia, according to the Ethiopia Socioeconomic Survey (ESS) of 2015-16 - women are 17% less likely than men to participate in the labor force. This difference widens to 29% when considering other factors such as education, age, and household wealth. A gender gap of 4.4 hours exists among individuals active in the workforce; on average, while men work 31 hours per week, women work only 27 (World Bank, 2019a).

Access to Resources

Asset Ownership
Assets such as land and business equipment serve as essential inputs as well as, as a potential collateral for credit. Of all women in Ethiopia, half own a house in part or in full, while 40% own land. Of the women who own land, only half report having their name on a title deed (CSA, 2017a). However, relative to men and male-headed households, women and female-headed households fare worse in land and asset ownership. Compared to female-headed households, male-headed households have larger plot sizes, a larger proportion of cultivable land and a larger fraction of registered land. Women in male-headed households are very rarely primary land managers, though the reverse is not the case for men in female-headed households (World Bank, 2019a).

Land as productive resource
Seventy four percent of female farmers are widowed, divorced, or separated, according to the Ethiopia Socioeconomic Survey (ESS) of 2015-16. Further, on average, they have smaller household size, are five years older and are more likely to be illiterate – 88% for females vs. 59% for males (World Bank, 2019a).

Rural households, on average, own 1 hectare of land; while, on average, male-headed households own 1.12 ha, female-headed households own 0.6 ha (CSA, 2020). Further, even though women make up more than 40% of the agricultural labor force and head approximately 25% of all farming households, they have less access not only to land but also to other factors of production than men (World Bank, 2019a). In terms of gross value of output, female farmers produce 23% less per hectare than male farmers. In addition, women see lower returns to their time spent on agricultural activities, extension services received, and use of fertilizer and oxen compared to their male counterparts (O'Sullivan M. et al., 2014). The fact that female farmers grow a narrower range of crops further widens the gender gap in productivity (World Bank, 2019a).

These lower returns point to broader social norms, market failures and institutional constraints that prevent women's resources from translating into the same levels of agricultural productivity as they would for men (World Bank, 2019a). Addressing these challenges is a necessary step to fulfill ambitious targets, such as those set in the national Ten-Year Development Plan – including securing the rights of the 60% of women who are not given land rights (FDRE, 2020).

Services and Inputs

Extension services

Agriculture extension services are how smallholder farmers access information about new technologies and other farm-related information. Female farmers are less likely than male farmers to attend extension programs. Twenty three percent of female farmers attended extension programs compared to 38% of male farmers, in 2015-16. This means women are less aware of, and exposed to, new techniques, farming knowledge and management practices. Though policies have recognized the need to close the gender gap, identifying and addressing constraints still remains a challenge (World Bank, 2019a).

Formal credit

Financial services and credit can provide small-scale farmers with the opportunity to improve farm productivity and transition from subsistence farming to large-scale and commercial farming (Mukasa A. N., 2017). Credit can, in the short term, help farmers increase their purchasing power to acquire necessary

production inputs and finance their operating expenses, while in the long run it can help farmers to make profitable investments (World Bank, 2019a). Female farmers are 9 percentage points less likely to live in a household with access to credit than male farmers (Mukasa A. N., 2017). Reasons include the fact that women are less likely to own and control physical assets that serve as collateral and they have lower levels of human and social capital which, in turn, can reduce their eligibility for formal credit. When credit is constrained, farmers are likely to use sub-optimal levels of productive inputs, thereby limiting their productive capacity (Mukasa A. N., 2017).

Production inputs

To mitigate crop losses, modern agricultural inputs, such as fertilizers, pesticides, herbicides, and fungicides are used. Female farmers use 2 percentage point lower levels of these agricultural inputs than their male counterparts, which limits productivity and may imply greater vulnerabilities to shock-induced variations in production. Reasons vary from these products being typically sold in large quantities, requiring a sizable upfront cost that cash-constrained women may struggle to afford, to mobility where limited transport options are available that affect access to both inputs and markets (World Bank, 2009a).

Access to Irrigation

Although studies show most projects target both women and men farmers, women still benefit much less from irrigation programs due to lower access to information, including training (Likimyelesh, N. et al., 2017, FDRE, 2007). Men mostly control the use of irrigation technologies and have more control over income from these technologies (Likimyelesh, N. et al., 2017).

Level of income and wages

In 2009, the average wage in Ethiopia was only one-third of the Sub-Saharan African average and less than one-half of the global average for low-income economies. In 2012, the monthly average real income was ETB 421.70 (USD 23.40), less than USD 1.25 per day (Tadele, F and Shiferaw, K., 2015). Low levels of productivity and investment likely contributed to stunted wage growth (World Bank, 2009b).

Both formal and informal sector analysis indicates that female employees earn 44% less per hour than their male counterparts. This disparity drops to 36% when individual-, household-, and job-level characteristics are taken into consideration (World Bank, 2019a).

The gender wage gap is partly explained by gender differences in education, experience, and training (Arbache J. S. et al., 2010). Secondary and post-secondary education help individuals to develop more advanced skills to garner higher wages. Data show that employees who hold a bachelor's or postgraduate degree, have, on average, a 50% higher hourly wage relative to individuals who only completed secondary education, and a 20% higher wage than those who only completed their primary education (World Bank, 2019a).

Furthermore, women's limited labor market skills pigeonhole them into jobs concentrated in low-profitability sectors, with more women working in informal wage employment than men (Arbache J. S. et al., 2010). 37% of women report seasonal employment and 13% report occasional employment (CSA, 2017a). These trends of irregular employment contribute to women's limited on-the-job training, fewer professional development opportunities, and a perpetuation of disparities in skill sets, job opportunities and wages (World Bank, 2019a).

Norms and Practices

Shared beliefs or informal rules about which behaviors are appropriate, typical, or desirable in a particular social group are referred as social norms (Padlock E.L. and Ball L., 2010). Although norms do not dictate behavior, they influence the likelihood of particular behaviors by establishing expectations of rewards and approval or, conversely, sanctions and disapproval. Gender norms arise from, and give basis to, the belief that men and women are, and should be, different in behavior, aspirations, status, and economic activity (Cech E.A., 2013). Norms influence everything from educational investments early on in life, to factors later in life such as the timing and dynamics of marriage, childbearing, household dynamics, asset ownership and internalized beliefs (Paluck E.L. and Ball L., 2010).

Marriage and Childbearing

Marriage in Ethiopia occurs early in life, with the median age at first marriage for women standing as the lowest in Eastern Africa at 17.4 years (Clark S. et al., 2017). Both social norms and economic pressures may result in early marriages. When norms emphasize women's role as mothers rather than providers, girls may be motivated to move into adulthood through marriage and motherhood rather than through education and employment. In cases where norms emphasize virginity, marriage in adolescence is encouraged. Economic pressures also motivate marriages, leading parents to arrange their daughters' marriages in order to escape poverty at home. Women who marry early are more likely to drop out of school earlier and less likely to spend time acquiring valuable skills for economic success. Therefore, delaying marriage may result in better educational and economic outcomes for women in Ethiopia (World Bank, 2019a).

Career and Family

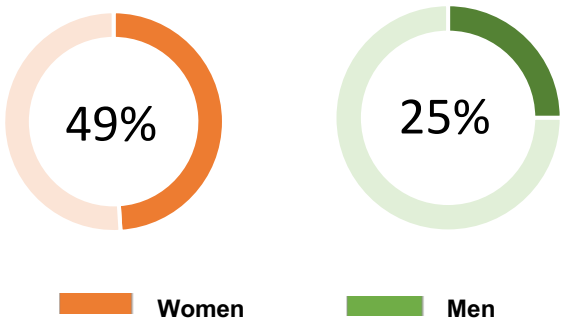
Women may be forced to avoid job opportunities that will minimize the time they can give to caring for family members and the household. Such choices will impact lifetime earnings and contribute to the gender gaps in wages and profits (World Bank, 2019a).

Further, women experience an increasing trade-off between career and family as they enter roles with higher pay and responsibility, in part discouraging women from aspiring to particular occupations or positions. In Ethiopia, a study of large companies, including Ethiopian Airlines, Ethio-Telecom and NIB International Bank, found that female business leaders experience intense "work overload" attributed to their "inability to say no, the nature of their company and their work, and the imbalance of their responsibility and their required working hours" (World Bank, 2019a).

Intra-household Dynamics

In Ethiopia, the majority of domestic work is delegated to women, including child rearing, cleaning, food preparation, wood and water collection, and food production. Ethiopian women aged 18-19 spend 4.1 hours per day on domestic tasks, compared to 1.5 hours for boys of the same age (A. Pankhurst et al., 2016). Women are much more likely than men to spend time collecting water and fuel wood; about 49% of female household members engage in these activities daily, compared with only 25% of male members (CSA, 2020). In addition, many studies document the large amounts of time women devote to agricultural and livestock production. In Oromia, Amhara and SNNP Regions, for instance, women divide their time between agricultural and domestic tasks and spend about 14 hours a day on both productive and domestic activities, compared to an average of 10 hours spent by men (Agajie, G. and Derese, T., 2011). According to UN Women, women contribute as much as 70% of on-farm labor in post-harvest activities for cereals and take on 60% of marketing activities .

Fig. 3: Percentage of household members collecting water and fuelwood daily



Source: CSA, 2020

These responsibilities hinder women's opportunities to study, develop professional experience and skills, run a business, or engage in paid work: 16% of girls drop out of school to look after siblings and 12% of girls drop out of school due to family issues (Frost M. and Rolleston C., 2013).

Internalized Beliefs

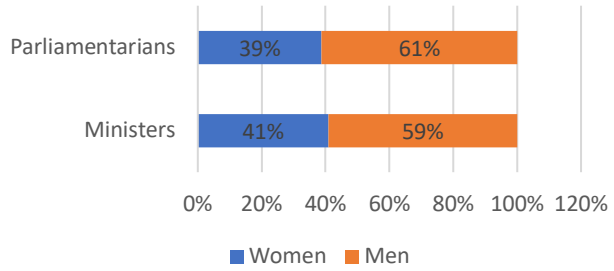
Women's and men's subjective self-assessment capabilities contribute to gender gaps. Ethiopian gender gaps in self-assessed ability are clearly seen for tasks typically performed by only one gender or tasks for which either men or women have a perceived natural advantage. On the other hand, when gender is said to be irrelevant to the task, men and women show no difference in self-perceived competence (World Bank, 2019a).

Violence against women affects a woman's physical and mental health, as well as her ability to engage in daily activities. Fear of violence can also reduce women's willingness to pursue economic activities, especially activities uncommon for women. In Ethiopia, one in ten women report having experienced sexual violence while one-third of ever-married women have experienced spousal violence (CSA, 2017a). 63% of women and 28% of men agree that a husband is justified in beating his wife for activities such as burning food, going out without permission, neglecting children, or refusing to have sex (CSA, 2017a).

Women in Politics

According to 2023 women in politics data, Ethiopia ranks 29 (out of 190) for women in ministerial positions with a score of 40.9% (9 out of 22), while the country ranks 25th for women in parliament. Of the 616 seats in the federal Parliamentary Assembly (House of Peoples' Representatives and House of Federation), 38.8% are held by women. This is higher than the sub-Saharan African average and the world average of 26.5% for women in parliament. Ethiopia is also among the 17 countries (11.3%) globally that have a woman head of state (UN Women, 2023).

Fig. 2: Percentage of women and men parliamentarians and Ministers



Source: UN Women, 2023

II. Gender and Climate Change

Africa has been identified as highly vulnerable to climate change due to low adaptive capacity and high reliance on climate-sensitive sectors such as rain-fed agriculture (Gebrechorkos, S.H. et al. 2019; Girvetz, E. et al., 2019). The two most important variables of climate change, imposing a negative effect on the productivity of the agricultural sector and sustainable economic development in Africa, particularly in sub-Saharan African countries are rainfall variability and increasing temperatures (Serdeczny, O. et al., 2017; Abera, K. et al., 2018; Asfaw, A. et al., 2018; Gebrechorkos, S.H. et al., 2019).

Ethiopia is one of the sub-Saharan African countries that is highly vulnerable to the impacts of climate change and variability (Birara, H. et al., 2018), despite its very low global greenhouse gas emission (0.04%) contribution (Crippa, M. et al., 2019).

Evidence of climate change impacts has become apparent in Ethiopia in the past 50 years. Changes in the amount and spatial distribution of seasonal and annual rainfall and recurrent droughts are among the major climate-related developments evident in Ethiopia (Zeleke et al., 2017; Weldearegay, S.K. and Tedla, D.G., 2018).

Ethiopia's agriculture systems are predominantly rainfall dependent. As a result, any variation in rainfall amount, distribution and trends will have a direct impact on agricultural production. This in turn significantly affect the lives of smallholder farmers who depend largely on agriculture as their main source of income (Desalew, M.M. and Bhat, H.G, 2021).

A study on agricultural productivity change caused by climate change up to the year 2050, finds that, at national level, crop production will be adversely affected during the coming four decades, with increased severity over the time period. Therefore, food prices are expected to increase which in return will lower the Ethiopian GDP growth, reduce real household incomes, and adversely impact consumption. Overall, the study indicates that climate change will cause a loss of 31% of agricultural GDP by 2050. It further shows that poor, rural households will be more affected than urban and rural non-farming households. Since agriculture has linkages with other sectors, an impact on the agriculture sector will also adversely impact the agro-processing, industrial and service sectors. The value of exports and imports are expected to fall by 36% and 32% in 2050, respectively. Therefore, the need to mainstream adaptation measures to sustain the overall performance of the economy is critical. The key recommendations of the study are increasing the use of irrigation and infrastructure development, building human capital, especially the skills of farmers, and integrated policy options, including changes in modern technology and enhanced awareness to adapt to adverse climate change impacts (Solomon, R. et al., 2021).

Another study done in the northwestern highlands of Ethiopia, in the Rib Watershed, shows that both seasonal and annual rainfall patterns across the watershed vary extremely and exhibit high temporal and spatial variability (Desalew, M.M. and Bhat, H.G, 2021). Most parts of the watershed have experienced high variability or less reliability of rainfall over the last few decades, notably with higher variability of Belg – short rainy period (March-May) rainfall in the watershed than Kiremt – the main rainy season (June- September). The study projected that the Kiremt rainfall will probably increase by 20-25% by 2050 relative to the baseline period (1986–2017) while the Belg rainfall is projected to decline by 4.8-8%.

In the Rib Watershed, a greater warming trend for both current and future scenarios was observed. In the study area, the mean annual temperature increased by 1.07°C over the last four and a half decades, with an average rate of 0.24°C per decade (Desalew, M.M. and Bhat, H.G, 2021). Comparable results were found in Lake Tana sub-basin (Abera, K. et al., 2018) and Tekeze basin (Fikru, F. et al., 2018).

Increases in temperatures may adversely affect crop production, farm income and food security in many ways, especially when combined with high inter-annual and intra-seasonal variability of rainfall. The projected warming will reduce the grain yield of cereal crops, which are already experiencing significant reduction due to human-induced soil erosion (Desalew, M.M. and Bhat, H.G, 2021). An increase in temperature significantly affects mean yield, as well as yield variability, of maize, millet, and sorghum (Maharjan and Joshi, 2013). Heat stress increases evaporation and reduces water availability (Hatfield and Prueger, 2015) leading to low yield, particularly in low rainfall-receiving downstream areas.

Livestock production is another important income source of rural communities. It contributes about 39% of the agricultural gross domestic product (GDP) and 17% of Ethiopia's GDP (Shapiro, B. et al., 2017). However, livestock management is often inefficient, with low and unreliable returns that leave many livestock-producing households in poverty (Rettberg, S. et al., 2017).

About 60% of Ethiopia's lowlands are arid or semi-arid and Shapiro, B. et al. (2017) estimate that 60 million ha of rangelands are grazed in Ethiopia and that livestock consume 120% of the annual forage production in average weather years. The forage deficits are higher in drought years and have been aggravated by increasing livestock populations. As a result, livestock productivity per animal has declined.

Improved production practices, such as rotation grazing, restoration of degraded rangeland, and fodder cultivation, may reduce or mitigate the negative impacts of grazing livestock on rangelands (Ng'ang'a, S. et al., 2020) and can reduce the GHG emissions per unit of animal products by increasing yields per animal (Kashangaki, J. and Ericksen, P., 2018). Improved practices may also accelerate the production cycle and reduce livestock morbidity and mortality rates (Vétérinaires sans Frontières, 2018). Still, if ruminant populations increase, total GHG emissions may increase even if the emissions per animal fall.

Men and women are affected differently by the impacts of climate change mentioned above. There is a general understanding that since climate change has gender-differentiated impact, policies, programs, and interventions need to address these impacts in both mitigation and adaptation responses in order to make interventions sufficient, just, sustainable and avoid further increases in the existing gender gap (MoF, 2019).

A study shows that although all rural Ethiopian households are vulnerable to climate change, the magnitude of the effect differs, and female-headed households are more vulnerable. In the study, on average, household income in male-headed households declined by 5.7% while income in female-headed households declined by 12.4% due to climate variability. Since the study exposed both types of households to the same level of climate shock, the effect was attributed to differences in endowments and adaptive capacity. It is expected, therefore, that as a result of climate variability, female-headed households will become absolutely and relatively poorer (Tesfamicahel, W., 2016).

Women and female-headed households are the least prepared, most vulnerable, and likely to be worst affected by climate change. Their limited control over and access to, resources and information, and their limited input in decision-making processes, increases the vulnerability of many women to climate change (Aklilu, A. et al., 2013; Alebachew, A., 2011; Tesfamichael, W., 2016).

Securing water, energy and for the household, along with maintaining overall household well-being, is the role of women in rural Ethiopia. Therefore, extreme climate events such as floods, droughts, and rising temperatures place greater pressures on women. In addition, during emergencies men are mostly forced to migrate while women are left behind with children, assuming additional responsibilities without necessarily having the right skills and knowledge (MoANR, 2017). A study by Alebachew, A. (2011) shows that some men who leave their villages and families behind sometimes do not continue to help their family as they establish new lives at their destinations. Migration can, therefore, increase the level of malnutrition due to increased scarcity of food, leading to deteriorating health status of the communities left behind.

Adaptation preferences are usually different in male and female headed households. In male-headed household preferences are given to on-farm adaptation measures, such as cropping time adjustment, crop diversification, planting cash crops and soil conservation, while female-headed households tend to focus on off-farm and non-farm diversification adaptation measures (Azeb, A. and Van Laerhoven, F., 2016). Male-headed household heads have fewer domestic responsibilities and can, therefore, rely on income from temporary labor migration during bad harvest times – which is usually not an option for female-headed household heads, as they are responsible for caring for the children, the elderly and the sick, as well as the cattle (Azeb, A. and Van Laerhoven, F., 2016, Aklilu, A. et al., 2013).

Increasing frequency and intensity of floods, increased water stress and deteriorating water quality are additional critical impacts of climate change. Women and men often have different needs and priorities in terms of water use. Women usually use water for domestic purposes while men usually use it for agriculture-related functions. (Alebachew, A., 2011).

In drought-prone areas the time required for water collection increases and women and children (mostly girls) have to travel greater distances to find water (Azeb, A. and Van Laerhoven, F., 2016). They are, therefore, forced to spend more hours fetching water, which significantly increases their workload and potentially exposes them to harassment, especially in areas and times of conflict. A study by Alebachew, A. (2011) indicates, on average, women work 14-17 hours each day and, during chronic drought and famine years, the daily work schedule may extend to 16-18 hours and beyond.

According to a survey by CSA (2014), rural households in Ethiopia obtain water mostly from wells or from public/private taps outside their homes. Thirty percent of households obtain water from unprotected wells outside of the household; 22% from a protected well outside of the household; and 25% from natural sources (rivers, springs, etc.). About 22% obtain water from a shared / community tap, and less than 1% of households report having access to piped water on their own premises. Women and girls spend a significant amount of time collecting water. About 56% of rural households have to travel less than 1 hour to get water, while 37% have to travel between 1 and 2.5 hours, and the remaining have to travel even further to fetch water. Poor access to safe drinking water, coupled with illiteracy (73%) and water-borne disease prevalence, greatly influence the participation of girls and female in education, agricultural production, and other development activities (Getachew, D., 2016).

Therefore, easy access to water mostly benefits women and girls, as it reduces the burden of water collection that disproportionately falls on them and makes time available for education and economically productive activities. It also reduces the physical challenges they face (i.e., exposure to physical hardship, sexual and physical violence), when they travel long distances to fetch water (UN Women, 2014). Yet,

achieving equity within and among rural communities remains challenging and can compromise the sustainability of groundwater use (Likimyelesh, N. et al., 2018).

Based on an assessment done by a project implemented in Oromia and SNNPR that provided women and men farmers with water lifting technologies, installing technologies near households enabled multiple uses in addition to irrigation (Likimyelesh, N. et al., 2017). The assessment showed that even though men and women use the technologies for different purposes, both found the technologies ease their work. While men use water from these technologies mainly for irrigation, women and children use the water for multiple purposes, including livestock watering and domestic use. For these reasons, a water-based project should give specific attention to gender-based needs and concerns to prevent reinforcing inequities in opportunities for water access and governance or social norms against women (World Bank, 2016b).

Access to information, affects the likelihood of technologies improving the livelihoods of farmers. Likimyelesh, N., et al. (2017) found that, in their study area, women are excluded from decision-making in groundwater development and management due to male dominance, cultural influence and women simply not being invited to meetings, as well as inability to participate due to their high domestic workload. Men, therefore, have greater access to information. Due to the same reasons, women are reluctant to participate in groundwater monitoring.

This indicates the need to invest more effort in reaching and informing women, including understanding the times and locations convenient for women. Projects need to extend invitations to women directly for information-sharing events and meetings, and not rely on spouses or men in the community to inform women (Likimyelesh, N. et al., 2017). Even though it is now standard practice for development programs to be built upon 'gender mainstreaming' approaches, the result is often nothing more than a satisfied quota (e.g., a certain number of women in groups or on water management committees), rather than actual participation or influence in decision-making (Lefore, N. et al., 2017). Therefore, it is imperative that steps are taken to address the root causes of women's lack of participation, such as high demands on their time due to domestic responsibilities, and social norms that discriminate against them (Likimyelesh, N. et al., 2018).

The development of the Climate Resilient Green Economy (CRGE) Strategy in 2011 has provided a strong basis for climate-resilient development planning across sectors and levels of government in Ethiopia (FDRE, 2011; MoF, 2021a). In 2012, the Ethiopian government established the CRGE Facility as a financial mechanism to support the implementation of priorities identified by the CRGE Strategy (MoF, 2021a). Although studies indicate that the CRGE Strategy, as well as the Climate Resilient Strategies for Agriculture and Forest, and Transport, fail to explicitly address the gender dimension of climate change (Azeb, A and Van Laerhoven, F., 2019; MoF, 2019), recent efforts by the CRGE Facility have tried to ensure gender is taken into account in the implementation of programs and projects managed through the Facility (MoF, 2021b). Further, the recently launched LT-LEDS, recognizes the need for gender equality and social inclusion in climate action (FDRE, 2023).

III. Gender and climate: institutional, legal and policy frameworks

Legal and policy frameworks

Strong policy commitments to bring about gender equality has been demonstrated by the Ethiopian Government. It has signed and domesticated several international and regional policies, development frameworks and conventions, including the Convention on the Elimination of all forms of Discrimination against Women (CEDAW), the Beijing Platform for Action, Agenda 2063, the 2030 Sustainable Development Goals (SDGs), the Maputo Protocol, the Maputo Plan of Action, and the Malabo Declaration.

The Ethiopian Constitution guarantees equality before the law: equal rights to land, property, employment, maternity leave and pay, and equal rights between the male and female counterparts in marriage. There are affirmative action provisions to address the historical legacy of discrimination.

A number of instruments are used to mainstream gender issues in the country's social, economic and political affairs. These include the 1993 National Ethiopian Women's Policy, the 2006 National Action Plan for Gender Equality, and the National Women's Development and Change Strategy and Package.

Ethiopia's overarching development strategy, the Ten-Year Development Plan (2021-2030), includes women's rights, representation, and access to resources as one of the key areas of focus under social sector development (NPC, 2021). The 2023 long-term low emissions development strategy (LT-LEDS), has provisions for promoting the rights and benefits of women (FDRE, 2023). Gender-responsive budgeting (GRB) is expected to be implemented across all sectoral ministries, guided by the National Gender-Responsive Budgeting Guideline developed by the Ministry of Finance.

Further, the Women's Affairs Office was upgraded to a Ministry in 2005 and was restructured as the Ministry of Women and Social Affairs in 2021. Proclamation no 691/2010 expanded the Ministry's mandate to render comprehensive protection and promotion of women's rights and to coordinate the efforts of the Women's Affairs Directorates (WADs) established in the sectoral ministries (MoF, 2019).

Several legislative and policy frameworks have been established to provide directions on how climate change effects can be eradicated or at least reduced. The frameworks range from stand-alone climate change mitigation and adaptation processes to the mainstreaming of climate change into decision-making processes at a national level. Relevant policy instruments are presented below.

National Policy on Ethiopian Women, 1993
The policy outlines the major economic, social, and political concerns of Ethiopian women and indicates broad strategies and interventions (Transitional Government of Ethiopia, 1993). Since then, major programs have been designed to be gender-sensitive or to have gender components, and women's affairs have been given attention with the establishment of an office that eventually grew to the status of a ministry (Amdissa, T., 2018). A new national policy on gender equality and women empowerment is drafted and currently under review at the Ministry of Planning and Development.

The Revised Family Code, 2000
Even though the earlier Family Code granted permission to married women to control assets or pursue a profession, it failed to offer protection to unmarried or widowed women. The 2000 Revised Family Code better protects women by granting equal rights to spouses during the duration, conclusion, and dissolution of marriage, requiring equal asset division between the husband and wife upon divorce (FDRE, 2000).

In an attempt to improve women's ability to earn, work and thrive outside of the home, the 2000 Revised Family Code changed the legal age of marriage to 18. A study in 2013 showed that, by 2005, five regions and two charter cities had implemented this change. The increased marriage age helped improve participation in the labor market, particularly for young women. In the five regions, labor force participation rose by 15-24% more than regions that had not yet implemented the change (Hallward-Driemeier, M. and Gajigo, O., 2013).

Water Resources Management Proclamation, 2000
The Ethiopian Water Resources Management Proclamation (WRMP) is the main policy governing the water resources sector. The theme of the proclamation focuses on the sustainability and equitability of water uses and cross-cutting issues. The proclamation indicates that in order to provide for the full participation of users and facilitate effective decision making, the management of water supply and sanitation services is to be at the lowest and most efficient level of institutional set-up (FDRE, 2000). The main challenge surrounding water resources is their uneven spatial and temporal occurrence and distribution among the major river basins. Four river basins namely, Abbay (Blue Nile), Tekeze, Baro-Akobo and Omo-Gibe in the north-western and south-western parts of Ethiopia, provide 80-90% of the water resources in the country (Israel K, and Merkineh M, 2020).

The Ethiopian Water Resources Management Policy and Water Sector Strategy, 2001
The Water Resources Management Policy (MoWR 2001a) has a section on gender related issues which aims to "promote the full involvement of women in planning, implementation, decision making and training,

as well as empower them to play a leading role in self-reliance initiatives." On the other hand, the Strategy (MoWR 2001b) emphasizes gender mainstreaming with the aim to:

- Pay special attention to the role of women while establishing community-based structures for the management of localized water supply and sanitation (WSS) and small-scale irrigation systems. It includes allocation of a specific number of seats for women in these community-based structures, depending upon the nature and size of the scheme.
- Enhance the active involvement of women for the sustainable services of water schemes and success of water projects and programs. It incorporates the launching of campaigns to encourage women to contribute to improved management of water schemes.
- Take steps to empowering women in decision-making processes of water projects and relieve them from the huge burden of fetching and carrying water for the family.

Land Registration Act, (FDRE, 2003)
The Act grants equal inheritance and property rights to women. It enabled land registration of households, accompanied by issuing certificates. Land certificates were issued after public registration to ensure transparency. Furthermore, the land certification scheme required that land administration committees at the *kebele* level, the smallest administrative unit in Ethiopia, consists of at least one female member (Holden et al., 2011). Female-headed households are encouraged to participate in the certification process due to the presence of female members in the land administration committees. Overall, the land registration process increased tenure security for women (World Bank, 2019a). A study across 15 villages in Ethiopia indicated that, combined with the Family Code revisions, the 2003 Land Registration Act changed perceptions and social norms related to the division of assets upon divorce (World Bank, 2019a).

Climate Resilient Green Economy (CRGE) Strategy, 2011
The CRGE Strategy integrates into the country's development planning climate change adaptation and mitigation, and resilience-building measures. It has recognized the most vulnerable sectors to climate change to be the agriculture, health, water and energy, buildings, and transportation sectors (FDRE, 2011). The strategy identified more than 150 potential green growth opportunities, of which 60 were prioritized.

When it comes to gender equality issues including challenges to women in relation to the priority sectors, studies show that the Strategy is weak. The only program that mentions the potential positive impact on women is the Rural Energy and Efficient Stoves Initiative, where the potential to contribute to gender equality is indicated without any detail (MoF, 2019).

Despite the Strategy recognizing the effects of climate change on people's livelihoods and social well-being in its vision statement, it does not show the differential impact of climate change on men and women. It provides no explanation for how the gendered nature of climate change problems and their solutions can be addressed (Azeb, A and Van Laerhoven, F., 2019).

Following the creation of the CRGE Facility in 2012 and the development of sector climate-resilient strategies in 2015, the Facility has recognized the need to have gender integration across different priority sectors and has taken some steps towards this in recent years by developing a gender mainstreaming strategy (MoF, 2021a).

Climate-Resilient Strategy for Agriculture and Forestry, (FDRE, 2015a)
The Climate-Resilient Strategy for Agriculture and Forestry aims to ensure climate-resilient economic growth in Ethiopia. Its focus is on three sub-sectors recognized as the most vulnerable to the impacts of climate change: crops, livestock, and forestry.

As shown in previous sections, women have significant role in the agriculture sector and there is, therefore, a need to identify ways for equitable participation and benefit from investments on climate change mitigation and adaptation. However, a review undertaken in 2017 shows that the Strategy hardly mentions the terms gender, women, or females, and where it does it hardly provided any explanation on what the gender- and climate-related challenges, impacts and subsequent actions should be. In the instances where the terms

are used, it states women as being impacted by climate change but without articulating mechanisms to address their vulnerability (Azeb, A. and Van Laerhoven, F., 2019).

Further, the Strategy identifies 41 adaptation options, which are further categorized under nine themes. Only one of these themes, social protection for high-priority groups, includes women and children. The remaining themes (capacity building and institutional coordination, information and awareness, crop and water management on farms, livestock, value chains and market development, sustainable agriculture and land management, natural resources conservation and management, disaster risk reduction) include no references to gender or women's issue.

Climate-Resilient Strategy for Water and Energy, (FDRE, 2015b)
The Climate Resilient Strategy for Water and Energy analyses the economic and social impacts of current climate variability to ensure economic growth and poverty reduction. In order to build climate resilience, it takes preventive measures for the impacts of future climate change in the water and energy sectors.

The Strategy, however, only includes few references to the impact of climate change and gender. Even though there is an overall statement that identifies the positive contribution of improved access to water on women's lives, it provides no detailed information on what will be done and how the changes will come about. Further, the vulnerability assessment does not consider gendered power relations, institutions, or other socio-economic drivers. Of its 11 strategic priorities, only one (the development of the gender action plan) reflects 0n women's issues (MoF, 2019).

On a positive note, the Strategy does recognize a few gender issues, including the impacts of lack of access to modern energy services on women's workloads, their participation in productive activities such as education and employment, their health and lack of access to clean water and sanitation. Moreover, although it has yet to materialize, the Strategy has committed to developing a gender action plan (MoF, 2019).

Climate-Resilient Strategy for Transport, (FDRE, 2015c)

The Climate-Resilient Strategy for Transport sets the framework to deliver an integrated, modern transport system with a focus on multi-modal transportation and good customer service. The Strategy is completely gender-blind with regard to its contents, according to a review by MoF (2019).

Gender Equality Strategy for the Agriculture Sector (MoANR, 2017)
The limitations of female farmers are identified by the Strategy and it proposes to address these through capacity building of staff on gender-sensitive planning, programming, and service delivery. The need to support the revision and implementation of land-related policies and to strengthen institutional structures and systems in Ethiopia is emphasized in order to increase the profitability and productivity of women in the agriculture sector. Meaningful participation of women in decision-making and partnership with other relevant ministries to promote gender equality are also among its strategic objectives.

Women's Development and Change Package and Strategy (MoWCA, 2017a,b)
The Women's Development and Change Package recognizes the limited access to extension services that female farmers have and highlights services that should benefit women, including input use, labor-saving technologies, participation in horticulture, nutrition-dense crop production, irrigation soil management and agro-processing.

The Women's Development and Change Strategy, on the other hand, lists a set of interventions related to ownership, access, and use of land. Among these are: encouraging sharecropping where women lack the required labor to cultivate their land, ensuring women obtain fair sharecropping agreements, assigning plots to landless women, and making women aware of their land ownership rights.

Ethiopia's National Adaptation Plan (NAP-ETH), 2019
Ethiopia's NAP was developed in 2017-2018. Its goal is to reduce vulnerability to climate change by building adaptive capacity and resilience (FDRE, 2019). A detailed gender analysis was done in 2019. The analysis

identified three main issues that need to be considered in the implementation of the NAP-ETH: (i) gender differences in adaptation needs, opportunities, and capacities; (ii) equitable participation and influence in adaptation decision-making processes; and (iii) equitable access to financial resources and other benefits resulting from adaptation investments. The document also elaborates on actions to be taken to address these issues, with the aim of providing a roadmap to integrate gender considerations into the implementation of the NAP-ETH (FDRE, 2019). The NAP implementation roadmap was developed in 2020 and 5 implementation strategies which focus on agriculture and water; natural resources management; health, livelihoods, and social protection; climate services and adaptation technologies; and infrastructure are identified. Each implementation strategy identifies adaptation options with key activities and gender considerations (FDRE, 2020).

Gender Mainstreaming Strategy 2020-2023, CRGE Facility

A Gender Mainstreaming Strategy is developed by the CRGE Facility to address gender gaps and opportunities relating to its climate finance mandate. The Strategy's goal is to enable vulnerable women and men, young girls, and boys to improve their livelihoods, to raise their incomes and strengthen their resilience to climate change. The Strategy aims to achieve this through the creation of equitable and fair opportunities for men and women to support a paradigm shift to low-emission and climate-resilient development. It has four strategic outcomes, with associated outputs and activities, as well as a gender implementation plan. The strategic outcomes identified are:

1. Strengthened policies, institutions, and processes within the CRGE Facility and Executing Entities on the promotion of gender equality.
2. Enhanced gender mainstreaming capacities and strategy delivery within the CRGE Facility and Executing Entities.
3. Increased design of gender-responsive projects and programs in the CRGE Facility.
4. Increased participation of women in climate action decision-making.

Updated Nationally Determined Contribution (NDC), 2021

Ethiopia's updated NDC is aligned with the national Ten-Year Development plan and it includes updated greenhouse gas emission projections. The updated NDC commits to increased mitigation to reduce economy-wide emissions by at least 68.8% by 2030 against the business-as-usual projection. It also specifies 40 adaptation interventions (FDRE, 2021).

However, a gender analysis shows that there are neither gender-specific intervention areas nor gender-disaggregated results and indicators in the updated NDC to ensure gender mainstreaming in the mitigation interventions. Even in the updated adaptation actions, of the 66 performance indicators tracking the performance of adaptation interventions, only 4 are gender disaggregated. The analysis indicates that areas identified for GHG emission reductions, particularly in agriculture, forest, and natural resources, have immense potential for gender inclusion; however, very few gender-specific actions are included. Financing being a key driver of effective implementation of gender-responsive adaptation and mitigation interventions, the analysis calls for an earmarked budget to implement gender-responsive activities (Bedaso, T., 2021) .

The Ten-Year Development Plan (2020/21 – 2030/31)

Ethiopia's 10-year Development Plan sets the government development agenda from 2020/21-2030/2031. In its social development plan section, the document states that due attention will be given to women's rights, representation and equitable access and ownership to resources. To this end, some of the targets include addressing the 44% gender gap in wages, giving land ownership right for 59.7% of women among those who do not have ownership rights, and increasing the proportion of women who have access to loans from 33% to 55%. The Plan also has a section on ensuring a climate-resilient green economy through development and conservation of the environment, forest, wildlife, and biodiversity (Plan and Development Commission, 2021).

The long-term low emissions development strategy (LT-LEDS)

Ethiopia launched its LT-LEDS in 2023. This is a strategy that countries are encouraged to produce as part of the Paris Agreement. It provides a long-term roadmap on decarbonization and climate resilience. These

trajectories are expected to be used as benchmark for revised and updated NDCs. The document provides various scenarios to achieve net-zero and climate resilient development by 2050 (FDRE, 2023).

Even though it lacks details, the LT-LEDS recognizes the need for gender equality and social inclusion in climate action. Economic opportunities through green job programs and a more inclusive labor market are included in the strategy.

Institutional Arrangements

The Ministry of Women's Affairs was established in 2005, with structures at regional, woreda and sector department levels. The Ministry is mandated to oversee and coordinate the work of sectoral ministries in their efforts to address gender issues (JICA, 2006). To date, it has facilitated the development of various policies, including the Women's Development and Change Package, that identify gender issues relevant to climate change response interventions. The Ministry had different names over the years and, in 2021, it was restructured as the Ministry of Women and Social Affairs.

Reports on the integration of gender and climate change show that there has been challenges in collaboration of the different sectors. In 2012, it was found that mainly due to limited human and financial capacity the Women's Affairs Departments within sectors were not actively contributing towards integration of gender in the context of the CRGE Framework (AU, 2012). More recently, in 2017, a study showed that the departments' involvement in policy and program development was week stating that it does not go beyond formality (Azeb, A. and Van Laerhoven, F., 2019). Even within Ministries such as the Ministry of Agriculture, where a gender mainstreaming manual was developed, at the zone and woreda levels the assigned gender focal persons were found to have no or very limited knowledge of gender issues (Azeb, A. and Van Laerhoven, F., 2019).

A 2020 scoping study conducted on the Climate and Gender Directorates of the Ministry of Finance and the Environment, Forest and Climate Change Commission showed that there is consensus amongst experts that gender-responsive climate change policy and program are critical for addressing climate change issues. However, the understanding of which gender issues need to be incorporated into the day-to-day operations of these departments, and how, varies across and within the consulted offices and officials, indicating the need to create a common understanding. Moreover, despite the interest in integrating gender within the climate change sector, a lack of institutionalization has severely deterred gender-responsive planning and implementation of program, accountability and monitoring, intra- and inter-sectoral coordination, and gender-equal decision-making on climate change issues (Mulugeta, M. and Lealem, M., 2020).

In December 2020, the CRGE Facility and the then Ministry of Women, Children and Youth (MoWCY) launched the National Community of Practice (CoP) for Gender Equality and Social Inclusion in Climate Change. Following a number of restructurings in the sector ministries, the CoP is currently co-chaired by the Ministry of Planning and Development and the Ministry of Women and Social Affairs. Members include sector ministries, non-governmental organizations, and development partners. In 2023, the second meeting of the COP was held, in which members worked on and approved the revised terms of reference and the 2023/2024 workplan. The specific objectives of the COP are to inform strategic decision-making; plan harmonized and aligned investment programming, capacity development and implementation; advocacy and resource mobilization; and monitoring, evaluation, reporting and knowledge management (MoF, 2021b).

IV. Key Gender and Climate Change Issues at Project Sites

The project aims to create a holistic and integrated approach to enhance climate resilience and sustainable development in the targeted sites. The proposed initiatives include enhancing local level adaptation responses by strengthening climate risk reduction and adaptation planning; water security and climate resilience with an emphasis on women empowerment; climate smart agriculture and livestock rearing; and climate smart livelihood diversification.

The project will be implemented in six woredas of six selected regions. The woredas were selected based on their susceptibility to climate-related risks, their vulnerability to climate change, and their low ability to adapt to climate change. The selected sites are:

- Afar region, Awash Fentale woreda, two kebeles
- Amhara region, Mida Weremo woreda, three kebeles
- Central Ethiopia region, Fofa woreda, two kebeles
- Oromia region, Tullo woreda, four kebeles
- Somali region, Shabelay woreda, two kebeles
- Tigray region, Sewha Saese woreda, two kebeles

Since documents on the woredas and the different kebeles were not readily available, information was gathered from the woreda representatives through a questionnaire.

Awash Fentale woreda, Afar region

Background

The Afar region is located in the north-eastern part of Ethiopia. It has an estimated population of about 1.9 million people (UNICEF 2019d). The region is one of the regions in Ethiopia with poor reproductive health indicators with only 50.7% of women receiving antenatal care at least once (Desalegn, M. et al, 2020). The region has a high fertility rate of 5.5 in 2016 (UNICEF 2019d). However about 84% of births occur at home without close supervision by a skilled provider (Desalegn, M. et al, 2020). The region has the highest rate of teenage childbearing and lowest proportion of women who would like to limit childbearing (Desalegn, M. et al, 2020). The median age of first marriage is 16.4 years of age. Pregnancy and childbirth complications are the leading cause of death in Afar women aged 15-19 years. The number of women aged 15-49 who have undergone some form of female genital mutilation is about 98% (Desalegn, M. et al, 2020). One in five women are in polygamous union with 11% men having two or more wives (Desalegn, M. et al, 2020).

In the region child marriage is not outlawed and seem to be increasing since 2000 (Presler-Marshall, E. et al, 2022). Marriages in the region are arranged and girls are married to their maternal cousins with no choice at all (Presler-Marshall, E. etal, 2022). Only 12% of sexually active young women use contraception and the region has the highest rate (23.4%) of adolescent motherhood in the country (Presler-Marshall, E. et al, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. et al, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. etal, 2022). Nationally it is reported that 20% of children aged 7-14 are out of school but in Afar it is 66%. Due to cultural factors girls have less access to education with enrolment rates being 11% for boys and 9% for girls Presler-Marshall, E. et al., 2022).

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Afar people are mostly pastoralist or agro-pastoralist and highly depend on livestock. Agro-pastoralism is increasing as a result of increased irrigation systems in the region and crops like sorghum, maize, barely, teff and cotton as well as honey production are among resources the community generates income from.

A decline in poverty has been recorded for afar in recent years, with a 32% decline between 2000 and 2016. People living below the national poverty line in 2015/16 were 24% while the people living below the food poverty line was 28.3%. Both Monetary and food poverty are worse in rural areas when compared to urban areas (FDRE, 2017).

According to the Mini-EDHS key indicator report of 2019 Afar has achieved many improvements in maternal health indicators, however, most of the rates are still under the national average (EDHS, 2019). Child malnutrition is a critical challenge in Afar with 43% prevalence rate of stunting. It is shown that 41% of children with mothers who has no education and 14% of children with mothers with higher education are stunted indicating mother's education has a role in child stunting (UNICEF, 2019). Girls who give birth at a younger age do not complete secondary school education limiting their life choices throughout the course of their lives (Desalegn, M. et al, 2020).

In the Afar region, access to good quality and quantity of food is at stake for women and girls as priority is given to men and boys (Balehey, S. et al, 2018). Women and girls eat what is left by husbands and sons. This becomes a critical challenge during drought where resources are scarce (Balehey, S. et al, 2018).

In Afar, women have limited access to wealth due to the traditional asset inheritance which does not entitle them to any kind of wealth including what they have earned and produced (Balehey, S. et al, 2018). Inequality in wealth starts at birth where female children are either totally excluded or at most receive only half of their male siblings. This inequality is also seen during divorce where women traditionally are not entitled to share any asset, while recent use of the Sharia laws entitle them to take only a third of the household asset (Balehey, S. et al, 2018). All these inequalities affect the survival ability of women during drought and other climate related stresses. Thus women and girls are regularly affected by nutrition and sanitation related health problems (Balehey, S. et al, 2018).

Women are also excluded in household decision making which at times puts the health and wellbeing of women at stake (Balehey, S. et al, 2018). Women are not involved in rangeland assessment before migration, this means priority is given to what men believe are critical such as availability of grass, absences of livestock diseases and predators etc., and other factors important to women such as proximity to water and health centres are not taken into consideration leading to a lot of suffering to the women (Balehey, S. et al, 2018).

Women's contribution to household during drought times increases as they collect famine foods to feed their family and travel longer distances to fetch water (Balehey, S. et al, 2018). Therefore, with the lower nutritional attention they get a decline in health is seen in women in addition to their exposure to sexual harassment and violence (Balehey, S. et al, 2018).

Therefore, gender-based differences in vulnerability and adaptive capacity needs to be recognized for the development and implementation of gender-sensitive adaptation measures (Balehey, S. et al, 2018).

Awash Fentale woreda

The target woreda in Afar region, Awash Fentale, has a total population of 70,496 (F= 32,929; M= 37,567). Two kebeles, Kebena and Dudub are selected for this project. The kebeles have a total area of 74,200 ha. The total population of these kebeles is 12,609 (F=7,644; M=4,965). There are 1,521 female headed households (FHHs) and 1,713 male headed households (MHHs) in the kebeles. In the past five years, the kebeles have been affected by flood and 593 people are being provided with support. There is shortage of clean drinking water sources and only 65% of the total population in each kebele have access to clean water. The sources of water available include river and deep wells. On average women walk for 5 and 6 kms each day and spend 3 and 4 hours/day to collect water in Kebena and Dudub, respectively. A total of 1,222 ha land is under small irrigation and 1,712 MHHs and 1,521 FHH benefit from these schemes.

Mida Weremo woreda, Amhara Region

Background

The Amhara region is situated in the northwestern and north central part of Ethiopia. It is one of the four largest regions, with a population of 21.1 million. 84% of the population live in rural areas and are engaged in agriculture (UNICEF, 2018). Crops that are grown in the region include teff, barely, wheat, oil seeds, sorghum, maize, oats, beans, and peas (UNICEF, 2019a). Large number of livestock, 8,314,200 (27.9% of the national total), are found in the region (USAID, 2000). The region has various water resources, including Lake Tana, and several rivers that provide great potential for irrigation development (UNICEF, 2019a).

Although there has been consistent decline in monetary poverty, largely due to agricultural growth and benefits from program such as the Productive Safety Net, there is still a lot to be done to meet the SDG targets for the region. Over one-quarter (26%) of the population live below the national poverty line (the SDG target being 13%) and almost one-third (31%) live below the food poverty line (SDG target 16%).

The median age of 16.2 years for first marriage among women aged 20-49 years is the lowest in the country. The rationale of child marriage in the region relates to the belief that marriage reduces the risk that daughters engage in pre-marital sex, exposing them to sexually transmitted diseases and pregnancy while unmarried, which would lead to family disgrace and social stigmatization (UNICEF, 2019a).

As in most other regions of Ethiopia, Amhara women and girls are traditionally labelled as nurturers and caregivers; thus, childcare responsibilities often fall exclusively on them. 83% of first marriages are decided by parents and 64% of women stop attending school after marriage, with the main reason being that they are too busy with family life (UNICEF, 2019a).

As in other regions, Amhara women are often denied their share of inheritance when their parents or husbands die. It is also common for women to be excluded from decisions on common property in marriage and to be denied their due share during a divorce (UNICEF, 2019a).

Gender-based violence is high in Amhara region, with women aged 15-49 reporting psychological (26%), physical (22%) and sexual (10%) violence. Further, 65% of women and 46% of men believe that a husband is justified in hitting or beating his wife in various circumstances (UNICEF, 2019a).

The climate in Amhara region is affected significantly by weather variations: farmers face droughts, frost, hailstorms, flooding, and landslides. Localized flooding of fields by rainfall run-off is a frequent problem. It was estimated that more than 100,000 people were at risk of flooding and more than 25,000 people were likely displaced in 2018 (UNICEF, 2019a).

According to the 2016 Ethiopia Demographic and Health Survey (EDHS), 64% of households use improved drinking water sources in the region, with only about 17% of water sources being piped. The Ethiopia Socioeconomic Survey (ESS) 2017 shows that 37% of households spend 30 minutes or more reaching the nearest water source, fetching water, and returning to their dwelling. As in other parts of the country, women and girls are mainly responsible for fetching water. The availability and sufficiency of drinking water is 82% and 75%, respectively.

A study on gender mainstreaming in selected sectors in the Amhara region shows that, despite the existence of legal and policy frameworks, in practice gender mainstreaming is not being implemented. It is also not taken into consideration in the region's plans, implementation, monitoring and evaluation and budgeting. Therefore, more work is needed to see changes on the ground (Bishaw, A., 2015).

Mida Weremo woreda

The target woreda in Amhara region, Mida Weremo, has a total population of 119,985 (F= 60,381; M= 59,604). Literacy in the woreda is low, 18% for men and 5% for women. Current school enrolment for boys is 75% and only 39% for female mainly as a result of early marriage, household responsibilities and gender-based violence.

Three kebeles, Tegora, Dengore, and A/Bayne are selected for this project. The kebeles have a total area of 12,348 ha. The total population of these kebeles is 13,518 (F=6,631; M=6,887). There are 871 female headed households (FHHs) and 2,127 male headed households (MHHs) in the kebeles. In the past five years, the kebeles have been affected by drought and 5,671 people are being provided with support. There is shortage of clean drinking water sources in the kebeles and only 30% of the total population in Tegora and Dengore kebeles and 38% in A/Bayne have access to clean water. The sources of water available include river, spring and hand dug wells. On average women and girls walk for 3 kms each day and spend 3 hours/day to collect water. Women and girls are exposed to gender-based violence while they travel to fetch water. They are also more exposed to water borne diseases. A total of 130.5 ha land is under small irrigation and 592 MHHs and 80 FHH benefit from these schemes currently.

The day-to day tasks of women and girls include household tasks such as cleaning, fetching water, collecting firewood, cooking, taking care of children and washing clothes, and farm-based tasks such as weeding, harvesting and livestock management. On the other hand, men and boys are responsible for farm-based tasks such as livestock herding, land clearing, ploughing, harvesting and post-harvest chores as well as community involvement.

The challenges faced by women include exclusion from household, community and political decision-making. Women in the kebeles are less educated, poor with fewer assets and depend more on natural resources for their livelihood. While they shoulder the majority of household responsibilities, women get less attention and have poor nutrition leading to health complications.

Girls have lower performance at school and usually have difficulty continuing their education due to time constraint as a result of their household responsibilities and other cultural challenges including early marriage. Boys on the other hand face labour abuse which competes with their time to learn and study.

Some alternative livelihoods are already carried out in the kebeles with women mostly focusing on poultry production, vegetable and herbs gardens and petty trade while men focus on weaving, livestock fattening, plantation of woodlots, crafts as well as sand and stone mining. People with disability are also involved in petty trades, cattle keeping and metal works.

The climate risk awareness of the communities in the kebeles is indicated as medium for men and low for women and youth. Some of the climate adaptation and mitigation works underway in the kebeles include physical and biological soil and water conservation measures, use of improved crop varieties, preparation of compost, planting along the contour and agroforestry, water management and small-scale irrigation.

Fofa worda, Central Ethiopia region

Background

The central Ethiopia regional state was formed in August 2023 after a referendum. It was from the previous northern part of the Southern Nations, Nationalities and Peoples' (SNNP) Region. The new region comprises East Gurage Zone, Gurage Zone, Hadiya Zone, Halaba Zone, Kembata Zone, Silte Zone, Yem Zone, Kebena special woreda, Mareko Special woreda and Tembaro special woreda. As the region is quite new information in this section is for the wider SNNP regional state.

SNNPR is located in the south west part of Ethiopia and is the third largest region in the country. It has an estimated population of 20 million people with 14% under 5 years of age and 47% between 0 and 17 years of age. The average household size is 5.2. The fertility rate is decreasing and is 4.4 for women aged 15-49 (UNICEF, 2019c). About 83% of the population live in rural areas and are mostly farmers, even though there are agro-pastoralists and pastoralists communities in the region (UNICEF, 2019c).

The region has consistently reduced monetary poverty in the past several years despite frequent shocks. People living under the national poverty line are 10.4%, while those living below the food poverty line are 12.3%. As in most of the other regions, rural monetary poverty (22%) is higher than urban poverty (14%) (UNICEF, 2019c).

There has also been progress in maternal health indicators with the rate of mothers receiving antenatal care from a health provider had reached 69% in 2019 from 27% in 2011. Child delivery in health facility has also reached 48% in 2019 which is equal to the national average. However, the quality and coverage of maternal, new-born and child health services remain low (UNICEF, 2019c).

The EDHS (2016) indicate 59% of households use improved drinking water sources with 84% availability and 81% sufficiency. However, pastoralists in the region still depend on unprotected water sources like river water. The average time to collect water is more than 30 minutes for 36% of households in the region. This affects mostly women and girls as they are mainly responsible to collect water for their households (UNICEF, 2019c).

According to the EDHS 2016 the median age of first marriage in the region is 18.2 years for women aged 20-49 years. Even though this is considerable high and above the national average, a significant progress is seen for those aged 20-24 with a decline from 62% in 1991 to 31% in 2016. Even though female genital mutilation, is decreasing among the younger generation, it is still of high concern in the region with a prevalence rate of 62% among women aged 15-47 (UNICEF, 2019c).

With about 65% of the region being mountainous and above 1,500m elevation and the rest lowland with grass and bush, the region has diverse climate, topography and ecology. The lowest-lying areas are found the southern part of the region where pastoralists reside due to little rainfall. The higher elevations on the other hand receive adequate rainfall and crop production is possible. Climatic shocks such as high temperature and rainfall, prolonged droughts and intense floods are projected for the coming decades. The high population growth and density coupled with other factors such as competition for land, migration of the youth, poverty, poor infrastructure, degraded environment, lack of farming technology and low level of education makes it harder for communities to cope with climatic shocks. Women and girls face greater risks, burdens and impacts of climatic shocks as they exacerbate already existing gender inequalities (UNICEF, 2019c).

Like most part of the country men in the region hold power in private and public life. The social system has rooted gender stereotypes where women and girls are expected to focus in the domestic sphere which is considered inferior (UNICEF, 2019c).

Based on the EDHS 2016, 36% of women aged 15-49 stated their first marriage was arranged by their parents while the remaining made their won choices. 82% of women stopped their education after marriage mainly due to the high demand of domestic chores while some discontinued due to their husband's unwillingness. In the region 11% of girls aged 15-19 have begun childbearing. These indicate the challenges young girls face to continue their education (UNICEF, 2019c).

It is stated that 37% of husbands participate in some form of household chore while only 19% do so every day. Women are mostly excluded from making decisions on shared properties and denied of ownership (UNICEF, 2019c).

Fofa worda

The target woreda in Central Ethiopia region, Fofa, has a total population of 49,889 (F= 28,568; M= 21,321). Two kebeles, Semo Awasho and Upper Kesheli are selected for this project. The kebeles have a total area of 2,476.48 ha. The total population of these kebeles is 6,251 (F=3,544; M=2,707). There are 224 FHHs and 950 MHHs in the kebeles. In the past five years, the kebeles have been affected by flood, landslide and fire and 133 people are being provided with support. There is shortage of clean drinking water sources and only 33% and 67% of the total population in Semo Awasho and Upper Kesheli have access to clean water, respectively. The sources of water available include piped, deep wells and springs. Giardia, typhus and amoeba are major health challenges faced as a result of water insecurity. On average women and girls walk for 2.2 and 1.3 kms each day and spend 2.3, and 1.3 hours/day to collect water in Semo Awasho and Upper Kesheli, respectively. A total of 27.9 ha land is under small irrigation and 401 MHHs and 101 FHH benefit from these schemes.

Women and girls are mostly engaged in water and firewood collection, over all household chores as well as farm management including harvesting while men and boys are involved in farming and livestock husbandry. Boys also help in wood collection. Women and girls have heavy load as they are responsible for the household. As a result, girls have very limited time to be actively engaged in their education. On the other hand, boys are tied with field work and many face the challenge of unemployment.

Some alternative livelihood activities in the kebeles include vegetable and herbs gardens and crafts for men and girls and weaving and petty trades for men and boys. People with disability are engaged in crafts, poultry management and children management.

The estimated level of education in the kebeles are: 40% for women, 60% for men, 75% for girls and 85% for boys.

The climate risk awareness is indicated as high for men, medium for women and low for the youth. Some climate adaptation and mitigation activities in the kebeles include biological and physical soil and water conservation practices and plantation of indigenous trees.

Tullo woreda, Oromia Region

Background

Oromia is the largest region in Ethiopia, occupying approximately 34% of the land area and accounting for 37% of the population. The total population is over 37 million. Under-18s account for 54% of the population (CSA, 2017b). The fertility rate in Oromia is higher than the national average, with a total fertility rate of 5.4 compared to the national rate of 4.6 (CSA, 2016). The average household is also large, at 5.2 people per household compared to the national average of 4.8 people per household (CSA, 2017c).

Oromia has a diverse range of agro-ecological zones. Sedentary rain-fed agriculture and livestock production dominates in the highland areas while the lowlands are characterized by pastoralist communities who depend on livestock production (UNICEF, 2019b). The region is divided into 20 administrative zones, with 84% of the population living in rural areas (CSA, 2019). Oromia has experienced high and sustainable economic growth, due primarily to growth in the agricultural sector; however, there are limited off-farm job opportunities in the region, especially for youth (UNICEF, 2019b).

Strong agricultural growth, positive results from the Productive Safety Net Program (PSNP), and implementation of pro-poor economic and social development policies and strategies have all contributed to an increased per capita income in the region (World Bank, 2015). The region succeeded in achieving a 16% decline in monetary poverty between 2004/05 and 2015/16 (FDRE, 2017). A poverty analysis study in 2015/16 found that the poverty headcount ratio in Oromia was 23.9%, just above the national average of 23.5 percent (FDRE, 2017).

Oromia region has the most repeated beneficiaries of relief food in Ethiopia, especially between 2016 and 2018 due to extreme droughts (UNOCHA, 2019). In 2022, the region had 792,686 internally displaced persons due to conflicts and climatic shocks (IOM, 2022).

The proportion of pregnant women who gave birth in the five years and who received antenatal care from a skilled health provider during their pregnancy is 71%, the fourth lowest rate in Ethiopia. Only 44% of births are assisted by a skilled attendant (doctor or midwife) and 56% of women give birth without any assistance during delivery.

There is high prevalence of malnutrition, with serious implications for social and economic development. In Oromia, 28% of child deaths are associated with under-nutrition (CSA, 2016), with 36% of children under 5 stunted, 5% wasted and 16% underweight (EPHI, 2019). Stunting is associated with low socio-economic status and mothers' educational attainment: the children of mothers with no education are more than two times more likely to be stunted than those whose mothers have completed secondary or higher education (EPHI, 2019).

The gross enrolment ratio (GER) and the net enrolment ratio (NER) for pre-primary education in Oromia are low (29.4% and 16.4%, respectively) and far below the national average of 40.7% and 23.9%, respectively. Only 46% of students complete the first cycle of primary education (grade 4) and the dropout rate in primary schools is 20%, higher than the national average of 17.5%. Some of the reasons for high dropout rates and grade repetition include demand for child labor by rural households, child marriage, abduction of girls, long distances to schools, internal migration due to climate change, drought, and conflicts (MoE, 2018).

About 17% of water sources in Oromia are piped and 63% of households use improved drinking water sources, marginally fewer than the national average of 65% (CSA, 2016). 28% of households spend more than 30 minutes bringing water to their houses compared with the national average of 32% - reflecting progress in water infrastructure and the availability of water sources. As elsewhere in the country, women and girls are mostly responsible for fetching water (UNICEF, 2017b).

Lack of water supply and proper facilities, as well as hygiene products in schools, are major challenges for girls, leading to girls missing (and some even dropping out of) school due to menstruation. 90% of schools never have water available and 100% of schools never have soap available. There is a clear need for a gender-inclusive approach to improving water supply, sanitation and hygiene infrastructure in schools, in order to address school absenteeism, performance and completion (UNICEF, 2017b).

Dependency on land and weather for agricultural and livestock production is a key vulnerability for many households in Oromia (World bank, 2015). Climatic shocks contribute to increased internal conflicts because of trans-boundary competition over resources, such as grazing land, arable land, and water (UNICEF, 2014).

There was an increase in the average median age of marriage in Oromia between 2000 and 2011; however, progress has since stagnated and currently stands at 17.4 years. There has also been a decline in child marriage rates, from 58% in 1991 to 48% in 2016 – but still well above the national average of 40% (CSA, 2016).

In coming decades, rising temperatures, extraordinary rainfall events and more intense and prolonged droughts and floods are projected (World Bank, 2010). The high prevalence of poverty, high rates of malnutrition, high population growth and low climate adaptive capacities increase vulnerability to climate change (World Bank, 2010). Women and girls experience greater risks, burdens, and impacts of climate change, as emergencies exacerbate existing gender inequalities (CEDAW, 2018). During climate change-induced emergencies, formal and informal protection mechanisms break down and human rights abuses increase, resulting in increased gender-based violence that affects women and girls disproportionately (UNICEF, 2019b).

As in most other regions of Ethiopia, Oromia Regional State has a patriarchal society in which men hold primary power in private and public life. Women and girls have traditionally performed their roles in the domestic sphere, and these activities are often considered inferior. Women and girls are labelled nurturers and carers, with the result that childcare responsibilities often fall exclusively on them (UNICEF, 2019b).

In line with the national average, in Oromia 35% of women (aged 15-49) decide for themselves to marry, while parents make the decision for 61% (CSA, 2016).

Tullo woreda

The target woreda in Oromia region, Tullo, has a total population of 200,656 (F= 97,920; M= 102,736). Four kebeles, Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto are selected for this project. The kebeles have a total area of 5,132 ha. The total population of these kebeles is 24,013 (F=11,747; M=12,266). There are 878 FHHs and 4,126 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and flood and 5,477 people are being provided with support. There is shortage of clean drinking

water sources and only 16%, 44%,39%, and 41.5% of the total population in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto have access to clean water, respectively. The sources of water available include river, spring and wells in Burka Jelala and spring in the rest of the kebeles. It is indicated that diarrhea, giardia, and worm related diseases are common in the Kebeles as a result of water insecurity. On average women and girls walk for 2.5, 2, 1.8 and 2.7 kms each day and spend 2.3, 2, 2, and 3 hours/day to collect water in Burka Jelala, Oda Kebena, Efa Bas, and Hunde Lafto, respectively. A total of 267 ha land is under small irrigation and 600 MHHs and 76 FHH benefit from these schemes.

In the household women and girls are responsible mainly for cooking, water Collection, child care, goat/sheep herding, cattle herding, poultry production, fire wood collection, other household chores, petty trade, and collection of animal dung, vegetable production, livestock feeding, weeding, goat rearing. Men and boys on the other hand are responsible for farming, land clearing, petty trade, work as daily labour, oxen fattening, livestock production

The major challenges faced by the communities include lack of fuel wood due to deforestation, access to potable water, lack of livestock feed, distance to fetch water, and access to market, soil erosion, shortage of cultivable land, lack of irrigation water, lack of improved seeds, erratic rain fall due to climate change and deforestation, over grazing, lack of improved fodders, and lack of improved breeds of livestock.

The climate risk level of awareness in the selected kebeles are indicated as medium for men and youth while it low for women.

Shabelay woreda, Somali region

Background

The Somali regional state is located in the east and southeast part of Ethiopia. It is about 350,000 square kilometre and is the second largest region in the country after Oromia in terms of land mass. The total population is about six million with 16% under-five years of age and 64% between 0-19 years of age. The fertility rate was 7.2 in 2016 and is the highest in the country. The majority of the population are pastoralists, followed by agro-pastoralists; very few are sedentary riverine farmers and urban-based households. Sources of income include livestock and livestock product sales, crop sales, petty trade, firewood and charcoal sales and remittances from family members abroad (UNICEF, 2019e).

The region is among the four regions in the country that are identified as Developing Regional States due to high poverty prevalence and social indicators lagging behind the national averages. People living below the national poverty line are 22.4% in 2016 while those living below the food poverty line were 25.5%. It is the only region where rate of urban people in poverty (23%) is higher than that of rural people (22%) and urban food poverty (29%) is also higher than rural food poverty (23%) (UNICEF, 2019e).

Somali region has high rates of malnutrition of children under the age of five; the region is faced with chronic food insecurity. The region has shown improvements in health infrastructure including mobile health and nutrition teams; however most maternal indicators are still below the national averages. Mothers who received antenatal care during their pregnancy from a health professional was 30.2% and those who delivered in a health facility were 26% and only 10% received postnatal care within 48 hours in 2019 (UNICEF, 2019e). Not much progress is seen in reducing the neonatal mortality rate, in 2016 41 deaths were recorded per 1,000 births.

Water is a scarce resource in the region, it has the lowest percentage (42%) of households accessing improved drinking water in the country. Except for four riverine zones, the main source of water supply is ground water. Breakdown of borehole-based water supply systems is common further complicating the water challenges the communities face. Since less than 20% of households report men as primary water collectors, the shortage as well as distance to access water has a gender dimension (UNICEF, 2019e).

Even though child marriage has improved in the region, the percent of women ages 20-24 years who married before age 18 was 50% in 2016, indicating there is still a long way to go (UNICEF, 2019e). The female genital mutilation is the highest in the country among women aged 15-49 at 99% (UNICEF, 2019e).

The Somali region is arid and semi-arid in the lower-lying areas, receiving 300 millimetres or less of rain while it gets more rainfall (400 – 600 millimetres) in the higher altitude areas. The region has few rivers where agricultural crop production is possible. The communities face water deficits for both human and livestock consumption. The pastoralists system which has flexibility and mobility as well as changing of herd composition has allowed the community to cope harsh challenges. However, a combination of different factors including population growth, environmental degradation and climate change affect the resource availability including pasture and water (UNICEF, 2019e).

The 2016 EDHS shows that 68% of women aged 15-49 decided themselves on their first marriage while for the remaining 32% decision was made by their parents. This is a high rate of independence in making decision compared to the rest of the country. 53% indicated that they stop attending school after marriage mainly due to the high demand of family life followed by refusal of husbands to their continued education. Most girls are married before age 18 and almost none of them (1.4%) use modern contraceptive methods (UNICEF, 2019e).

Of those women currently married and aged 15-49, 29% are in a polygynous union. Women however are not entitled to inheritance when parents or partners die or in divorce. They are also excluded from decision making in the household. On the other hand, only 12% of households receive some involvement from their husbands in household chores (UNICEF, 2019e).

Somali women and girls experience greater risks, burdens and impact due to climate change as emergencies exacerbate existing gender inequalities (UNICEF, 2019e).

Access to income for women is mainly dependent on livestock and livestock products while in agro-pastoralist areas, women also engage in trading. Studies show girls and women are highly disadvantaged in terms of access to productive inputs and their chance to save and borrow even when it comes to their own earnings. The days of girls and women are filled with chores such collecting water and caring for their family; thus, lack of time limits their economic empowerment (Presler-Marshall, E. et al, 2022).

The Somali region, similar to Afar, has not yet outlawed child marriage (Presler-Marshall, E. et al, 2022). 55% of girls aged 20-24 had married before the age of 18 (Presler-Marshall, E. et al, 2022). Girls however indicate that they choose their partners. Only 20% of sexually active young women use contraception. The region has one of the highest (18.7%) of adolescent motherhood in the country (Presler-Marshall, E. et al, 2022).

Because the communities in the region are nomadic and settle sparsely, access to education is quite low Presler-Marshall, E. et al, 2022). While most communities do not have schools, many of those that do have the school lack basic resources such as learning materials, teachers and drinking water Presler-Marshall, E. et al, 2022). Nationally it is reported that 20% of children aged 7-14 are out of school but in Somali it is 54%. Due to cultural factors girls have less access to education with enrolment rates being 23% for boys and 16% for girls Presler-Marshall, E. et al, 2022).

Shabelay woreda

The target woreda in Somali region, Shabelay, has a total population of 343,850 (F= 168,718; M= 175,132). Two kebeles, Wooble and Biyo-Cade are selected for this project. The kebeles have a total area of 4,821 ha. The total population of these kebeles is 30,139 (F=13,550; M=16,589). There are 1,931 FHHs and 2,484 MHHs in the kebeles. In the past five years, the kebeles have been affected by drought and 3,292 people are being provided with support. There is shortage of clean drinking water sources and only 19% and 10% of the total population in Wooble and Biyo-Cade have access to clean water, respectively. The sources of water available include deep wells, seasonal rivers, springs and rain water harvesting. On

average women walk for 3 and 2 kms each day and spend 2, and 1.3 hours/day to collect water in Wooble and Biyo-Cade, respectively. A total of 2,467 ha land is under small irrigation and 3,563 MHHs and 1,216 FHH benefit from these schemes.

In the kebeles women are mostly responsible for household chores including water and firewood collection and the girls held me cleaning houses, cooking and firewood collection. Women and girls also work in the farm mostly weeding. Men are responsible for farming and livestock management while boys are encouraged to focus on education. Women and girls are the least educated in the kebeles.

Sewha Saese woreda, Tigray region

Background

Tigray region is located in the dry lands of northern part of Ethiopia with an estimated population of 5.4 million people. In 2018, Tigray had a higher percentage (34%) of female headed household compared to the national rate (25%). Though three out of four live in rural area and depend on agriculture, urbanization has increasingly become a priority with an annual rate of 4.6% (UNICEF, 2019f).

Even though the region has demonstrated impressive agricultural growth and pro-poor spending on basic services and social protection, the region still had the highest monetary poverty in the country in 2016. 13.5% of people live under the national poverty line and 16.5% live below the food poverty line. Women are more likely to live in poverty than men with 43% and 24% of women living in monetary and food poverty as compared to 22% and 11% of men, respectively (UNICEF, 2019f).

The region has progressed in several child and maternal health and nutrition indicators. In antenatal care the region has performed much better than the national average. This is stated to be due to a high regional priority given to maternal mortality (UNICEF, 2019f).

72.1% of households in the region use improved drinking water sources, which is the largest share of all regions and above the national average of 66%. However, still one third of households are located more than 30 minutes away from water sources. Like in other parts of the country the responsibility of fetching water fell on women and girls (UNICEF, 2019f).

There is still high level of sexual harassment and violence in the region. 65% of women believe a husband is justified in beating his wife while 31% men share the same opinion. Improvement is seen in early marriage in the region which was 43% in 2016. Female genital mutilation has also been decreasing in the region which is 24.2% and the lowest in the country (UNICEF, 2019f).

The region is vulnerable to climate stress and is highly affected by environmental degradation. Drought, hailstorms, floods and landslides put people at high environmental risk. In the low lands and degraded highland areas of the region, minimum agricultural production and scarcity of drinkable water are high challenges. Extreme temperatures and intense rainfall and droughts are projected to be major environmental challenges in the region in the coming years (UNICEF, 2019f).

In the region women and girls have limited mobility, fewer economic opportunities and less decision-making power due to socio-cultural factors. There is inequality between men and women when it comes to ownership and decision making. While women participation in politics is increasing grassroots participation remains low (UNICEF, 2019f).

A study done in parts of Tigray showed that the top climate-change related impacts that affect their livelihoods are drought (97%), flooding (76%), pests and disease (62%), and other hazards (39%). The impacts of climate-change were found to be more sever on female-headed households mainly due to their lack of resource access and control, lack of income and technology use and high dependence on natural resources. Some of the coping strategies identified in the area included water harvesting practices, soil and

water conservation, irrigation, diversifying income sources and agricultural inputs and adjustment of planting dates and crop varieties (Assefa, E. and Gebrehiwot G., 2023).

Sewha Saese woreda

The target woreda in Tigray region, Sewha Saese, has a total population of 66,004 (F= 34,305; M= 31,699). Two kebeles, Saesie and Koma Subuha are selected for this project. The kebeles have a total area of 10,143.62 ha. The total population of these kebeles is 15,726 (F=8,141; M=7,585). FHH in the kebeles are slightly higher than MHH - 1,698 and 1,627, respectively. In the past five years, the kebeles have been affected by drought and 13,624 people are being provided with support. There is shortage of clean drinking water sources and only 38% and 25% of the total population in Saesie and Koma Subuha have access to clean water, respectively. The sources of water available include hand dug wells, DW, SHW and spring development. On average women walk for 5 kms each day and spend 3 hours/day to collect water. A total of 133.5 ha is under small irrigation and 1,090 MHH and 493 FHH benefit from these schemes.

V. Conclusion

The gender assessment has shown that Ethiopian women carry a significant portion of household responsibilities ranging from fulfilling household needs such as provision of water, energy, heat and food to working in farms and handling livestock. Female-headed households with less labor and assets at their disposal are disproportionately disadvantaged. As a result, rural women in general are more vulnerable and less able to adapt to climate-related hazards.

Despite their significant contribution to their households and the community at large, it is shown that women are marginalized in major decision-making processes and are exposed to cultural norms and practices that further disempower them from being active, self-sufficient members of society. These conditions have contributed to women's generally low access to various resources and services including education, health services and workforce participation.

Different actors have been working to address these challenges both at policy and program implementation levels. Though successes have been seen in different sectors, considering the dire situation women are in, especially in the rural areas, much more needs to be done in order to ensure women equally contribute to the country's development and benefit from the gains of development.

This AF project aims to contribute towards baseline efforts on the ground by identifying actions that will equally benefit women, especially in the context of access to drinking water and irrigated farmland as well as initiation of alternative livelihood options in the project area.

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Part II: Gender Action Plan

No.	Activities	Indicators & Targets	Timelines			Responsible Body
			Yr1	Yr2	Yr3	
1	**Establish baseline for each project site**					
	Carry out gender analysis to establish baseline	A team to design and carry out the gender analysis for each region established				project implementing team + CRGE Facility
		gender analysis conducted and report with recommendations produced for each region				
		Baseline established for each activity in the GAP and for any additional activity identified, for each region				
2	**Component 1:Strengthening Climate Risk Reduction and Adaptation Planning at the local level**					
2.1	Conduct inclusive climate risk awareness campaigns	At least 50% of participants from communities are women				project implementing team
		At least 50% of FHHs in the project sites participate				
		Community consultations are held at times and places that are conducive to women participation				project implementing team
		Representatives from the region, woreda and Kebele gender offices participate				project implementing team
		All event reports show gender disaggregated data of participants				project implementing team
2.2	Conduct inclusive community engagement and participatory Vulnerability Assessment	At least 50% of participants from communities are women				project implementing team
		At least 50% of FHHs in the project sites participate				project implementing team
		Community consultations are held at times and places that are conducive to women participation				project implementing team
		Representatives from the region, woreda and Kebele gender offices participate				project implementing team
		All assessment reports show gender disaggregated data of participants				project implementing team
2.3	Capacity-building workshops for local authorities and stakeholders	All relevant women experts at region, woreda and kebele level are included in the capacity building events				project implementing team

		Representatives from the region, woreda and Kebele gender offices participate				project implementing team
		All capacity building reports will have gender disaggregated data of participants				project implementing team
2.4	Mainstreaming gender-responsive climate adaptation into development plan	Each development plan clearly indicates gender-responsive adaptation strategies				project implementing team
		Plans are endorsed by communities through public consultation				project implementing team
		Plans are endorsed by women beneficiaries at women only consultations (see activity 3.3.1)				project implementing team
2.5	Project Management, M&E	Project activity and M&E reports include sex disaggregated data				project implementing team + CRGE Facility
		At least 50% of participants during community update meetings are women				project implementing team
3	**Component 2: Water Security, Climate Resilience, and Women Empowerment**					
3.1	**Potable water**					
3.1.1	New potable Water Source Development and Protection	Survey shows at least 50% of the Female headed households (FHH) in the project areas report better access to potable water				project implementing team
		Women and girls in the project areas report reduced burden in fetching water				project implementing team
3.1.2	Water Infrastructure Upgrade	At least 50% of community trainees on sustainable water management are women				project implementing team
3.1.3	Formation of water users' association (WUA)	At least 50% of members are women				project implementing team
		At least 33% of executive committees are women				project implementing team
		At least 50% of the FHH in the project area are members				project implementing team
		users' association bylaws reflect a minimum of 35% female membership with the aim to increase that to 50% by the end of the project				project implementing team
		water users' association bylaw puts provisions to ensure women's membership and leadership positions are compatible with women's other responsibilities				project implementing team

		Number and proportion of female representatives retained annually at a minimum of 35%; and increased if possible				project implementing team
		All elected female members and officials are given targeted training				project implementing team
3.1.4	Training for local technicians and operators	At least 50% of trainees are women				project implementing team
3.2	**Small-scale irrigation development and improved water efficiency**					
3.2.1	Install small scale irrigation system and storage tanks; upgrade water storage infrastructure	All beneficiary households receive the necessary training to properly use the irrigation systems				project implementing team
		At least 50% of FHH in the project area are beneficiary and report capability of operating the irrigation systems				project implementing team
		At least 70% of the FHH beneficiaries report improvement of services from DAs				project implementing team
3.3	**Women empowerment**					
3.3.1	Women-Centric Capacity Building	Capacity need assessment (technical, leadership, financial etc.) carried out on women beneficiaries				project implementing team
		All women from beneficiary households in the kebeles are included in the identified training				project implementing team
		At least 50% of the female participants report application of the training to support their livelihood				project implementing team
		Women only consultations held to discuss various aspects of the project including formation of women-led community groups, different training, participation in WUA etc.				project implementing team
3.3.2	Gender-Responsive Awareness Campaigns	All beneficiary households including all FHHs in the kebeles are included in training				project implementing team
		Both male and female participate from MHHs				project implementing team
		At least 50% of women from MHHs report improved situations in decision making on household spendings, asset management etc.				project implementing team
4	**Component 3: Climate Smart Agriculture**					
4.1	**Climate-Resilient Crop and Diversification**					
4.1.1	Climate resilient crop selection and diversification	At least 50% of the FHH in the project area are beneficiaries and trainees				project implementing team

		All FHH household report accessibility of community based seedbank				project implementing team
4.2	**Climate Resilient Livestock Production and Management**					
4.2.1	Provision of improved drought-tolerant forage seeds	At least 50% of FHHs in each kebele receive improved seeds				project implementing team
4.2.2	Forage development and utilization (Capacity building)	All relevant women experts at woreda and kebele level are included in the capacity building events				project implementing team
4.2.3	Improved livestock husbandry practice introduction	At least 50% of the FHH in the project area are beneficiaries and trainees				project implementing team
4.2.3	Establishment of Nurseries	At least 50% FHHs and women in MHH in the kebeles participate benefit from the nurseries' income				project implementing team
		At least 50% of participants on nursery management, soil conservation and NRM are women				project implementing team
4.3	**Weather information**					
4.3.1	Weather information dissemination in local language (with SMS texting option)	At least 50% FHHs and women in MHH in the kebeles trained on how to use information				project implementing team
		At least 50% FHHs and women in MHHs in the kebeles report better access to information				project implementing team
5	**Component 4: Climate Smart Livelihood Diversification**					
5.1	Identify Gender responsive and socially inclusive livelihood Diversification option and implementation	Conduct assessment of appropriate and inclusive livelihood diversification options				project implementing team
		At least 30% of beneficiaries are women; At least 30% of beneficiaries are women from FHHs; At least 30% beneficiaries are youth; people with disabilities will be given priority in all categories				project implementing team
		At least 70% of the beneficiaries from each category report improved income as a result of the additional livelihood activity				project implementing team
5.2	Technical Training and knowledge sharing platforms created	All relevant women experts at woreda and kebele level are included in the capacity building / knowledge sharing events;				project implementing team
		At least 50% of participants are women including those from FHHs				

		All event reports show gender disaggregated data of participants				project implementing team
5.3	Promotion of Market Linkages	At least 50% of the beneficiaries are FHHs				project implementing team
		At least 50% of the beneficiaries report improved income as a result of market linkages created				project implementing team
6	**SEAH**					
6.1	Ensure project is prepared for potential SEAH incidents at each regions	Dedicated SEAH sessions during project team meetings, community and women consultations				project implementing team
		Safeguarding committee and SEAH focal points established				project implementing team
		Checklist produced to identify/screen high risk project activities				project implementing team + CRGE Facility