Meeting of the Board
4 – 6 April 2017
Songdo, Incheon, Republic of Korea
Provisional agenda item 11(e)

GCF/B.16/07/Add.09

14 March 2017

Consideration of funding proposals – Addendum IX

Funding proposal package for FP046

Summary

This addendum contains the following three parts:

a) A funding proposal titled "Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities" submitted by UNDP;
b) A no-objection letter issued by the national designated authority or focal point; and
c) Environmental and social report(s) disclosure.

The documents are presented as submitted by the accredited entity, and national designated authority or focal point, respectively.

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GREEN CLIMATE FUND

Funding Proposal

Version 1.1

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

Project/Programme Title:	Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities
Country/Region:	Ethiopia
Accredited Entity:	United Nations Development Programme (UNDP)
Date of resubmission:	9 February, 2017

Contents

Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E,** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the Appraisal Summary in section F, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal with cross-reference to other project documents such as project appraisal document.
- The total number of pages for the funding proposal (excluding annexes) is expected not to exceed 50.

Please submit the completed form to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

FP-UNDP-130516-5855

A.1. Brief Project/Programme Information			
A.1.1. Project / programme title		**Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities**	
A.1.2. Project or programme		Project	
A.1.3. Country (ies) / region		**Ethiopia**	
A.1.4. National designated authority (ies)		**Ministry of Environment, Forest and Climate Change (MEFCC)**	
A.1.5. Accredited entity		**UNDP**	
A.1.5.a. Access modality		☐ Direct ☒ International	
A.1.6. Executing entity / beneficiary		**Executing Entity:** Ministry of Finance and Economic Cooperation (MoFEC) **Beneficiary:** Drought-affected & vulnerable communities; public institutions at the national, Woreda (District) and Kebele (Sub-District) levels.	
A.1.7. Project size category (Total investment, million USD)		☐ Micro (≤10) ☒ Medium (50<x≤250)	☐ Small (10<x≤50) ☐ Large (>250)
A.1.8. Mitigation / adaptation focus		☐ Mitigation ☒ Adaptation ☐ Cross-cutting	
A.1.9. Date of submission Date of re-submission		13 May 2016, 9 February, 2017	
A.1.10. Project contact details	Contact person, position	Benjamin Larroquette	
	Organization	UNDP	
	Email address	Benjamin.larroquette@undp.org	
	Telephone number	+251912503308	
	Mailing address	UNDP Regional Service Centre for Africa, Main Bole Road, DRC Street, P.O. Box 60130, Addis Ababa, Ethiopia.	

A.1.11. Results areas*(mark all that apply)*

Reduced emissions from:

- ■ Energy access and power generation
  (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
- ☐ Low emission transport
  (E.g. high-speed rail, rapid bus system, etc.)
- ☐ Buildings, cities and industries and appliances
  (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- ■ Forestry and land use
  (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

Increased resilience of:

- ■ Most vulnerable people and communities
  (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)

■	Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.)
□	Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.)
■	Ecosystem and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project / Programme Executive Summary (max 300 words)

Please provide a brief description of the proposed project/programme, including the objectives and primary measurable benefits (see investment criteria in section E). The detailed description can be elaborated in section C.

1. Ethiopia ranks as one of the countries at most "extreme risk" from climate change. Sixty percent of the country is dryland, where annual rainfall is becoming increasingly unpredictable and is contributing to the rising frequency and severity of drought. This climate change threat has significant implications, given the reliance of many of the communities in these areas on rain-fed agriculture. Currently, a worsening drought is threatening one-tenth of the country's population (cf.10.3 million people[1]) with catastrophic food shortages.

2. The Government of Ethiopia is deeply aware of, and striving to manage, mounting climate change threats. While pursuing continued economic growth and attainment of middle-income status by 2025, it has committed to achieve net-zero GHG emission growth while simultaneously building the resilience of the economy to climate shocks. Its Climate Resilient Green Economy (CRGE) strategy is mobilizing the resources needed by organizations and communities to achieve these goals.

3. Responding to the current crisis, and designed as a key element of the CRGE strategy, Ethiopia has conceived a climate-smart, landscape-based project combining improved water access and resource management with livelihood diversification to enable the most vulnerable men and women, and their households to adapt to more frequent drought. The project has the potential to significantly impact the target communities and to transform their livelihoods while giving due attention to ensure vulnerable women and men benefit equally and gender inequalities are not perpetuated. Adaptation to climate change is central to this proposal, while simultaneously addressing issues of sustainable development pathways under changing climate conditions. The proposal is led by the Government of Ethiopia and highly responsive to Ethiopia's immediate and long-term drought situation. The suggested measures are based on extensive community consultations.

4. More than 20% of the population is severely impacted by the current major drought crisis. The project will directly and indirectly support approximately 2.5 million people (over 50% are women and 30% female headed households) to cope with the intensifying challenges of drought. Climate change has a differential gender impact because of associated roles and responsibilities that the Ethiopian' society prescribes to men and women. Rural women are typically more vulnerable due to traditional power relations. They have less access than men to decision making, economic resources, and services. The project deliberately targets these women, particularly female heads of households, to increase their resilience and unleash their untapped potentials as key stakeholders and community leaders. Their indigenous knowledge and coping strategies will inform the project.

5. The project will introduce proven technologies and infrastructure, while utilizing innovative ecosystem-based adaptation methods. Simultaneously, the project will establish institutional systems that enable gender and climate-responsive planning and development, ensuring optimization of social, economic and environmental benefits. To achieve this systemic changes, Ethiopia needs the support of the GCF. By investing in gender responsive water infrastructure and other climate smart technologies, the GCF will, in addition to increasing resilience and enhancing livelihoods, improve health, and food and water security, enhance the resilience of ecosystems and ecosystem services, and strengthen institutional and regulatory systems for gender and climate-responsive planning and development.

[1] Ethiopia Humanitarian Requirement Document (2016).

A.3. Project/Programme Milestone	
Expected approval from accredited entity's Board (if applicable)	27/06/2016
Expected financial close (if applicable)	TBD [date of agreement on the FAA between UNDP and GCF]
Estimated implementation start and end date	Start: 01/06/2017 End: 30/06/2022
Project/programme lifespan	5 years, 0 months

B.1. Description of Financial Elements of the Project / Programme

6. A detailed multi-year budget has been prepared for the project to generate reliable forecasts of funding requirements and allocations (Annex XIII(c)). Breakdowns of cost estimates are presented in this sub-section, and financial instruments are described in Section B.2.

7. The project will be financed by GCF grant resources and will include contributions from the Government of Ethiopia (GoE) and the community, mainly smallholder farmers, pastoralists, Community-Based Organizations, women's organizations, and youth groups at the lowest administrative level (Kebeles). Reflecting the limited resources available to the country as well as the need to trigger systemic change, it is proposed that a significant proportion of the total cost be covered by the GCF in the form of grant finance. This is essential because Ethiopia is a Least Developed Country (LDC) with very limited financial capacity to adapt to climate change, and having to invest most of its constrained resources to address competing needs. Thus, the financial instruments chosen, which rely heavily on GCF grants to overcome structural barriers to change, are considered appropriate to the achievement of project objectives.

8. A breakdown of cost estimates by Outputs and Activities in local and foreign currency (USD) is provided below in Table 1. As a form of currency hedging mechanism, we propose to base any agreement with the GCF in US dollars, with amounts indicated in the project proposal. Data from the National Bank of Ethiopia show that the Ethiopian Birr (ETB) has been depreciating against the USD over time. This would mean the value of USD-denominated grants will increase in ETB when the prevailing exchange rate is applied, which should help address (at least partially) anticipated inflationary cost increases over time.

Table 1: Breakdown of Project Costs by Output

Component/output	Sub-component/activity	Amount (for entire project) in millions of USD	Amount (for entire project) in millions of ETB	GCF funding amount in millions of USD	Currency of disbursement to recipient
Output 1. Technologies and Infrastructure Solutions for Resilient Livelihood	**Total**	**113.149**	**2,376.122**	**79.000**	**USD**
	1.1 Improved technologies for on-farm production for climate risk management	8.201	172.212	3.574	USD
	1.2 Management of degraded lands for improved resilience	47.463	996.720	19.947	USD
	1.3 Improved technologies for off-farm production (e.g. poultry, apiculture, vegetable, and fruit gardens) that benefit women	5.243	110.103	5.243	USD
	1.4 Improved water supply, enabling women to easily access water for potable use and small scale irrigation	52.242	1,097.087	50.236	USD
Output 2. Livelihood Diversification and Protection	**Total**	**13.075**	**274.582**	**9.505**	**USD**
	2.1 Market systems and support services for women's off farm products (transport, credit, price information)	5.696	119.620	2.636	USD

	2.2 Creation of integrated and decentralized hydrological and climate information	4.481	94.096	4.481	USD
	2.3 Improved timber and non-timber technologies	2.898	10.710	2.388	USD
Output 3. Enabling Environment	**Total**	**37.244**	**782.125**	**7.634**	**USD**
	3.1 Strengthened gender responsive systems and practices for climate responsive planning and budgeting	4.049	85.030	1.429	USD
	3.2 Improve institutional capacity and ensure gender balance in community leadership and at all levels of decision making	33.195	697.095	6.206	USD
	3.3 Establish efficient project management system with 50% female participation	**3.509**	**73.692**	**3.509**	**USD**
Grand total		**166.977**	**3,506.520**	**99.648**	**USD**

B.2. Project Financing Information

	Financial Instrument	Amount	Currency	Tenor	Pricing
(a) Total project financing	**(a) = (b) + (c)**	166.977	million USD ($)		
(b) GCF financing to recipient	(i) Senior Loans	.....	million USD ($)	( ) years	( ) %
	(ii) Subordinated Loans	.....	million USD ($)	( ) years	( ) %
	(iii) Equity	.....	million USD ($)		( ) % IRR
	(iv) Guarantees	.....	million USD ($)		
	(v) Reimbursable grants *	.....	million USD ($)		
	(vi) Grants *	99.648	million USD ($)		
	** Please provide economic and financial justification in section F.1 for the concessionality that GCF is expected to provide, particularly in the case of grants. Please specify difference in tenor and price between GCF financing and that of accredited entities. Please note that the level of concessionality should correspond to the level of the project/programme's expected performance against the investment criteria indicated in section E.*				
	Total requested (i+ii+iii+iv+v+vi)	99.648	million USD ($)		

	Financial Instrument	Amount	Currency	Name of Institution	Tenor	Pricing	Seniority

(c) Co-financing to recipient	Grant Grant	32.417 …… 34.912	million USD ($) Options million USD ($)	GoE …… Community	( ) years ( ) years	( ) % ( ) % ( ) % IRR	Options Options Options Options
	Lead financing institution: Ministry of Finance and Economic Cooperation (MoFEC)						
	** A letter of commitment issued by the co-financing institution has been provided in Annex IV.*						
(d) Financial terms between GCF and AE (if applicable)	N.A						

B.3. Financial Markets Overview (if applicable)

9. The Government of Ethiopia is requesting 100% grant resources for the proposed project, the financial market overview is therefore not applicable.

C.1. Strategic Context

Ethiopia's Situation

10. Ethiopia is a large, landlocked, and diverse country, with an area of 1.1 million km^2 and a population of over 90 million[2]. It is one of the world's least developed countries, ranking 173 out of 186 countries in the UNDP 2015 Human Development Index. The country has committed to rapid and sustainable development; after a downturn, due to a severe drought in 2003, Ethiopia achieved an average economic growth rate of 10.8% per year between 2003/04 and 2011/12, compared to the regional average of 5.3%. The GoE and the International Monetary Fund (IMF) expect Ethiopia's economy to continue to be one of the world's fastest-growing economies over the coming years; the country's second Growth and Transformation Plan (GTP-II, 2015-2020) commits Ethiopia reaching the lower middle-income status by 2025.

11. The growth that has been achieved so far – which has seen the country's GDP per capita increase from USD 162.1[3] in 2006 to USD 631 in 2014[4]– has contributed to significant poverty reduction in urban and rural areas. Pro-poor spending on education, health, and other essential aspects of the social safety net system have further benefited the poor and marginalized. The food security system that has been developed since 2005 combines agricultural training and early warning systems for crop failure and emergency relief (including for mother and child malnutrition). These efforts helped avert famine and mass suffering when a drought struck the country in 2011, in contrast to the tragic events under similar circumstances in preceding decades.

12. Notwithstanding such progress, there are significant threats to Ethiopia's continued development. In particular, the annual population growth of 2.6% is placing the country's natural resources under mounting pressure. Climate change – evident through increasing temperatures, changing rainfall patterns, and higher frequency and intensity of extreme weather events – represents an additional and major risk to the goals established by GTP-II and beyond. According to the "Pushed to the Limit" report by the United Nations University Institute for Environment and Human Security (UNU-EHS) (2013)[5], vulnerable communities experienced loss and damage that threatened their most fundamental needs, livelihoods and food security as a result of the drought of that year. The report further highlights that, despite applying a variety of coping and adaptation measures to mitigate the damage caused by climate change, 96% of households surveyed in selected districts in Ethiopia still experienced severe negative impacts to their household budgets. Three out of four surveyed households reported that they had to cut down on the number of meals or reduce portion sizes (with women often last to eat) – a clear sign that coping capacity was inadequate. As the households in the survey regions were primarily small-scale farmers, climate change impacts – such as changing rainfall patterns, and an increased frequency of floods and droughts – directly and critically threatened their livelihood security in addition to their food security. The report recognizes and utilizes the Doha Climate Gateway Decision showing understanding of the importance of underscoring'…how loss and damage associated with the adverse effects of climate change affects those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability, and how the implementation of approaches to address loss and damage can benefit those segments of the population'[6]. Gender inequality is recognized as contributing to the size of climate-related disasters.[7]

13. Continuing reliance by these communities on agriculture[8], and persistent inadequate access to water, has ensured that the dire situation facing these rural communities continues. Women are custodians of natural resources and particularly vulnerable to threats intensifying household food, water, and energy shortages. Their coping mechanisms are at the core of community resilience and family survival strategies. According to the Food

[2] This is the population estimated for 2015 by the Central Statistical Agency based on the May 2007 Census.
[3] UNDP (2015), *Ethiopia: Key Economic and Social Indicators*.
[4] CIA World Factbook.
[5] K. Warner; K. van der Geest; S. Kreft (2013), *Pushed to the Limit: Evidence of Climate Change-Related Loss and Damage when People Face Constraints and Limits to Adaptation*, United Nations University Institute for Environment and Human Security.
[6] Ibid.
[7] Ibid.
[8] According to the Central Statistical Agency and World Food Programme, crop production is the main occupation of 54% of all rural households, with livestock the main occupation of 3% and about 34% relying on a roughly equal combination of crop production and livestock (CSA and WFP, *Ethiopia: Comprehensive Food Security and Vulnerability Analysis*, 2014).

Consumption Score, more than one in four households (27%) consumed less than acceptable diets in 2014; 10% of households had poor and 17% borderline food consumption levels (see Figure 1); and 27% of Ethiopian women of reproductive age (15 to 49 years old) were undernourished.[9] Further, 30% of female headed households were found to have poor or borderline food consumption as opposed to 25% of male headed households while 35% of female headed households have low dietary diversity as opposed to 28% of male headed households.[10] A survey carried out in 2013 by the Public Health Institute in Ethiopia revealed that children and women have intakes below the recommended amounts of vitamins and minerals such as vitamin A, zinc, and calcium. The survey provides insights into national food consumption patterns that can be used to stimulate the promotion of food based approaches, taking into account cultural differences and eating patterns, to alleviate existing nutrient deficiencies and inform current and future nutrition related public health initiatives in Ethiopia. [11] The promotion of diet diversity and adequate quantity, including increased consumption of animal products, legumes, fruits and vegetables to increase intakes of protein, vitamin A, zinc, iron and folate should inform a gender-responsive resilience to climate shocks.

14. However, despite the policy support and although women represent half of the population and contribute about 70 per cent of the food production in Ethiopia, women and girls are strongly disadvantaged. Their gender category is characterised by higher levels of illiteracy and ill health, poorer livelihoods and a lack of basic human rights; gender is an important dimension of rural poverty. Rights such as access to land, credit and other productive resources are difficult for women to attain. They work longer hours than men and lack adequate representation in leadership and decision making positions. Ethiopian women are triply disadvantaged: as poor people they live under the same harsh conditions as their male counterparts, as women they suffer from cultural biases which undervalue their contribution to development and prevents them from increasing the productivity of their labour and they carry the full burden of household management for which they get very little support[12].

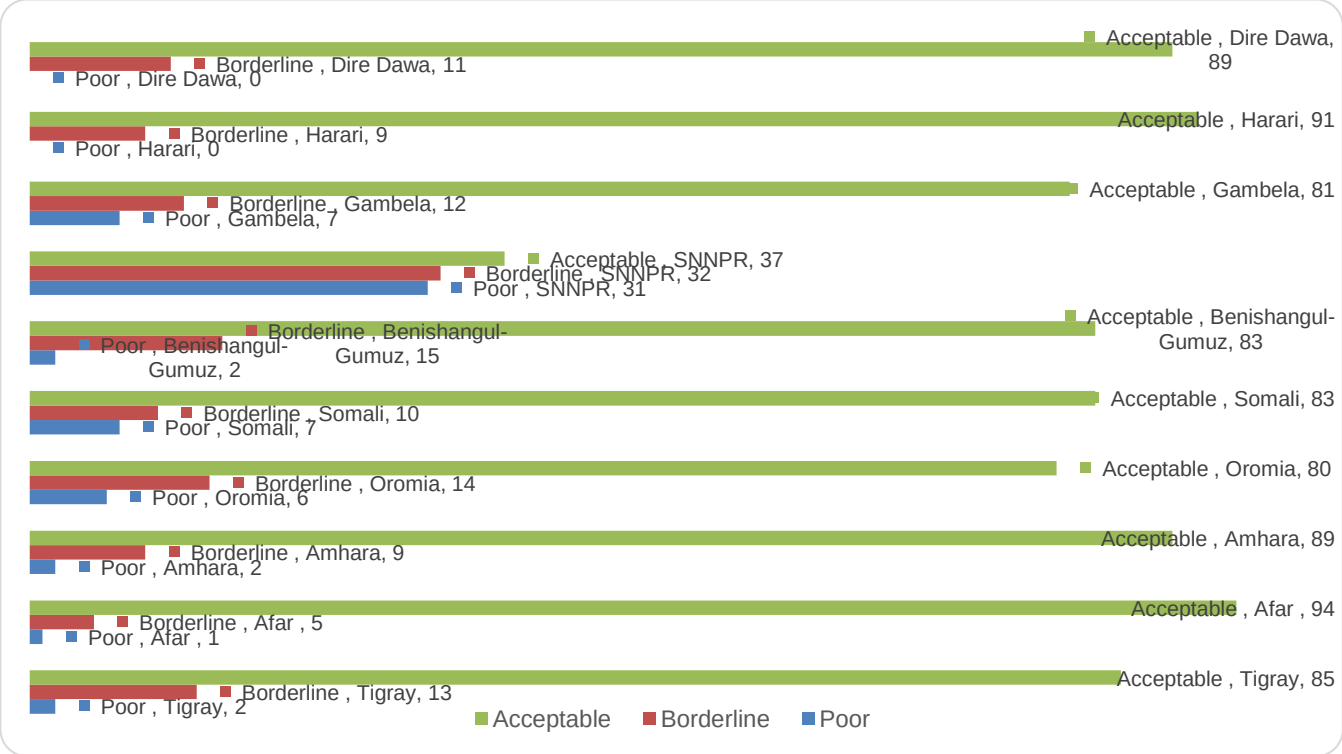
15. Women play an extremely important role in the natural resource management, in crop and livestock production, soil and water conservation and in value chain activities such as the processing and sale of livestock and food. This is despite the international evidence from across regions that women have less access than men to productive resources and opportunities. Many smallholder farmers in Ethiopia are women either because they are household heads or wives. They grow crops, raise animals, collect water and wood for fuel, care for family members, and engage in other social obligations. Research suggests that women are more likely to re-invest their income in their family improving their welfare, education, nutrition, and health.

16. According to the World Summit on Food Security, 2009, if one or more of pillars of food security (availability, access, utilization, and stability of food) are not in place, or when any of these key variables are disrupted, the food security of communities, households and individuals is at stake. Even when there is food stability and all four pillars are in place, inequality, lack of access to the justice system, divorce, wife inheritance, and other social norms mean that women are much more likely to be poor and vulnerable to food insecurity; food stability does not automatically translate to food security for women and children.

[9] See CSA and WFP (2014), *Ethiopia: Comprehensive Food Security and Vulnerability Analysis*.
[10] Ibid.
[11] Ethiopia National Food Consumption Survey 2013, Ethiopian Public Health Institute Addis Ababa, Ethiopia http://www.ephi.gov.et/images/pictures/National%20Food%20Consumption%20Survey%20Report_Ethiopia.pdf

[12] MDG Achievement Fund and UN Women (2013). MDG Advancing Gender Equality: Promising Practices – Case Studies from the Millennium Development Goals Achievement pp 78.

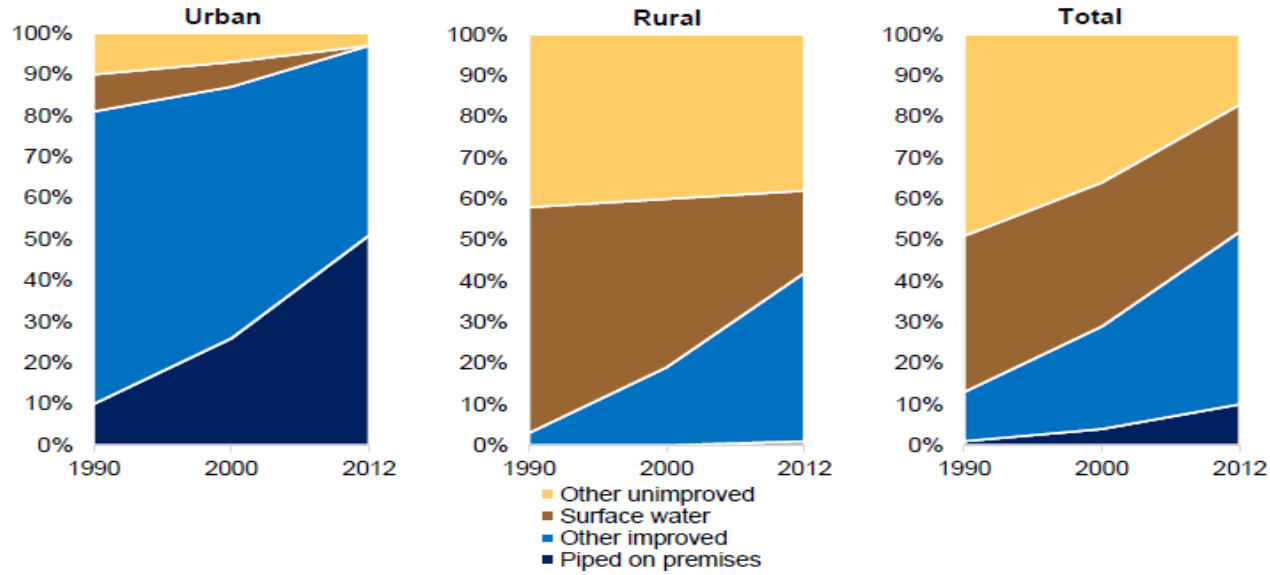
Figure 1: Proportion of Households with Poor, Borderline and Acceptable Food Consumption, by Region



Source: CSA and WFP (2014)

17. Critically, as apparent from Figure 2, only 42% of the rural population had access to improved water sources in 2012, with 31% of rural households relying on surface water for drinking. Given the frequency of drought in the country, a high dependency on surface water for drinking poses serious risks to the health as well as the livelihoods of the poor; climate change is only worsening the situation. In rural Ethiopia water is provided to communities on the back and heads of women and girls who travel several miles every day to water sources. This has a direct impact on girls' school enrolment, on children's health and on families' livelihoods. The burden is heavier on 26% of households headed by women – 30% of which are in the project area.

Figure 2: Trends in Water Coverage in Ethiopia



Source: WHO / UNICEF JMP (2015)

The Critical Impacts of Climate Change in Ethiopia

18. Ethiopia has diverse agro-ecology systems. Of the total area of the country, 70% is dry sub-humid, semi-arid, or arid, and thus vulnerable to climate-induced drought.[13] Meanwhile, agriculture remains the most significant contributor to the Ethiopian economy, contributing over 84% of national exports and providing over 80% of nationwide employment opportunities[14]. Smallholder production is the dominant agricultural system in Ethiopia, largely based on rain-fed agriculture[15]. For these reasons, and given its general high level of poverty in the project area, Ethiopia is particularly vulnerable to the adverse impacts of climate change. All reviewed assessments – including the Second National Communication to the UNFCCC (2014) and the National Adaptation Programme of Action (NAPA, 2007) – project severe climate change impacts for the country. The NAPA reaffirms the GoE's commitment to 'integrating gender into all activities' as one of its socioeconomic goals.[16]

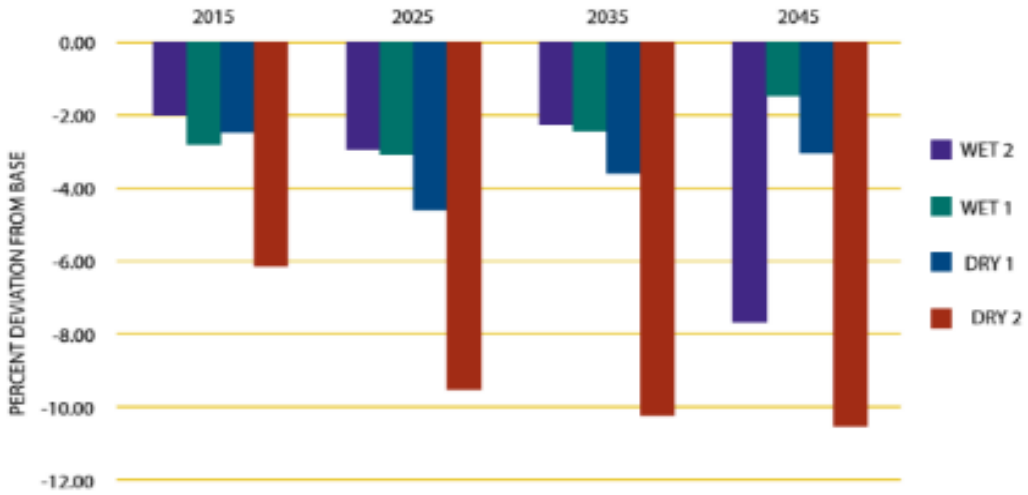
19. Climate change trend analysis indicates that the mean annual temperature increased by 1.3°C between 1960 and 2006, with an increase in the number of hot days and nights of 20% and 38%, respectively.[17] This trend is expected to worsen. Climate change projections indicate that Ethiopia will experience increasing temperatures and levels of precipitation in the coming decades; mean annual temperature will increase in the range of 0.9-1.1°C by 2030, 1.7-2.1°C by 2050 and 2.7-3.4°C by 2080 for the IPCC mid-range emission scenario compared to the baseline 1961-1990 level.[18] Precipitation is expected to decrease in the northern regions of Ethiopia, while southern areas could see an increase of as much as 20%.The IPCCs AR4[19] revealed that land-use changes in central Ethiopia have a small effect on annual runoff as compared to climate change that was induced globally. There has been increasingly high variability in rainfall between years, seasons, and regions, trends that are of huge significance to Ethiopia given its dependence on rain-fed agriculture. Typically, the yearly variation of mean rainfall levels is 25%, although this can be as high as 50% in some regions[20]. These fluctuations have included changes in the intensity and frequency of extreme events, the incidence of droughts and floods having increased in the last 10 years relative to the decade before, with severe impacts on people's livelihoods.

20. In Ethiopia, one of the adverse impacts of climate change is water shortage for both human beings and animals. This increases women's work burden, as the number of hours spent collecting water is increasing, while there will also be a decrease in the quality of water and increased risks to health. In such circumstances, men and women cope differently: men from poorer households may migrate to urban areas while women are left behind to work on farmland, look after the family and possibly engage in income-generating activities. In many cases, women must sell assets and resources to help them cope; consequently, they will not have enough assets to plan for the next crisis. Walking long distances to fetch water can expose women and girls to harassment or sexual assault. The provision of water supply through the project will address one of the causes of inequality by extending the working day and thereby increasing the time available to women to engage in income-generating activities.

21. The anticipated impacts of climate change (illustrated in Figure 3) have the potential to hold back economic progress, or reverse gains made in Ethiopia's development, as well as to exacerbate social problems,[21] as compared to a situation without climate change.

[13] MoFEC (2007). DO WE HAVE A FULL REFERENCE?
[14] International Monetary Fund Country Report No. 08/259, pp. 5, 26; 2009.
[15] A Comparative Analysis of the Technical Efficiency of Rain-fed and Smallholder Irrigation in Ethiopia (2014).
[16] http://unfccc.int/resource/docs/napa/eth01.pdf.
[17] McSweeney, C., New, M., & Lizcano, G. (2010), UNDP Climate Change Country Profiles: Ethiopia.
[18] National Meteorological Agency (2007), Climate Change National Adaptation Programme of Action (NAPA) of Ethiopia, Addis Ababa, Ethiopia.
[19] Climate Change 2007: Impacts, Adaptation and Vulnerability.
[20] Ibid.
[21] Overseas Development Institute (2011), Climate Finance in Ethiopia.

Figure 3: Potential Impacts of Climate Change on GDP in Ethiopia



Source: Climate Resilient Strategy of the Ministry of Water and Energy

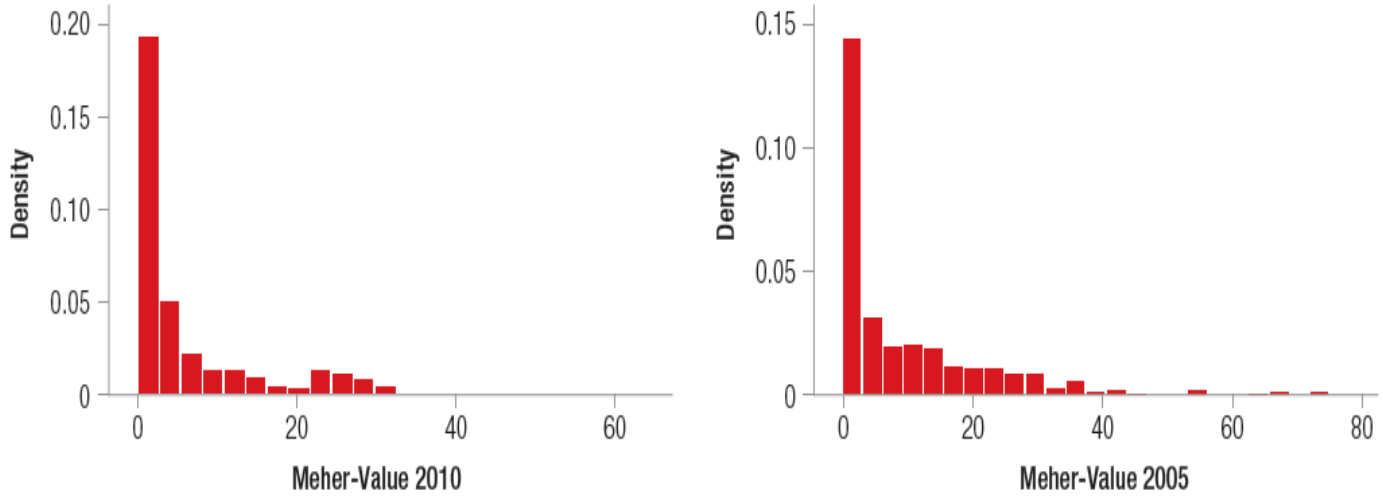
22. Specifically, if no adaptation measures are taken, climate change-induced impacts are projected to result in a 2-10% loss of GDP by 2045 relative to baseline growth.[22] In the dry scenario, climate change could negatively impact GDP by 10% or more by 2045. Estimation from the Disaster Risk Management & Food Security Sector (DRMFSS) risk baseline survey shows that the combined annual ***direct cost*** of drought and flood ranged between Ethiopian Birr (ETB) 370 million and ETB 2.5 billion. The value of the largest recorded disaster losses amounts to about 4% of crop-related agricultural GDP and 7.3% of livestock-related GDP.

23. At the household level, such impacts can translate into significant losses in income, trapping people in poverty cycles. For example:

- A moderate drought causes household consumption losses of 8% in drought-prone areas;
- Rainfall in the bottom quintile of the 30-year village distribution causes up to 20% reductions in household consumption;[23]
- In 2010, some households experienced crop losses of more than 30% (Figure 4); and
- Between 1999 and 2000, drought-induced crop and livestock losses in north-eastern Ethiopia were estimated at US$ 266 per household, an amount greater than the annual average income of more than three-quarters of the households in the region.[24]

24. Women head about 26% of households in Ethiopia.[25] Water is acknowledged as a significant contributor to the development of the nation and the Second National Communication to the UNFCCC places an emphasis on women as key stakeholders to the success of economic and social goals. In addition, the time taken by women and girls in household activities – such as firewood and water collection – in both rural and urban areas is linked to the negative effects on quality of life, health and wellbeing of women and girls. The time intensive household exercises, in conjunction with the exclusion in decision-making in environmental management (resources, conservation, rehabilitation, and protection)[26] and absence in policy formulation, puts women in a dire position to influence change. Further, Ethiopian agriculture has one of the highest gender productivity gaps in sub-Saharan Africa, with female managed farms (largely comprised of female headed households) being 23% less productive than male managed farms.[27] Gender disparities are neither static nor immutable. It has been recognized that when women get the same amount of inputs as men, their productivity increases dramatically. According to the FAO, providing women farmers' equal access to productive resources could increase yields on their farms by 20-30 percent and raise the total agricultural output by between 2.5-4 per cent. Hence, in the implementation of the project in each micro watershed, equal access to extension service and other required inputs will be provided. In acknowledging this, the project will be pivotal in enacting gender responsive and gender-transformative change at a household, community and – potentially – national level.

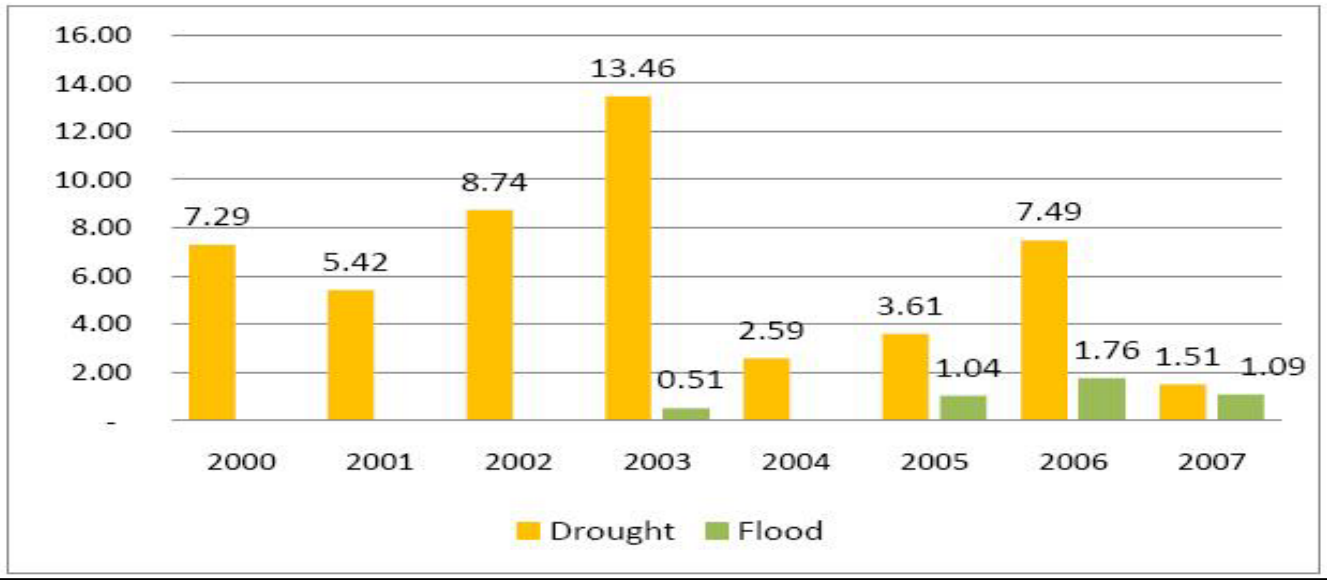
Figure 4: Meher Crop Losses in Ethiopia



Source: World Bank (2014)

25. Climate change-induced drought is the dominant hazard in Ethiopia. For example, the 2003 drought was caused by failed *belg* rains and delayed and sporadic *meher* rains; if droughts like these were to occur in Ethiopia again, it has been estimated that this would increase household poverty substantially from 30% to 51%.[28] As highlighted in Figure 5, the drought of 2003 impacted close to 13.5 million people, while even the lesser events of 2000 and 2007 affected about 7.3 and 7.5 million, respectively.

Figure 5: Number of people affected by Drought and Floods as a Result of Climate Change

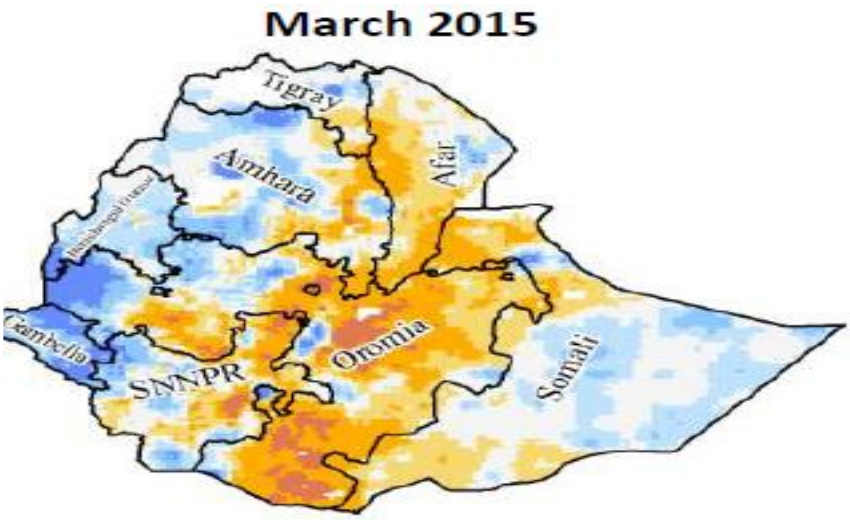


[22] World Bank (2010).
[23] World Bank (2014), Ethiopia: Poverty Assessment.
[24] Carter, M., Little, P., Mogues, T., Negatu, W. (2006), Shocks, Sensitivity and Resilience: Tracking the Economic Impacts of Environmental Disaster on Assets in Ethiopia and Honduras. DSGD Discussion Paper No 32. International Food Policy Research Institute, Washington DC.
[25] Ethiopia's Second National Communication to the UNFCCC (2015) http://unfccc.int/resource/docs/napa/eth01.pdf.
[26] Federal Democratic Republic of Ethiopia, Ministry of Women's Affairs, National Gender Mainstreaming Guidelines (2010) http://www.mowcya.gov.et/documents/715111/0/Gender+Ministering+Guideline+English/b290eba6-ad45-465e-baa3-cab9a932ae12?version=1.0.
[27] World Bank (2014), Ethiopia: Poverty Assessment.
[28] Ibid.

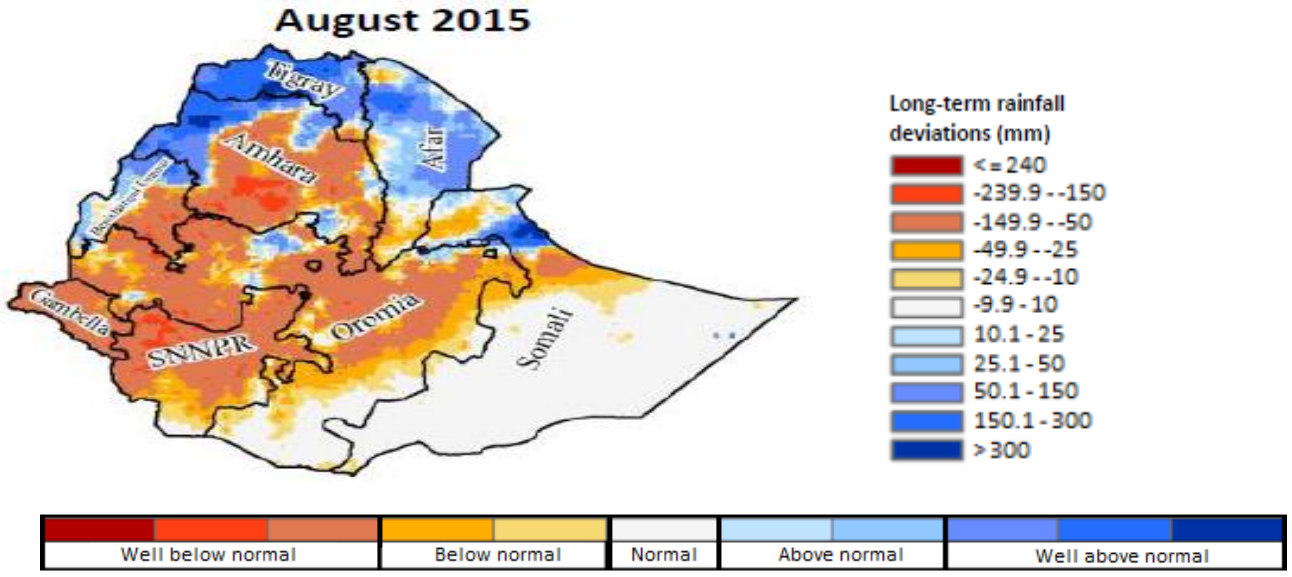
Source: Ministry of Agriculture (2011)

26. Ethiopia's exposure to drought and floods is heavily influenced by the El Niño/La Niña phenomenon. In 2015/16, Ethiopia is experiencing one of the worst droughts in decades. Ethiopia experienced below-average (50%) rainfall deficit or failed *belg* rains in many parts of the country during 2015, which contributed to the current drought and food security crisis. Estimated rainfall deviations from long-term averages are illustrated in Figure 6. In particular, pastoral areas have experienced significant rainfall deficits of up to 50% below average annual rainfall.[29] This led to crop failures of the 2015 *meher* harvest of between 50-90%, particularly in the eastern part of the country, and has dried up many water sources.[30] In October 2015, the GoE announced that the number of people that were affected by drought in Ethiopia stood at 8 million; this has increased to 10.2 million in the first quarter of 2016[31], whilst UNDP projects that 15 million people could be in need of food aid in 2017. Nationwide, 26% of households are female headed. This figure goes up to 30% in the project area. If drought continues, the momentum in economic growth that had been achieved might be reduced by as much as 2.5%. This is of concern, not only in relation to Ethiopia's middle-income ambition, but also because the impacts will fall on the most vulnerable in society[32]. Loss and damage to national property, territory, lives, and livelihoods that have been affected because of climate change is substantial. According to the "Pushed to the Limit"[33] study, time and again households that are already struggling are forced into deeper poverty due to climate change impacts. When adaptation is insufficient to manage climatic stressors, the losses and damages that results will undermine human well-being and sustainable development. Focus groups conducted within the "Pushed to the Limit" study provided qualitative information and baseline data identifying the losses and damages results as experienced on men and women. Loss and damage results of a non-economic nature deemed children and pregnant women to be at the highest risk of stressors.[34]

Figure 6: Estimated Rainfall Deviation from Long-term Averages



[29] FAO (2016), Ethiopia El Niño Response Plan 2016.
[30] Government of Ethiopia and United Nations (2016), Ethiopia Humanitarian Requirements Document.
[31] In January 2016, the GoE estimated that about10.2 million people required emergency food assistance and other humanitarian interventions, indicating that the 2015 harvest was well below normal. However, the UN Food and Agriculture Organization (FAO) estimates that approximately 838,000 households in Ethiopia require emergency seed assistance for the two main planting seasons (belg and meher seasons) in 2016. The recent FAO figure is an approximately 75% increase compared to the 477,000 households requiring seed assistance identified by the 2016 Humanitarian Requirements Document (HRD) in December 2015. By all counts, the 2015 drought has led to reduced crop yields because of reduced land preparation, planting and poor and early cessation of rainfall, etc.
[32] Trócaire, (2014), 'Ethiopia'. In: Trócaire (ed.) Feeling the Heat: How Climate Change is Driving Extreme Weather in the Developing World. [Online]. Available from: http://www.trocaire.org/sites/trocaire/files/resources/policy/ethiopia-climate-change-case-study.pdf. [Last Accessed 19th November 2015].
[33] United Nations University, Institute for Environment and Human Security (UNU-EHS) (2003).
[34] K. Warner; K. van der Geest; S. Kreft (2013), Pushed to the Limit: Evidence of Climate Change-Related Loss and Damage when People Face Constraints and Limits to Adaptation, United Nations University Institute for Environment and Human Security.



Source: FAO (2016)

Responding to Climate Change

27. Ethiopia is one of the fastest-growing economies in Africa and in the world. It aspires to achieve a lower middle-income status by 2025, without increasing its net greenhouse gas emissions and while protecting itself against the negative impacts of climate change. Ethiopia recognizes the considerable risk climate change represents to economic development. The country has historically been prone to extreme weather events, which are forecasted to intensify and occur more frequently because of climate change. High rainfall variability already causes droughts and floods on an almost annual basis, with severe consequences for the country's economy and people. The social and economic costs arising from increasing climate variation and climate extremes are significant, and expected to become even more severe under climate change.

28. The Government of Ethiopia, therefore, recognizes the importance of designing policies with a view to climate and climate change. In 2011, the Ethiopian Climate Resilient Green Economy (CRGE) strategy was launched, laying the foundation for integrated planning for climate-resilient development. Ethiopia's CRGE initiative aims to "climate-proof" its National Development Plan goal to stabilize the country's net greenhouse gas emissions while building resilience to current climate risks and future climate change. Over time, Ethiopia aims to go beyond climate-proofing, to fully align its green growth and climate-resilience objectives with its future national development plans. The CRGE initiative has led to establishment of new institutions, new efforts in capacity building and financial resource mobilization, and has triggered comprehensive climate risk and vulnerability assessments. The Government of Ethiopia identifies within the CRGE, the inclusion of the Ministry of Women's Affairs within its ten-year roadmap of "Major Agriculture Programmes and Plans".[35] Further, the agriculture and forestry climate resilient strategy places activities for social protection of high priority groups including women and children as one of its prioritized programmatic options.[36]

29. Ethiopia's decision to develop a strategic, national-level response to climate change has been triggered by a strong awareness of climate risks and strong political leadership. The historically high exposure to climate variability has created strong awareness about current and future climate impacts in Ethiopia. In its national development plan, the Ethiopian Government explicitly identified climate variability and climate change as a threat to its development goals, and hence called for plan of action, strategies, laws, standards, and guidelines to lessen the effect of forecasted climate change. To fully mainstream climate resilience and green growth into development planning, the CRGE

[35] *Ministry of Finance and Economic Cooperation (2015):* *http://www.mofed.gov.et/English/Featured%20Articles/Pages/TheEthiopianClimateResilientGreenEconomy%28CRGE%29StrategyandtheCRGEFacility.aspx*

[36] *Federal Democratic Republic of Ethiopia, Ethiopia's Climate Resilient Green Economy, Climate Resilience Strategy: Agriculture and Forestry*

explicitly feeds into the second Growth and Transformation Plan (GTP-II), which guides development planning for the period 2015-2020[37]. GTP-II has a strong policy focus on gender equality and women's empowerment, with particular attention to rural women's economic development.

30. Ethiopia is already making substantive climate change-relevant investments across its sectors. Climate change-relevant spending from the national treasury between 2008 and 2012 was estimated to average USD 440 million per year, or 15% of total Government expenditure over these four years[38]. High priority climate change related projects that the Government of Ethiopia is implementing that are in line with this proposal include irrigation projects, dry land management programs, and development projects designed to promote renewable energy and energy efficiency. These programs are being implemented by the Ministry of Agriculture and Natural Resources, Ministry of Water and Electricity, Ministry of Environment, Forest and Climate Change, the implementation of which is overseen by the Ministry of Finance and Economic Cooperation. The selection of the targeted beneficiaries for this project proposal articulated that the targeted communities are not beneficiaries of other flag ship programs that focus in addressing climate change issues. Additionally, while these investments are resulting in substantive benefits, which in the Ethiopian context are referred to as 'unsupported' actions, the country has also been proactive in attracting and channelling finance from other sources, with a view to fast-tracking CRGE implementation. To this end, the Ministry of Environment, Forest and Climate Change (MEFCC) and the Ministry of Finance and Economic Cooperation (MoFEC) together established the CRGE Facility with a clear mandate for climate-related resource mobilization and management. The Facility has attracted USD 37.8 million of climate finance from development partners. This funding has been allocated to support a number of Fast Track Investments (FTIs) in 35 Woredas (Districts) across all regions of Ethiopia. However, lack of finance has been identified as one of the three constraints (in addition to technology and capacity) that pose a major challenge to effective implementation of the CRGE strategy. Preliminary estimates indicate that building the green economy will alone require total expenditure of around US$ 150 billion over the next 20 years, with around US$ 80 billion of required funding estimated to be capital investment and the remaining US$ 70 billion assessed as being necessary to cover operating and programme expenses. This, therefore, underscores the need to mobilize significant amounts of new and additional finance from international, domestic, public and private sources in order to fully implement the CRGE strategy on the ground. The multi-attribute analysis (MAA) within the CRGE strategy validates priorities and identifies options for interventions, acknowledging the link between gender equality and climate change risk.[39] The project has adopted a gender responsive approach in all its interventions. It targets the most vulnerable women, particularly female heads of households, and it will build the leadership capacities and skills of women to have equal decision making power in community leadership as key stakeholders. Sample reports on the experience of the UNDP as well as the executing entities implementing flagship programs include;
    - http://www.et.undp.org/content/ethiopia/en/home/operations/projects/climateriskandresilience/project_ProtectedArea.html
    - http://www.et.undp.org/content/ethiopia/en/home/operations/projects/climateriskandresilience/project_AfarDryLand.html
    - http://www.et.undp.org/content/ethiopia/en/home/operations/projects/climateriskandresilience/project_AAP.html
    - http://www.et.undp.org/content/ethiopia/en/home/operations/projects/climateriskandresilience/project_DRRandLivelihood.html
    - http://documents.worldbank.org/curated/en/660091471901725778/Ethiopia-Second-Agricultural-Growth-Project-P148591-Implementation-Status-Results-Report-Sequence-03
    - http://www.moa.gov.et/web/pages/189
    - http://www.moa.gov.et/web/pages/sustainable-land-management

31. UNDP as key partner to the government has been involved in climate change agenda before 2011 and supported the government in enhancing the resilience capacity of the government in climate change mitigation and adaptation. UNDP supported projects such as African Adaptation Program- Supporting Climate Resilient Sustainable Development in Ethiopia (6.48 million USD), produced Ethiopian Plan of Action to adapt to climate change, and the Green Growth Investment Plans of national regional states. These documents served as basis for the development of CRGE Strategy in 2011. Moreover, UNDP was instrumental financially and technically for the establishment of the CRGE Facility and its operationalization. UNDP supported, among others, the development of the CRGE Facility Operational Manual and Monitoring and Evaluation Framework. Moreover, UNDP in collaboration with the Ministry of

[37] *Ministry of Finance and Economic Cooperation:http://www.mofed.gov.et/English/Featured%20Articles/Pages/TheEthiopianClimateResilientGreenEconomy%28CRGE%29StrategyandtheCRGEFacility.aspx*

[38] *Overseas Development Institute (2004), Climate Finance in Ethiopia.*

[39] *Ministry of Finance and Economic Cooperation:http://www.mofed.gov.et/English/Featured%20Articles/Pages/TheEthiopianClimateResilientGreenEconomy%28CRGE%29StrategyandtheCRGEFacility.aspx*

Environment, Forest and Climate Change has mobilized 7.9 million USD and channelled them to the CRGE Facility for Institutional strengthening for the Forest Sector Development in Ethiopia. UNDP is also being the member of the Technical Committee in the REDD+ secretariat actively participated and contributed in the formulation of the REDD+ National Strategy. Moreover, UNDP, in collaboration with UNEP, mobilized 350,000 USD under Targeted Support from UNREDD and successfully implemented it. The targeted support produced forestry, one of the four pillars in the CRGE Strategy, relevant documents such as ''the Contribution of Forests to National Income in Ethiopia" and its linkages with REDD+. As per this study, in 2012/2013 Ethiopia's forests generated economic benefits in the form of cash and in-kind market income equivalent to 121.6 billion Ethiopian birr (ETB) ($US18.2 billion) or 14.1% of the measured value of gross domestic product.

Rationale of the Proposed Project

32. The GoE framed and pursued a strategy of Agricultural Development Led Industrialization (ADLI) in 1991. It was complemented to promote light manufacturing to support structural transformation and exports in the 2000s. ADLI is considered as a national policy basis for Ethiopia's development, in which land and people are considered as key factors, followed by water as a third pillar for development. The ADLI is the structural foundation that informs the Growth and Transformation Plan (GTP), which was developed in 2010 and is the overarching national plan designed to leapfrog the nation to a lower middle-income economy by 2025. The GTP underlines the role of agriculture as continuing to be the major source of economic growth, and intends to intensify production of domestic and export markets through smallholder farmers and private agricultural investors, focusing on: high-value crops; development of small-, medium- and large-scale irrigation schemes; scaling-up of best-practices of model farmers; strengthening Government services for better support; development of new technologies; promotion of multiple cropping, adaptation to climate variability and ensuring food security through intensified use of water and natural resources; watershed management; water and moisture retention; conservation and management of natural resources; and commercial horticulture. The GTP strategically gives weight to the agricultural sector, as it is the means to increase the adaptive capacity of the country's people against climate change as well as the springboard for structural transformation to supplying inputs necessary for industrial growth. Currently, the CRGE strategy is being mainstreamed into the second generation of the GTP (GTP II) across all sectoral platforms. This proposal is designed to be coherent and aligned with GoE's national policies and will be an instrument to support the implementation of the CRGE strategy on the ground.

33. The principal aim of the project is to build the resilience of vulnerable communities to drought, by helping male and female farmers adapt their livelihoods to their changing conditions, in the process equipping them with more productive and more diverse means of earning income, which will ensure sustainability of impact. This is critical to the country as well as to the vulnerable communities, particularly for women and girls. With 80% of the national population reliant upon rain-fed subsistence agriculture, they are highly vulnerable to climate change; when they suffer, this has a domino effect in that their vulnerability then affects the national economy. Therefore, by reducing women's vulnerabilities, by increasing the productivity of livelihoods and people's capacity to adapt to climate change, this project will help the national economy become more resilient to climate change. This requires that predominantly rural communities, including poor women, have access to climate-smart technologies and practices. In the process of making them more productive, they will also rehabilitate degraded ecosystems and further promote gender responsive interventions that ensure the sustainability of the initiative. The climate-smart approaches will also help deliver mitigation co-benefits.

34. The GoE understands that, while such developments are significant, they are not sufficient to bring about a transformation that can break the drought cycle and catalyse a shift to a sustainable development path. This requires a bolder approach, whereby the underlying causes of low resilience are addressed simultaneously and in an integrated way. The proposed project, therefore, responds to these challenges and needs, using a landscape approach to systematically build resilience to drought and variability in rainfall, adapting this to the circumstance of each targeted community (which have all been consulted and involved in the project design) and landscape. The landscape approach is increasingly gaining global attention, and the design of the proposed project is based on the understanding that a 'landscape' is a socio-ecological system that consists of a mosaic of natural and/or human-modified ecosystems, with a characteristic configuration of topography, vegetation, land-use, and settlements that is influenced by the ecological, historical, economic, and cultural processes and activities of the area. The mix of land cover and use-types (landscape composition) includes agricultural lands, native vegetation, and human dwellings, villages and/or urban areas. Likewise, 'integrated landscape management' refers to long-term collaboration among different groups of land managers and stakeholders, including women, to achieve the multiple objectives required from the landscape. These typically include agricultural production, provision of ecosystem services (such as water

flow regulation and quality, pollination, climate change mitigation and adaptation, and cultural values and gender inclusive institutions), protection of biodiversity, local livelihoods, human health, women's empowerment and families' wellbeing and gender considerations. Through an integrated landscape approach, stakeholders seek to solve shared problems or capitalize on new opportunities that reduce trade-offs and strengthen synergies among different landscape objectives.

35. In Ethiopia, the landscape approach has been tried in different contexts and scales, notably in farming systems and (micro) watersheds. However, there are constraints and challenges reported regarding collaborative planning and implementation across boundaries, sectors, and actors for achieving integrated landscape management. These include: lack of system thinking and managing knowledge in the assessment of landscapes, design of interventions and tracking of impacts; weak engagement of community organizations and women's equal participation in decision-making of landscape planning and governance; inadequate policy support at grass-roots level; limited platforms for knowledge-sharing among actors in landscape initiatives; and tools and approaches for farm, landscape, and policy planning currently being used generally lacking explicit integration of ecological, agricultural, social, and economic analyses, and links between farm and landscape scale. As a fundamental departure, therefore, the GCF project will implement an integrated landscape approach with all stakeholders including women in the design and implementation of interventions. In this case, a Kebele (sub-district) will be a landscape unit, where bio-physical, social-cultural, economic, and institutions interface with each other. Micro-watersheds will continue to constitute a major element of the landscape mosaic, and will be a unit of planning and implementation of interventions such as the soil and water conservation, agro-forestry, water harvesting, water development, reforestation and afforestation, flood protection, etc. As a Kebele has an institutional structure, which includes an elected Kebele Council, Kebele Manager, sector offices, farmers training centres, school and health post, etc., it is the lowest administrative structure and, therefore, represents an ideal coordination and engagement platform.

36. By applying this inclusive approach, and introducing proven climate-smart technologies and practices appropriate to the landscape (Kebele), the project will help communities not only to adapt to immediate climate challenges, but also to learn to adapt to new climate change related challenges that they will meet in the future, recognizing the necessity for gender differentiated approaches. The project will work with local stakeholders, initially helping to build awareness of the causes of the challenges confronting them as well as their options to address them based on viable coping mechanisms and grassroots' women's generational experiences to and build more resilient livelihoods. By involving all players in each landscape, and ensuring the availability of relevant and up-to-date climate and early warning information, the project will develop integrated planning and action frameworks that will enable the formulation of climate and gender responsive approaches tailored to their circumstances. A vital aspect of the participative approach will be the involvement of women in all aspects of the project. Ethiopia's Second National Communication to the UNFCCC, 2015, describes capacity-building for women in areas such as infrastructure development as "gender-neutral" and commits to providing "strong political commitment and will" as the basic principles to follow at all levels. Their capacity development commitments in regards to gender analysis embody development of accountability mechanisms, allocation of sufficient resources, and explicit, coherent, and sustained support to women in order to bridge gender gaps at all levels.[40] These principles are embedded in the project design, which will further contribute to the intended paradigm shift.

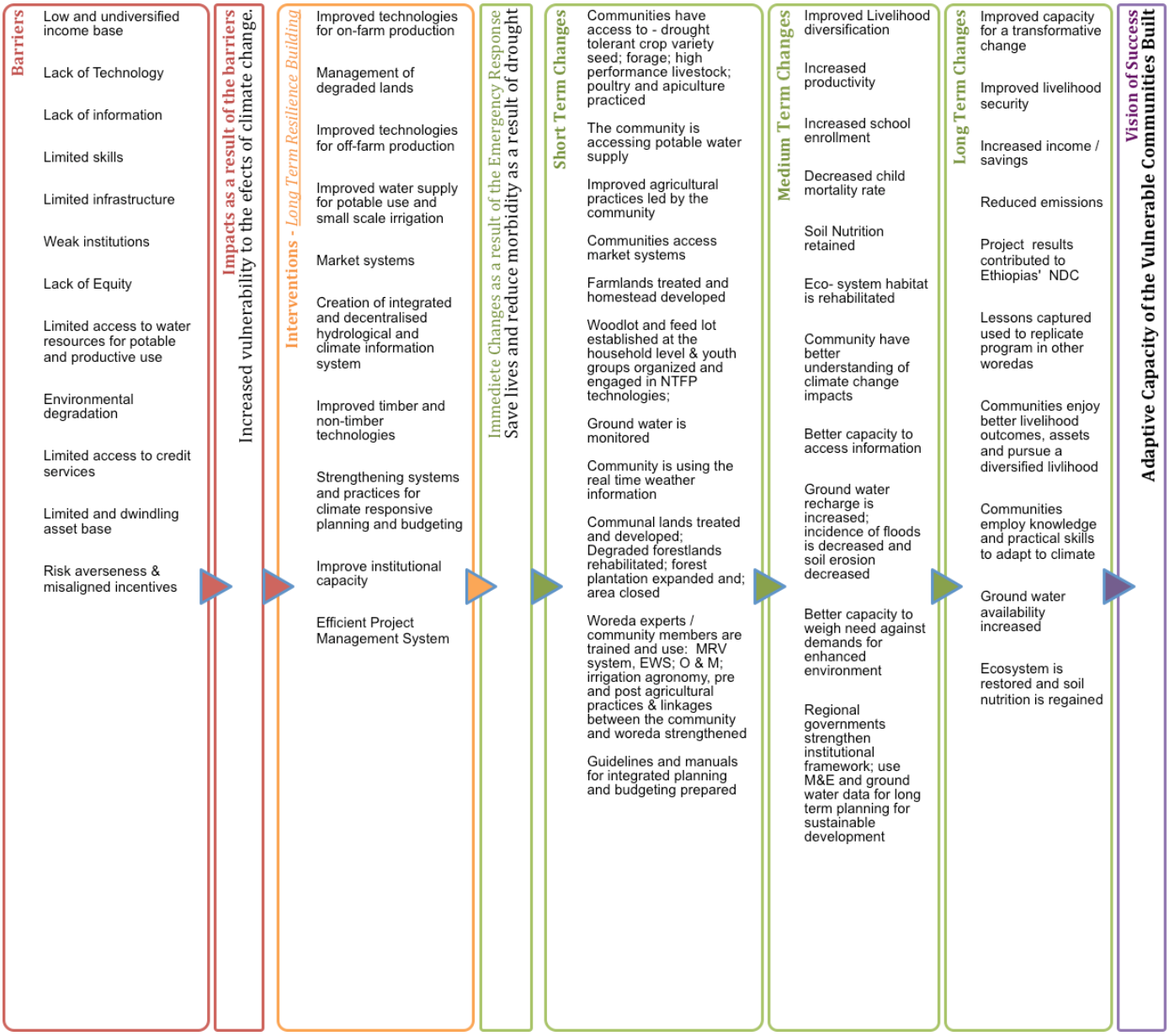
37. The inter-linkages between project elements that enable the resilience-building process are illustrated in Figure 7. It shows how the different Outputs of the project (described in Section C.3) reinforce each other to build resilience to climate change-induced drought. The theory of change (further described in Section E.2) focuses on the measures required to build highly productive and resilient livelihoods, with the application of climate-smart technologies and practices bringing about mitigation co-benefits.

38. Achieving such transformation, and ensuring that it is sustainable, takes time. The project, therefore, assumes a five-year duration. This is necessary to take each community through a full learning process in a way that ensures all required knowledge and capacity has been transferred, at which point it will be possible for the project to exit from project locations. By applying this approach across multiple landscapes, and taking into consideration gender differences, communities will not only recover from climate-induced drought challenges, but also adapt to long-term climate change shocks and new challenges. This project is the first of its kind to bring together the relevant line ministries in project conception and management, and, therefore, aims to become a model of how national projects/programmes should be designed and implemented in the future, as well as contribute to the CRGE's effort of making the national economy more resilient to climate change. This proposal entails a detailed description of the

[40]Ethiopia Second National Communication to the UNFCCC 2015.

methods and resources that will be used to achieve the desired outputs and impacts. The inter-linkages between the methodologies that will be essential to the long-term resilience-building process are illustrated in Figure 7.

Figure 7: Impact Pathways Underlying the Resilience-Building Process



C.2 Objectives Against Milestone

Baseline Scenarios for Adaptation

39. The design of this project has looked closely at how to achieve transformative results and draws upon a detailed feasibility study and extensive stakeholder consultations. To this end, a review of previous relevant national programmes revealed that all were sector-led with limited linkages with other programmes or sectors. This was found to compromise their sustainability. As livelihoods are a function of various elements – such as infrastructure, technology, and capacity – being present at the same time, the lack of one will affect the sustainability of the whole project. To address this shortcoming, this project has mapped all the components that will need to interact in specific locations to bring about a paradigm shift in how communities make and enact decisions about their livelihoods. The

project champions a transformative approach with its gender responsive interventions that specifically targets women. It also ensures sustainability and potential replication by valuing women's pivotal role and building their capacity to become leaders and change agents, in their own rights

40. Other important findings from the review of past projects and the strategic context include the following:

41. There have been large-scale public investments in the agriculture sector, including in extension of public services, rural roads, and advancing public policy, such as improvements in land tenure security, because of which the agriculture sector grew at an annual average rate of around 7% during the past 15 years. Unfortunately, despite these investments, agricultural productivity has remained low, largely due to land degradation and a lack of appropriate farming technology,[41] and a heavy reliance on rain-fed and traditional agricultural practices.

42. Given the continuation of such farming practices, it will almost certainly be necessary to significantly increase allocations of land to agriculture if the desired higher levels of output are to be achieved.[42] Unfortunately, as in the past, most of this increase in land area will likely come at the expense of forests. Nationally, deforestation has persisted at a rate of about 140,000 ha per year[43], often as a result of agricultural expansion, overgrazing, and settlement. At the same time, economic and population growth is increasing the demand for forest resources. It is estimated that total wood product demand will increase by about 27% over the next 20 years, reaching 158 million cubic metres per year by 2033.[44] This will likely encourage different forms of unsustainable forest utilization (fires, encroachment, logging, cultivation, etc.) in coming decades.[45] Ethiopia already has one of the highest rates of soil nutrient depletion in sub-Saharan Africa, with an estimated loss of nearly one billion m^3 of topsoil per year; around 27 million ha of land in the highlands are thought to be degraded during recent decades.

43. As only about 250,000 hectares out of a potential 5 million hectares are irrigated, harvests are heavily dependent on increasingly unreliable rainfall (due to climate change), which often leads to food shortages. In the past twenty years, droughts have affected several areas of the country, leading to ponds, wells, streams, and lakes drying up or becoming extremely shallow. Many people living outside of the cities collect water from these shallow water sources, which are often contaminated with human and animal waste, worms or disease. Disease often runs rampant through these communities, with many people falling ill or dying because of contaminated drinking water; water-borne illnesses, such as cholera or diarrhoea, are the main causes of death of children under the age of five. Water scarcity also forces women and girls to travel significant distances to fetch water on their backs and heads, which reduces their time and energy available to go to school, engage in productive off-farm activities, or participate in community life. Without water security, migration from rural to urban areas is increasingly likely to become the favoured adaptation strategy of the mobile, rural poor.

44. Notwithstanding these economic and social challenges, the situation analysis does show that overall, Ethiopia has the potential to adapt, in particular considering its abundance of land[46], labour and – given careful and innovative management – water. Recognizing this, the country has taken important steps to help realize this adaptive potential. For example, a number of initiatives with the aim of combating flood and drought problems – including afforestation/reforestation, participatory soil and water conservation, dam construction and irrigation development – are operational. Some strengthening of market systems has been achieved (in particular, because of improving roads and telecommunications), although further development is needed.[47] And some increases in agricultural productivity are evident, with productivity of the main cereal crops (such as teff, maize, wheat, barley, sorghum, etc.) having grown from 12.1 quintals per hectare in 2004/05 to 18 qt/hectare in 2011/12.

45. ***Woreda Baseline:***[48] Woredas have been selected because they are food-insecure, have a long history of food aid, and suffer from high variability in rainfall and incidence of drought. Typically, they depend on agriculture, mixed farming and agro-pastoral practices, the main economic activities being crop and livestock production, and to some

[41] United Nations Development Assistance Framework (UNDAF), 2011-2015.
[42] Nationally, it is estimated that over the next 25 years the agriculture sector will require an additional 250 to 300 million hectares of new land to accommodate the demands of commercial farming, subsistence cropping, pasture and range development.
[43] FAO (2010).
[44] MEFCC (2015), Forest Review.
[45] Lemenih and Kassa(2014).
[46] Currently less than 30% of arable land is cultivated.
[47] Dorosh (2013).
[48] MoFEC, UNDP (2016), Pre-Feasibility Survey Results; Woreda Disaster Risk Profile Programme (2015).

extent fishing and mining. Maize, sorghum, wheat, barley, and teff are the main crops grown for consumption as well as for sale, whilst cattle, goats, and sheep are the main livestock species reared. Even the farmers categorized as "middle and better - off" can barely produce more than their annual food needs, while the less fortunate (categorized as "poor/very poor") are dependent on the provision of local labour and/or are engaged in firewood sales to meet their food needs. Women are particularly vulnerable and overburdened when food, water and energy are in short supply. At the same time, Woredas have been selected where it has been established that there is water availability (for example, with several rivers crossing the zone), signifying the potential for irrigation development that could be used to significantly improve water access. In addition, good access to markets has been confirmed in the selected Woredas. All these factors imply high production and adaptation potential.

46. ***Livelihoods Baseline:***[49] Frequent drought or erratic rainfall results in crop damage, loss of livestock and pastures, water shortage (for humans and livestock), malnutrition (due to lack of food), and migration of households and wild animals. Deforestation, poor environmental conservation practices, conflict over grazing land and water points, and overgrazing are the major factors aggravating the impacts of drought. Crop pests and diseases such as partinum, striga, white grub and stock borer are common, caused by poor farm management and lack of pest-resistant seeds. Those pesticides used by farm households often have adverse effects on the health of farmers, especially female farmers, on the environment as well as on bees, which, in turn, affects honey production. Households in the target Woredas have indicated that the number of livestock has been decreasing over the last decade, mainly due to livestock diseases such as Newcastle Disease (chickens), CBPP, Anthrax, Trypanasomiasis, Lymphangitis, Foot and Mouth Disease (FMD), Sheep Pox, Faculiasis, and internal and external parasites. Malaria is the main reported human health problem, followed by diarrhea – both caused by water stagnation (which creates suitable conditions for mosquito reproduction), lack of clean water, and malnutrition. This has reduced workforce productivity, particularly for women who carry out traditional healing, caring, and nurturing services for the young, the elderly and those who are ill.

47. ***Vulnerability Baseline:***[50] 43% of households do not have oxen to plough land, which prevents effective utilization of improved agricultural inputs. Only 58% of households in the target areas report availability of agricultural extension services that often bypass women farmers and female heads of households; this, combined with unavailability of appropriate pesticides or improved varieties of seeds, has led to backward farming practices (including poor animal husbandry) and poor natural resource protection/rehabilitation practices, soil erosion, and deforestation. Animal rearing, production, and selling of charcoal are prevalent in the target Woredas as a source of income, which has further contributed to deforestation. The consequent poor productivity has made the communities more dependent on purchased food items, food transfers or food aid. About 54%, 53% and 65% of households have, respectively, received formal transfers in the form of food-for-work, food-for-cash and free cash; about 70% of households claim that it would be impossible for them to raise ETB 500 in one week, indicating limited access to credit (by most women), as well as inadequate saving of money and forage. Their situation is exacerbated by very low literacy rates and overall lack of awareness of climate change and its impacts, as well as poor access to vital support and facilities, especially for women who are the most vulnerable:

- 65% and 73% of households have access to, respectively, drugs, and veterinary services;
- Only 27% of households have access to potable water – and only 6.5% have regular access; and
- About 43% of households have access to water from streams, rivers or other unprotected schemes, the average time taken to fetch water being 163 minutes per day.

48. Studies have shown that women are more likely than men to suffer more from the consequences of climate change. In pastoral communities, women lack access to or control over productive assets such as livestock and land. Women also carry the brunt of reproductive and care work for children, the elderly, and the sick, as well as sick livestock. They, furthermore, are responsible for procuring food, water, and fuel wood for the family. When droughts reduce the availability of these necessities, the pressure on women to cope with a changing environment increases.[51] Since the Rio Conference, it is globally accepted that women have intuitive and hands on interaction with their environment as well as an inter-generational pool of indigenous knowledge on the values of endogenous

[49] MoFEC, UNDP (2016), Pre-Feasibility Survey Results; Woreda Disaster Risk Profile Programme (2015).
[50] *Ibid*.
[51] PHE Ethiopia Consortium. 2013. Climate change impacts on Pastoral Women in Ethiopia: some evidences from the Southern lowlands, Addis Ababa, Ethiopia.
Available at: http://phe-ethiopia.org/pdf/Final_Brief_CC_women.pdf

plants and seeds and on the impact of climate change and man-made interferences on the natural flora and fauna. Rural women have also accumulated a wealth of coping mechanisms and strategies that have made them more resilient.

49. In the target Woredas, the vulnerability of livelihoods is, therefore, mainly attributed to small farm size, low income, not using drought-tolerant seeds, use of low-yield livestock varieties, limited access to weather information, lack of access to value chains, limited access to credit facilities, low overall literacy rate, fragile ecosystems, and weak institutions at the Woreda level to prepare climate-responsive plans and budgets. Climate change further exacerbates residents' already-vulnerable livelihoods and manifests its effects through increased school dropout rates among girls, animal and crop disease, crop failure, livestock loss, malnutrition, human disease, loss of biodiversity, and increased over-exploitation of natural resources such as forest, woodlands, wetlands, and pasture.

50. ***Barriers to Adaptation:*** Per the IPCC (2001), the main factors that determine a community's adaptive capacity include economic wealth, technology, information, skills, available infrastructure, inclusive institutions, and gender equity. This underlines the fact that for a community to become adaptive, not one but all characteristics stipulated should be met. This has strongly informed the design of this GCF project. For the project Woredas under consideration, all such adaptive characteristics are critically lacking and, therefore, have been identified as the main barriers for communities to become adaptive. Analysis of the baseline studies and secondary data from the Disaster Risk Management Commission (DRMC) Vulnerability Assessment reveal that, in the selected Woredas, the average school attendance is 35%, with 82% of people not being able to read and write. About 68% of the population have attended only 1st grade, while only 4% have completed secondary education. This has been the result of climate change that has brought about repeated drought, which has critically impaired school attendance, among other debilitating effects. Low levels of literacy and education have significantly handicapped these communities in adapting to climate change. Gender inequality appears to be high in the target Woredas and further increases as the education level attained. This is critical as most young girls discontinue their education even before completing first grade. About 58% of females, in comparison to 38% of males, have no formal education, limiting future individual opportunities, economic and social status.[52]

51. While these Woredas generally receive support from various local and international NGOs, reports indicate that food aid remains the desired mode of intervention, demonstrating a continuing inability to break the poverty cycle and the prevalence of a habitat that will further prevent communities from becoming more adaptive to climate change.

52. Given the necessary access to information, skills and technology, access to finance might have helped male and female farmers and entire communities better adapt to the challenges confronting them. However, even with strong social cooperation to facilitate access to finance credit –including grants, debt, as well as in kind and cash facilities – the credit obtained (generally by men) is used mainly to purchase food (53.6%) and pay for healthcare (20.1%), rather than for productive purposes. This further reflects the lack of capacity of individuals and families to use any available resources to work their way out of the drought and poverty cycle. Otherwise necessary resources – such as access to modern irrigation schemes, potable water, weather information, market systems, institutions providing drought-tolerant seeds and improved breeds –are generally scarce in the Woredas selected for this project. In short, the livelihoods in the selected Woredas exhibit the unavailability of all characteristics suggested by the IPCC as being essential if a community is to become climate-adaptive. This underlies the need to map the barriers within the participating communities in a comprehensive manner, and to roll-out strategic and holistic actions that are gender responsive and can help communities overcome their acutely vulnerable situations and adapt to climate change.

53. ***Adaptation Objective:*** The principal aim of the project is to build the resilience of vulnerable communities to drought, by helping them to adapt their livelihoods to their changing conditions, in the process equipping them with more productive and more diverse means of earning income, which will ensure sustainability of impact. This is critical to the country as well as the vulnerable communities. With 80% of the national population reliant upon rain-fed subsistence agriculture, they are highly vulnerable to climate change; when they suffer, this has a domino effect in that their vulnerability then affects the national economy. Therefore, by increasing the productivity of livelihoods and people's capacity to adapt to climate change, this project will help the national economy become more resilient to climate change. This requires that male and female farmers living in predominately rural communities have access

[52] Ethiopia Second National Communication to the UNFCCC, 2015.

to climate-smart technologies and practices that, in the process of making them more productive, will also rehabilitate degraded ecosystems, which is further promoting the sustainability of the initiative.

54. The project has earmarked outcomes that would be unfolding during the short, medium, and long term of the project period. To this end, in due course of the project implementation, outcomes that are expected in the short term include improved potable water supply services and increased capacities of women to manage water technologies, improved health, increased school enrolment, improved participation of women in decision making and in productive activities and increased agricultural productivity, which will directly increase the adaptive capacity of the local community. Water diversion and water retention structures will protect fields from excess water and retain water for dry spells.

55. In the medium term, livelihoods of the community will be diversified; degraded watersheds and forests will be rehabilitated and afforested; women will be involved in natural resource management and equally represented in decision making positions; and increased climate related information will be relayed to the communities, which will lead to an improved ecosystem and informed decision making. Trees will prevent surface runoff, soil erosion and increase water recharge. Participating households may also learn techniques and skills, while working on the project activities, which they can then use on their own fields after the project. Women's unique indigenous knowledge of the ecosystem and plant attributes will be tapped into when afforestation schemes and fuel wood replacements are considered.

56. In the long term, food security in the targeted project area will be achieved; the natural habitat restored, and climate compatible planning and implementation will be mainstreamed at the systemic and ground level in project intervention areas with full and equal participation of women at all levels. The project outcomes have been designed to be superimposed over one another over time so they build on the community gradually and effectively de-couple their dependence on rain-fed subsistence agriculture that is highly vulnerable to climate change. At the local level, the project will increase the resilient capacity of the community with mitigation co-benefits for both men and women, which when replicated at scale will be an effective instrument to contribute to the national ambition of building a Climate Resilient Green and Middle income economy by 2030.

57. **Baseline Scenarios for Mitigation:** Ethiopia has conducted detailed analytical work regarding the emissions' baseline and the corresponding projected trajectories to different development pathways at the sectoral level. Under BAU scenarios, the cumulative projected emissions have been estimated to increase from 150 Mt CO2e in 2010 to 400 Mt CO2e in 2030[53].

[53] Federal Democratic Republic of Ethiopia (2011): The Ethiopian Climate Resilient Green Economy Strategy (CRGE)

- Livestock, especially cattle, are the largest source of GHG emissions in Ethiopia. In 2010, the livestock subsector accounted for 65Mt CO_2e a year, and this will rise to 125Mt by 2030 under the business-as-usual (BAU) path, which is around 40% of total national emissions. It should be noted that 84% of livestock GHG emissions originates from cattle alone.
- The forest sector has been identified as the second largest emitter, amounting to 37% of total national GHG emissions. The forest sector, under the CRGE development pathway, is one of the four pillars with an abatement potential of 130 Mt CO_2e (accounting for 50% of the total abatement potential) by the year 2030. Ethiopia has a great potential of benefiting from carbon finance with sustainable management of existing vegetation resources and future afforestation and re-afforestation programs that enhance carbon stock. According to estimates provided in the (FSR-MEFCC, 2015) effective restoration of degraded high forest may store 280 tCO_2e and result in annual increment of about 10 tCO_2e. Afforestation and re-forestation could result in a carbon stock of 286 tCO_2e that annually sequesters about 20 tCO_2e. Restoring degraded woodland near to the original status results in carbon stock of 134 tCO_2e that grows very slowly. A study on enclosures conducted in the highlands of Tigray showed that CO_2 sequestration by enclosure increased with time. The study showed that the sequestered CO_2 was 117 tCO_2 ha^{-1} after 5 years, 155 tCO_2 ha^{-1} after 10 years tCO_2 ha^{-1}, 166 tCO_2 ha^{-1} after 15 years, 246 tCO_2 ha^{-1} after 20 years. The study reported that enclosures deliver a significant economical return, of which 30% is accountable to gains from carbon finance. Therefore, restoration of degraded forested landscapes and woodlands would offer additional incentives from carbon financing. The financial incentives that can be expected from reduced emissions and sequestered carbon is additional to the basic economic, social, and environmental functions of restored landscapes.
- Under BAU scenario, emissions from soil would increase from 12Mt in 2010 to 60Mt CO_2e in 2030. 58% of soil-based GHG emissions come from using synthetic fertilizers, the rest from applying manure to cropland and reintroducing crop residues into the soil.

For the water sector, electrical power accounts for 5 Mt CO_2e, which represents only 3% of the country's total emissions, this projected to stay very low under the BAU scenario in 2030. Emissions in the water sector are relatively low, but offer abatement potential for addressing these sources of emissions.

58. ***Mitigation Co-Benefits:*** The project has been designed to achieve mitigation co-benefits aligned with the CRGE strategy (see Sections C.3 and E.1 for details). To this end, the following measures will reduce and estimated 22.516 million ton of CO_2 eq. emissions over the project lifetime.

- Enhance and intensify animal mix diversification to lower-emitting animals and introduce more productive breeds, providing high-quality feed and other essential inputs to improve value chain efficiency for livestock and decrease the age at which livestock is sold or slaughtered.
- Promote rangeland management initiatives to increase soil carbon content and the productivity of pastureland and rangelands. The project will transform the contribution of the forest sector to the national economy by improving the participation of the private sector, boosting forest productivity and market linkages, and strengthening the domestic industrial base for achieving low-carbon development. Furthermore, it will improve management of land and forest cover, contributing to emission reductions/carbon sequestration of 19.3 M tCO_2e in 15 years.
- Improved forest cover enhances the social economic and environmental services of the restored landscapes.
- Introduce effective water-harvesting techniques and agro-forestry practices to prevent soil erosion and degradation.
- Enhance yield-increasing techniques for agriculture, thereby reducing the need for new agricultural land through forest clearing.
- Through a combination of lower-emitting techniques tailored to local soil conditions, weather, and crop-livestock mixes, this initiative will lower emissions by 2.94 ton of CO2e over the project life time or a period of 15 years. Enhancing yield-increasing techniques for agriculture will promote and introduce best practices aimed at increasing agricultural yield, thereby reducing the need for new agricultural land through forest clearing.
- A paradigm-shifting potential will also be attained through the introduction of solar-powered water supply schemes with a total 1.92 MW of energy and sequestering 0.276 MtCO2e in 15 years (over the project lifetime) being produced to pump water for the communities from renewable energy sources alone; thereby

alleviating women's burdens and addressing socio-economic dependencies of the communities as well as becoming a model to help other programmes/projects bring transformational change.

C.3. Project / Programme Description

59. The project features crosscutting issues that can achieve strong synergies among the sub-components and enables local and national administrations to strengthen their capabilities to mainstream climate change considerations in rural planning. These represent biggest departure from the unsustainable trend in rural development approach and are the project's cornerstone. As illustrated in the impact pathways and the theory of change, the project addresses this with a holistic set of integrated activities that involve both men and women, which aim at achieving both adaptation and mitigation impacts, and are fully embedded in the CRGE strategy. In addition, the project is aligned with the relevant Sustainable Development Goals (SDGs). Given the multi-faceted effects of climate change-induced hazards on rural livelihoods and environment, silo-based interventions will not help address development barriers and build rural resilience capacity in a sustainable way. Instead, a holistic, gender inclusive and coordinated approach is required to build community capacity that will enhance: (i) absorptive capacity (e.g. coping strategies, risk management, and savings); (ii) adaptive capacity (e.g. use of assets, attitudes/motivation, livelihood diversification, and human capital that harness women's indigenous knowledge and capacities); and (iii) transformative capacity (e.g. governance mechanisms, policies/regulations, infrastructure, community networks, and formal safety nets)[54]. Against this background, the project has been designed in the context of a gender responsive, climate-smart, and landscape-based framework combining improved water access and resource management with livelihood diversification to enable the most vulnerable communities, particularly women within, to adapt to frequent drought. The project addresses this with a holistic set of integrated activities, which aim at achieving both adaptation and mitigation impacts, and are fully embedded in Ethiopia's national climate change strategy, medium-term development plan, and the Fund's guiding principles of low carbon and climate resilient development pathways, paradigm shift and transformative approach.
60. Resilience capacity is often multi-dimensional and encompasses economic (e.g. assets), technological (e.g. improved agricultural/livestock practices, low-emission technologies, etc.), environmental (e.g. natural resource management practices), infrastructure-related (e.g. roads, information system, etc.), institutional (e.g. gender equality, governance/leadership, regulation, etc.) resources, and capabilities. In the process, asset levels and quality can be improved and/or repaired, landscapes can be restored, soils improved, new skills and abilities can be learned, especially by women who are at the forefront of natural resource management, and new markets can be developed or accessed. Taken together, these changes result in improved resilience capacity and livelihood security. For this to happen, inter-linking pathways of change are required as no single intervention can achieve the envisaged impacts and outcomes.
61. In the rural context, providing improved agricultural technologies (e.g. seeds) alone does not lead to rural resilience building as it also requires interventions that are gender responsive in other areas such as provision of irrigation facilities, integrated water management, market support, training, etc. For example, in agriculture dominated rural communities, sustainable agricultural production and food security requires supply of irrigation, which in turn depends on appropriate technologies for productive use of water for both crop production and livestock use. Note that sustainable water supply for both irrigation and potable also requires effective management of water resources through soil and water conservation, afforestation and reforestation, restoration of degraded lands, etc. These activities ensure stability of water resources. Provision of climate information systems help minimize adverse effects of climate change-induced hazards through monitoring water use and supply. All the above interventions need to be supported by continuous capacity building within local and national government to plan and address rural development in a holistic way, giving high priority to climate change impacts and other environmental concerns. Thus, creating a conducive environment will ensure systemic impact on gender issues and long-term sustainability of project components. Overall, the combined interventions can achieve the desired impacts and outcomes.
62. By way of illustration, we provide how rural livelihoods can be impacted by simultaneous project interventions, with a focus on water-based food security interventions.
    - Agriculture is the largest user of water;
    - Water diversion and water retention structures will protect fields from excess water and retain water for dry spells;
    - Sustainable agricultural production and food security require supply of irrigated water, which in turn depends on appropriate technologies for productive use of water for both crop production and livestock use;

[54] Food Security Information Network (FSIN), *Resilience Measurement Principles*: http://www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/1_FSIN_29jan_WEB_medium%20res.pdf.

- Sustainable water supply for both irrigation and potable also requires effective management of water resources through soil and water conservation, afforestation and reforestation, rehabilitation of degraded lands, etc. Trees will prevent surface runoff and soil erosion. These activities ensure an improved management of water resources;
- Provision of climate information system help to minimize adverse effects of climate change-induced hazards;
- Water use and supply needs to be monitored;
- All the above interventions need to address gender gaps and help equip women to play an impactful role supported by continuous capacity building including training.

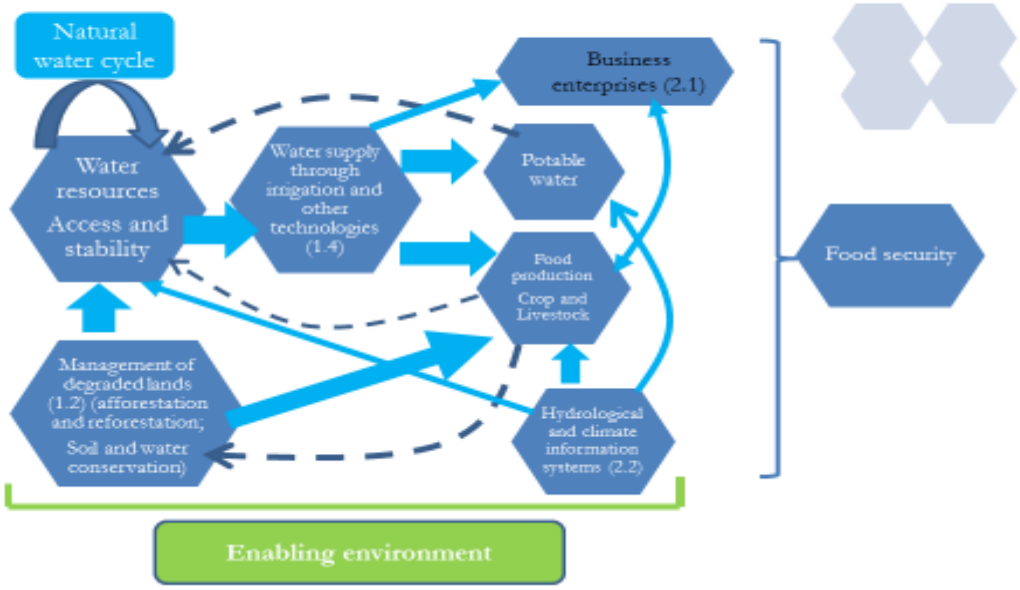


Illustration - Linkages among components:

63. The project design is based on a mapping of the factors critical to sustaining increased productivity and livelihood diversification, this confirming that a landscape approach (at Kebele level) in Woredas vulnerable to drought has the potential to bring about the desired paradigm shift, sustainability, and project replicability. To ensure learning is gained across the diverse circumstances of the country, the project will work in at least one Woreda in each region; a total of 22 Woredas have been selected based on their vulnerability to drought or increasing variability of rainfall, as well as satisfaction of core feasibility criteria (specifically adequate availability of water and physical access to markets, as well as the commitment of communities and other stakeholders to participate in the proposed initiatives).[55] The target Woredas have been selected in close consultation with stakeholders, and represent diverse agro-ecological conditions, access to markets, and extent of vulnerability to drought. Table 3 lists the 22 identified Woredas across the 10 regions, these having an aggregate population of about 2.5 million people (of which about 50% are women). Their locations are provided in Figure 8.

Table 3: Woredas Identified for Project Participation

Region	Targeted Woredas	Population	
		Female	Male
Tigray	Tahitay Koraro, Saesi Tsadamba	47,657	45,599
Amhara	Enbesi Sar Mider, Tachi Gayint, Lasta	210,165	206,186
SNNPR	Mareko, Hadero Tunito, Halaba Special	249,020	248,284

[55]The selection of the Woredas represents an important aspect of project feasibility, which is described more fully in the feasibility study in Annex II.

Oromia	Yabelo, Zewaye Dugda, Jida, Mieso	252,325	255,463
Gambella	Abobo, Etange	33,003	34,037
Afar	Gewane, Yallo	18,551	21,951
Somali	Jigjiga, Kebribeyah	258,975	288,903
Harari	Harari	115,000	117,000
Dire Dawa	Biyo Awale	1895	1,956
Benshangul Gumuz	Guba, Wembera	48,269	46,058
Total		**1,234,860**	**1,265,437**

64. The project has three Components, each -Component comprises several Activities. The first Output of the project ("Technologies and infrastructure solutions for resilient livelihoods") will focus on increasing the overall productivity of the direct project beneficiaries with gender responsive interventions. More specifically, Output1 will enhance agricultural and livestock productivity using irrigation and improved inputs, as well as improving the ability of farmers to access appropriate finance, giving attention to gender equality in access to credit, extension services, and training. The utilization of improved agricultural inputs will be enhanced through on - time provision of inputs (including drought-tolerant, short-maturing crops, and select breeds of cattle, goats, and sheep) through the provision of credit facilities. The project will help male and female beneficiaries' access credit services from local Micro-Finance Institutions (MFIs), saving and credit associations, cooperatives, etc. The import of improved breeds will be conducted as per the biosafety protocol of the country and other biodiversity conservation and utilization law of the country. This will avoid the maladaptation practices. Groundwater sources will be developed and constructed to supply water for drinking purposes in close consultation with women's groups regarding the location of water pumps and watersheds, the introduction of technologies that are adapted to their needs, and maintenance capacities. Women's leadership in water management schemes is essential as they are the primary users and beneficiaries. Availability of potable water will increase school enrolment, especially for girls, and address the infectious diseases that prevail across the Woredas. Soil and water conservation activities through tree planting, terracing, water harvesting, area closure and bamboo planting will support the recovery of degraded land. Improving natural resource management (reforestation and rangeland management) will reduce soil erosion and support agricultural productivity.

65. Given that the long-term sustainability of the project requires diversification of productive activities within the context of the natural habitat and ecosystems (landscape) of the direct and indirect beneficiaries, the second Output of the project will promote "Livelihood Diversification and Protection". The third Output of the project ("Enabling Environment") has been designed to increase cross-linkages amongst the various thematic activities and develop appropriate governance mechanisms to reinforce project sustainability and extract valuable lessons that will help replicate the project in other Woredas. The relationship between the three Outputs is illustrated in Figure 9.

Figure 8: Project Area Locations vis-à-vis Prioritized Emergency Relief Woredas (as of March 2016)

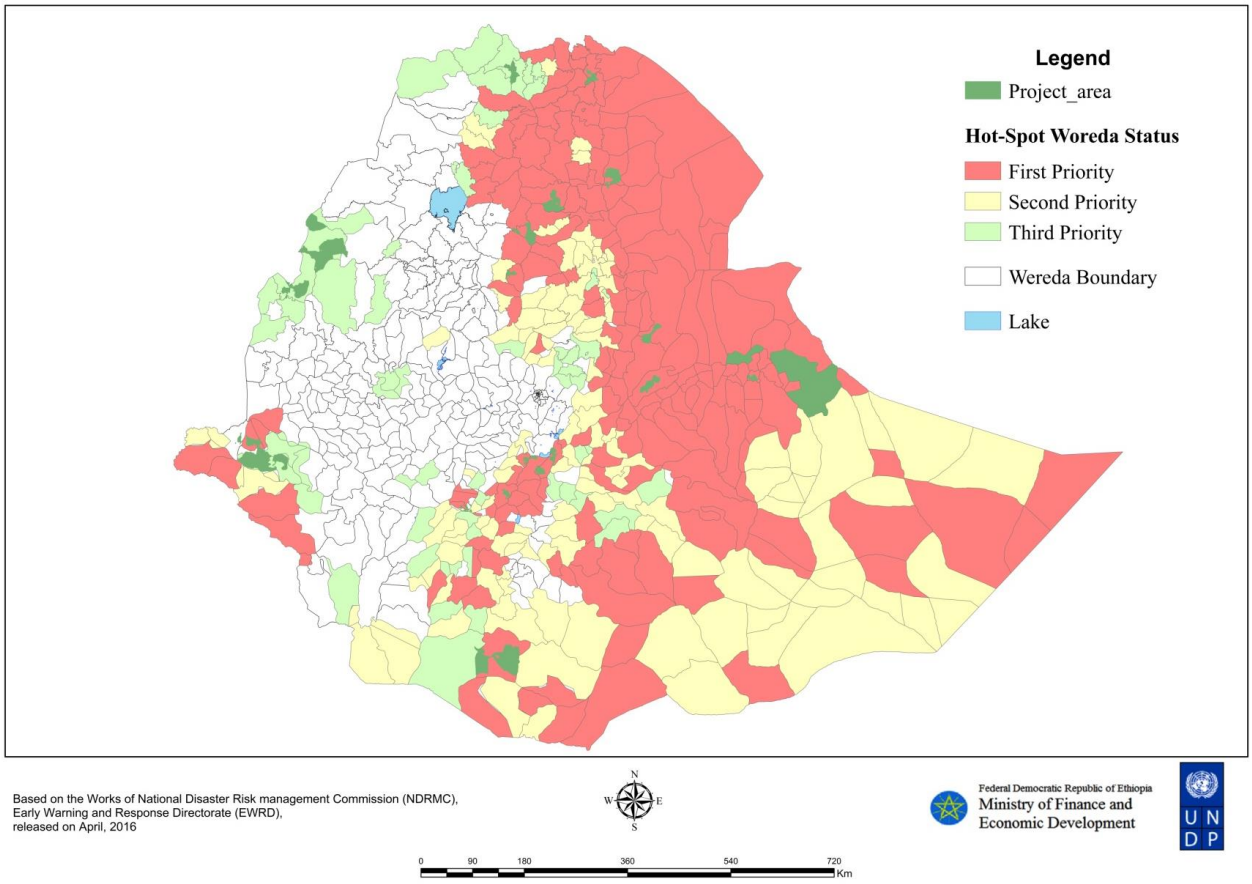
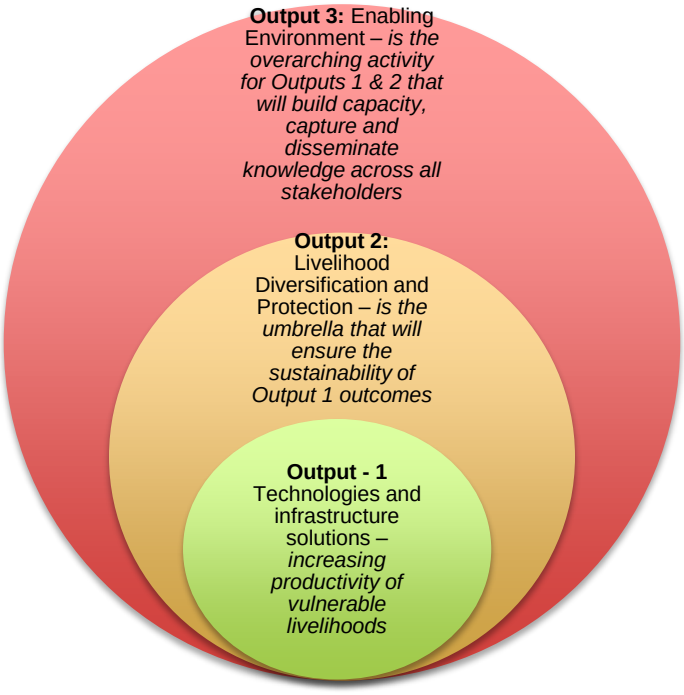


Figure 9: Relationship between Project Outputs



66. The project design assumes that implementation will be supported in an average of eight Kebeles per Woreda. To ensure gender responsive activities are designed based on understanding of how and why climate related issues

affect women and men differently and unequally in the local context, a detailed gender analysis will be carried out in the inception period of the programme, along with other baseline data collection, and analysis.

The full scope of the three Outputs is summarized below (the Output numbers included can be cross-referenced to the log-frame included in Section H).

Output 1: Technologies and infrastructure solutions for resilient livelihoods

67. The main objective of this Output is to deliver – directly to the men and women beneficiaries – the means to better cope with increasing variability in rainfall, by providing technologies and know-how that enables them to shift the baseline scenario of vulnerable communities and marginalized women, to one of gender inclusive approaches to achieve higher productivity and greater resilience. Investments will be made specifically in the project Kebeles to support the intended direct project beneficiaries. Increased productivity and resilience will be achieved by: shifting agricultural practices to those less dependent on rain; improving on- and off-farm practices through the provision of drought-tolerant seeds, livestock breeds, credit and extension services to women farmers; incorporating additional climate-smart approaches such as revitalizing severely degraded land; improving the access of communities to potable water supply; shifting some of women's time and energy to more productive activities; ensuring girls' school enrolment and retention; reducing exposure to water-borne disease and reducing child mortality; and increasing overall increase in family incomes and well-being.
68. The technologies and infrastructural solutions will be accessible to women: female heads of households, women in male headed households and girls, This Output will also deliver mitigation co-benefits.

Activity 1.1: Improved technologies for on-farm production for climate risk management

69. This Activity specifically intends to address the needs of women and men smallholder farmers (e.g. low level of technology and productivity) by bringing together proven technologies that respond to specific gender roles /needs and enable farmers to access a package of interventions in crop agriculture. This Activity focuses on enhancing yield-increasing technologies for agriculture and introducing best practices, thereby reducing the demand for new agricultural land from forest land. This can be achieved through key intervention technologies including introduction of drought-tolerant crop varieties and associated agronomic practices, farmland treatment and homestead development, and strengthening pre-and post-harvest technologies in the target Woredas.

Drought-tolerant crop varieties and improved agronomic practices provided

- Develop sustainable supplies of basic seeds
- Ensure development agents engage both men and women in their service and input delivery.
- Build the capacity of women to produce and use organic fertilizers (compost)
- Support the introduction of necessary seed systems
- Enhance linkages with a credit facility to purchase and disseminate seedlings to households including credit
- Credit for women to expand plants/seeds for backyard vegetable gardening, and medicinal herbs and spices that are in high demand on local markets
- Ensure men and women are equally engaged in gaining access to credit facility and benefit equally from joint land titles

Farmland treated and homesteads developed

- Build physical conservation structures
- Build biological conservation structures
- Treat gullies
- Introduce post-planting management
- Introduce homestead multi-storey agro-forestry and soil conservation measures
- Ensure agricultural extension and advisory services are gender sensitive and men and women are supported according to their needs, interests and priorities

Pre- and post-harvest technologies strengthened

- Demonstration of labour and time saving post-harvest technologies, which take into account the needs and priorities of women
- Demonstration of best soil and water harvesting techniques
- Demonstration of different small- and medium-scale tractors, threshers, harvesters, silos, cultivators, decorticators, and others.

Activity 1.2: Management of degraded lands for improved resilience

70. This Activity intends to address the severe environmental degradation that has been a critical factor underlying declining land productivity, with a focus on rehabilitating degraded lands and the creation of sustainable land

management systems. A number of interventions incorporating gender perspectives will be designed , including treatment and development of communal lands (e.g. physical and biological soil and water conservation, improved rangeland management, and feed conservation management systems), rehabilitation of degraded forest lands (through afforestation/reforestation, area closure, and construction of check dams), and expansion of forest plantations (e.g. fuelwood and construction material plantations, development of industrial plantations, and establishment of multiplication centres). These interventions will also help lowland riparian communities benefit from improved management of degraded lands, making this important to the long-term sustainability of the project.

Communal lands treated and developed

- Perform physical and biological soil and water conservation (SWC) measures
- Improve rangeland management within pastoral watersheds
- Establish nurseries and include women in seed selection and management of nurseries
- Purchase drought-resilient seeds and establish seedling production and/or tree and grass seedlings
- Support women's groups on seed production and management in 22 project Woredas
- Establish community-based systems for grazing land and establish efficient feed conservation management systems, practicing stall feeding for women and men farmers

Degraded forest lands rehabilitated

- Procure seeds that will be used for afforestation/reforestation purposes, taking into consideration women's indigenous knowledge
- Support afforestation/reforestation of degraded forest land
- Construct soil bunds and develop appropriate maintenance systems
- Purchase and construct gabion check dams
- Enable area closure of severely degraded land through enrichment planting
- Collect biophysical baseline data
- Provide adequate access points for women farmers and extension services specific to meet women's needs

Forest plantations expanded

- Include women's groups in forest plantation and conservation
- Develop fuel wood and construction material plantations
- Develop industrial plantations
- Establish multiplication centres
- Rehabilitate and restock bamboo land

Activity 1.3: Improved technologies for off-farm production

71. Given the declining size of farmland due to population growth coupled with low productivity, off-farm activities are an important element of livelihoods in rural settings. This Activity aims to promote livelihood diversification through development of increased off-farm activities (largely non-farm employment and livestock activities). Key intervention areas include development of forage supplies (through efficient feed conservation management and improved forage seed supply), supply of improved breeds, and promotion of poultry production (e.g. small chicken-egg hatchery promotion and dissemination of hatchery units), and apiculture. This Activity will focus on women since they are largely involved in generating supplementary income from off-farm production such as poultry, apiculture, dairy products, vegetables, and spices. Off-farm employment is expected to enhance the resilience of women and men in rural communities through income diversification.

Livestock feed supplied

- Introduce/promote efficient feed conservation management (storage, silage, hay-making)
- Improve capacity for credit access to purchase and disseminate forage seed supply

Selected breeds supplied to smallholder farmers

- Improve women's and men's ability to access credit to purchase and disseminate dairy and locally-bred bulls for meat production and heifers to smallholder farmers
- Improve smallholder farmers' ability to access credit to purchase and disseminate sheep and goats and target female heads of households, women in male headed households and young women
- Improve ability to access credit to purchase and disseminate semen
- Purchase and disseminate synchronization hormone through credit facility
- Introduce and strengthen improved varieties of sheep and goats; support dissemination of imported sheep and goat breeds
- Support purchase and dissemination of milk-processing equipment to women groups and community-based organizations

- Engage women in local saving and credit schemes and appropriate IGA activities to increase their access to disposable income and build their confidence
- Provide training for women on value chain activities in 22 project Woredas

Poultry production increased

- Promote small chicken-egg hatchery for women groups and cooperatives
- Support purchase and dissemination of egg hatchery units to women groups and cooperatives
- Ensure women receive the necessary input and service for poultry production

Apiculture promoted

- Support purchase and dissemination of modern beehives and farm modern beehives
- Improve ability to access credit to purchase veil, glove, smoker, boots, brush, chisel, sprayer etc. for bee-keepers and Development Agents (DAs) and experts
- Improve ability for men and women farmers, pastoralists and agro-pastoralist to access credit to purchase and distribute seeds of bee flora
- Support purchase and dissemination of seeds of bee flora
- Train female farmers and pastoralists in accessing modern apiculture hives

Activity 1.4: Improved water supply for potable use and small scale irrigation

72. This Activity is designed to minimize the adverse impacts of climate-induced rainfall variability on the production and productivity of smallholder agriculture through the development and promotion of women friendly small-scale irrigation and water-retaining structures. In addition, this Activity intends to improve access to potable water supply which is intended to alleviate the burden on women and girls. A combination of interventions is envisaged, including development of small-scale irrigation, upgrading traditional irrigation schemes, construction of diversion weirs, and development of pipe-supported irrigation schemes in the target Woredas. The project also intends to augment the above interventions through access to groundwater using solar-powered pumping systems, which will involve organizing water well drilling, construction of shallow water wells, and installing PV-powered submersible and surface pumps in the target communities. This activity will focus on women who play a key role in water supply for household use.

Groundwater is developed using solar-powered pumping system

- Prepare detailed design and tender document
- Organize water well drilling, construction, supervision, and commissioning of shallow wells (100-150 metres depth with 6-8 inch uPVC casing)
- Geophysical and hydrogeological surveys
- Water well drilling, construction, and supervision (shallow wells)
- Install submersible and surface PV pumps and ensure targeting institute 50/50 female and male
- Involving 50% women in Kebele committees including water committees to ensure women manage modern water technologies and share the benefits with the children, elderly, physically disabled, and chronically ill who are in their care.

Small-scale irrigation (SSI) and associated water-retaining structures constructed

- Provide water harvesting structures
- Construct community ponds and hand-dug wells to irrigate farmland
- Develop springs to irrigate farmland
- Develop and expand small-scale irrigation technologies to irrigate farmland, including traditional irrigation
- Train women in managing and using household irrigation technologies appropriate for their needs and priorities

Output 2: Livelihood Diversification and Protection

73. This Output will enable livelihood diversification through support to high-value agricultural activities – for example, modern vegetable and fruit production and non-timber forest products (NTFPs) – as well as strengthening linkages in the value chain of agricultural and livestock products tailored to the needs and lifestyle of women and men farmers, pastoralist, and agro pastoralists. This component will be designed to give rural women economic opportunities by helping them transform and market fruits and vegetables, preserve dairy products and package highly valued honey as well as transport chicken, eggs, and other goods to local markets and beyond.
74. This will be accompanied by promotion of micro and small businesses, especially rural enterprises to enhance endogenous linkages among producers, traders, and processors. Key enabling interventions will include support for: building warehouses for micro and small enterprises to store their products; establishing cold storage for perishable products; and linking horticultural crops and grain producers to output and input markets. To ease the financial constraint, linkages with microfinance institutions will be enhanced and community-based revolving funds will be established; the ability to successfully apply for credit will also be strengthened. Households identified to be

involved in the revolving fund scheme will receive the goods in kind to reduce the risk of low repayment. Group lending or group guarantee will be implemented to reduce the risk of low repayment, create mutual trust, increase monitoring among group members and thereby also reduce administrative costs. Capacity building and awareness creation will be provided to men and women beneficiaries on a number of issues including saving and credit, revolving fund, technologies and inputs, and group lending/guarantee, group discipline and financial responsibility. Supervision will take place to ensure resources are being used for intended purposes and technical assistance will be provided to facilitate project implementation. The arrangements and mechanisms such as group lending, training of farmers and pastoralists, supervision to ensure proper use of funds and implementation of project activities will create incentives for MFIs to lend as the various activities will reduce the risk of low repayment and diversion of loans to unintended purposes and reduce administrative costs. Capacity building and awareness creation provided to farmers and pastoralists will also serve as an incentive for borrowers to get involved in the project. The recipients of revolving fund will return the fund after a specified period depending on the specific item (e.g. one year) and that will in turn be lent to another group.

Activity 2.1: Market systems

75. The market Activity intends to link smallholder male and female farmers to markets by promoting market-oriented production and improving access to market information, thereby supporting the development of rural enterprises and the creation of sustainable jobs. Development activities will address market deficiencies by promoting linkages among producers and processors. While women will receive market support (credit, training, etc.) to generate supplementary income for their families, the project will increase women's participation in a variety of value chains. This Activity will support sustainable industries with the potential to be competitive in regional and national markets, and meet economic, environmental, social, and cultural needs of rural communities.

Small businesses promoted

- Establish public-private partnership (PPP) production and distribution centres for day-old and three-week old chick businesses
- Purchase and adopt lowland fruits and seedlings of fruit trees
- Increase women's small business creation and support them to transform and market fruits and vegetables, preserve dairy products and package highly valued honey as well as transport chicken, eggs, and other goods to local markets and beyond
- Organize women in collectives and facilitate transport and collection points to ensure they access the market

Activity 2.2: Creation of integrated and decentralized hydrological and climate information system

76. The project intends to establish gender sensitive integrated and decentralized hydrological and climate information systems to enhance disaster risk management capacity. Specifically, this Activity will support farmers by providing timely climate-related information, which is vital in agricultural systems that are almost wholly rain-fed. Monitoring devices installed within the Woredas will provide meaningful data to inform decision-making at all levels. Given the inadequacy of data and information on water resources, this Activity is envisaged not only to create new water resource and climate information systems, but also to upgrade existing water resource and climate information systems and increase women's access to information. This will be done through, among other things, the installation of rainfall monitoring systems, establishing weather information networks and agro-meteorological information platforms in the target Woredas.

Meteorological infrastructure and information systems installed and functional to generate real-time weather observation data and hydro-meteorological products

- Procurement and installation of meteorological infrastructure (Automated Weather Stations at Woreda level and workstations at regional level)
- Establish weather information network system with easily accessible information for women farmers
- Provide adequate access points for women farmers and pastoralists to early warning information in 22 project woredas
- Establish and implement agro-meteorological stakeholder platforms at Woreda level

Water Resource Monitoring instruments installed and used for groundwater monitoring

- Procure and supply equipment for women friendly ICT-based solutions, including through the procurement of GPS and digital cameras
- Procure (supply and install) groundwater monitoring and water quality detection instruments
- Supply non-vented water well monitoring devices to monitor groundwater usage and quality

Early warning system (EWS) and weather service enhanced

- Establish EWS and provide weather service using Woreda-net
- Develop EWS-Alert with gender roles- enabling and disabling factors for women to access and use EW alerts / advisories and other products and communication channels
- Develop Woreda-level contingency planning and funding window
- Promote and operationalize Local-Level Funding Window (LLFW)

Activity 2.3: Improved timber and non-timber technologies

77. Ethiopia has recognized the need to establish different types of productive forests to reduce pressure on natural forests and woodlands, and ensure that the rising demands from internal and regional markets are met with sustainable and domestically-produced wood and non-timber forest products (NTFPs), as well as provision of environmental services and products that help women meet their domestic fuel wood needs without depleting the tree cover. This activity will increase forest and tree cover, which in turn will enhance the resilience of ecosystems in the face of climate change. Key interventions include, among others, establishing nursery centres and woodlots, and promoting NTFPs. Provision of NTFP technologies will be labour-intensive and hence job-creating. Other complementary interventions will include promotion of small-scale enterprises and Woreda-based rural enterprises, establishing grandparent farms, and adoption of lowland fruits.

Non-timber forest product (NTFP) technologies improved

- Establish nursery centres
- Train women in the use of NTFP technoligies
- Establish woodlot and feed lot per household and train women to manage them
- Promote NTFP extraction technology
- Organize women and youth groups in each Woreda
- Provide leadership skills training for women to promote their role and participation in formal and informal groups

Output 3: Enabling Environment

78. The enabling environment Output is central to bringing about a paradigm shift to build resilience of the vulnerable communities and address capacity constraints especially for women at all levels in a transformative and sustainable approach that involves establishing/strengthening climate-responsive integrated planning and budgeting systems, strengthening gender responsive institutional capacity, and establishing an efficient and inclusive project management system. Given that the project is going to be implemented at Woreda level, there is a need to establish/strengthen Woreda-based gender responsive climate responsive integrated planning and budgeting systems through preparing and institutionalizing guidelines and manuals, and supporting effective roll-out of Monitoring, Verification and Reporting (MRV) practices including a gender impact evaluation. Moreover, the institutional capacity building Activity (Activity 3.2) aims to strengthen capacity at all levels: federal, regional, Woreda, and communities. The expected outcome will be human and infrastructural capacity built and enhanced sustainability across all Outputs of the project, because of strengthened institutions, gender responsive processes and systems, and increased capacity of women groups and overall human, institutional, and regulatory systems for climate-responsive planning and implementation.

Activity 3.1: Strengthened systems and practices for climate-responsive planning and budgeting

79. This activity aims to address institutional deficiencies relating to climate-informed planning and budgeting through establishing and/or strengthening Woreda-based. Gender responsive and integrated planning and budgeting systems (e.g. institutionalize guidelines and manuals), and supporting effective roll-out of MRV practices (e.g. mainstreaming manuals).

Woreda-based climate-responsive integrated planning and budgeting system established / strengthened

- Prepare and institutionalize guidelines and manuals in the project Woredas
- Devise cascade system to deliver gender training for development agents in post and other workers in 22 Woredas
- Develop gender equality plan of action in the implementation of the project in 22 woredas

Support provided for effective roll-out of MRV practices

- Mainstream MRV manual in the project Woredas
- Mainstream gender in the MRV manual and include gender monitors in the MRV roll out
- Develop and disseminate a knowledge product on MRV

Activity 3.2: Improved institutional capacity

80. This Activity addresses the means of implementation of other interventions proposed in this project in the target Woredas and is central to the sustainability of the project. This Activity will transform gender roles and enhance institutional infrastructural capacity (e.g. establishing ICT facilities, improving Woreda-level centres, developing project operation manuals and M&E, and establishing cooperatives and community-based by-laws), developing and strengthening human capability and bridge gender gaps (through tailor-made training, linking communities with higher institutions/research centres), and establish learning and communication systems through workshops, experience sharing, and development of a database management system.

Strengthen Institutional infrastructural capacity strengthened

- Procure and distribute women friendly ICT equipment and tools
- Strengthen Woreda-level centres (e.g. construct seed centres at Woreda level; improve Farmer Training Centres)
- Establish/strengthen community-based organizations with equitable representation of women and sustainable organizations and systems
- Facilitate access of the communities (both men and women) to existing MFI/credit facilities
- Establish cooperatives including women's credit associations, cooperatives, and other associations
- Develop a project operational structure and implementation manual, and develop a project-specific M&E template
- Review project implementation manuals and/or rules for committees in the implementation of the project to institute 50/50 female (female heads of households, married women and young women) and male membership
- Provide institutional backstopping

Human resource capacity strengthened

- Provide tailor-made training at all levels (see section H.1 for details)
- Establish and strengthen the links between Kebeles to at least one nearby university/research institution/TVET/ training centre
- Build gender competence of local authorities, head of units and staff in the implementation of the project in 22 woredas
- Reinforce gender responsive planning with gender specific indicators, sex disaggregated data, gender budgeting and impact monitoring mechanisms in the implementation of project in 22 woredas

Learning and communication systems established

- Organize workshops, events, and awareness-creation forums
- Synthesize, prepare, and disseminate communication and knowledge materials that are easily accessible to men and women farmers
- Share in-country experiences and capture women's indigenous knowledge and experiences
- Develop one central database management system to capture all relevant data
- Establish and operationalize the project management team
- Disseminate outstanding gender transformative practices using different media for learning

Activity 3.3: Establish an efficient project management system

81. The cross-sectoral nature of the project requires a robust implementation arrangement and management systems to be in place at all levels. The Project Management System (PMS) ensures the engagement of National, Regional, Woreda, and Kebele-level actors, plus communities and other relevant stakeholders, to effectively and efficiently implement the project. It will also incorporate the M&E and MRV tools that will be rolled-out at the Kebele level, the results of which will feed into national INDC communication. The PM system has mapped the relevant players and cross-linked each actor to increase synergy in project implementation to ensure the sustainability of the results attained and create a sense of country ownership. The PMU is also a critical element of the learning and communication system established, including acquiring the necessary knowledge and skills to adapt to climate change.

Project Coordination Units are established at various levels and are operational

- Assign/Recruit Project Management Personnel and experts, including gender experts (provide gender training for all project personnel, and include gender specific deliverables in their respective TOR) at the various levels
- Provide Technical Assistance, including assisting CBOs and Youth Groups
- Conduct management, supervision, M&E, and MRV at the project Woredas

C.4. Background Information on Project / Programme Sponsor (Executing Entity)

82. Under the UNDP's National Implementation Modality (NIM), the Executing Entity will be MoFEC. Four line ministries will act as Responsible Parties (see Section C.7): The Ministry of Agriculture and Natural Resources (MoANR), the Ministry of Livestock and Fishery (MoLF), the Ministry of Environment, Forest and Climate Change (MEFCC)[56], and the Ministry of Water, Irrigation and Electricity (MoWIE). MoANR and MoLF, as well as the Disaster Risk Management Commission (DRMC), were established during a recent restructuring of the Ministry of Agriculture (MoA), a move designed to endow the new organizations with increased authority and stronger institutional positions necessary to spearhead the development of sub-sectors, such as natural resource management of livestock, fishery, and forestry.

83. MoA, which existed for more than a century, acquired extensive experience in managing and implementing large-scale donor and Government-funded projects and programmes, having successfully led initiatives funded by UNDP, the IMF, World Bank, African Development Bank, DFID, USAID, Irish Aid, DFATD, EU, SIDA, the Netherlands, DANIDA and WFP, among others. Examples of such large-scale initiatives include: The Sustainable Land Management Programme (SLMP, current budget of $107.6 million); the Agricultural Growth Programme (AGP, total budget of $350 million); and the Productive Safety Net Programme (PSNP, $3.6 billion).

84. Similarly, MoWIE, which is mandated for energy, water supply and irrigation projects and programmes, is currently administering 72 international and 56 national projects. The CRGE fast-track programme being managed by MoWIE has five components/projects, including: (1) Accelerating the National Biogas Programme Ethiopia (NBPE); (2) Strategic support to upgrading climate and hydrological information systems; (3) Improving the Livelihoods and Lifestyles of Rural Communities through the Dissemination of Solar Energy Technologies; and (4) Solar Power for Water Supply and Irrigation; all have direct relevance to this project. The Ministry is also implementing the Energy+ initiative funded by the Norwegian Government.

85. MEFCC has the mandate to develop and implement programmes in environmental management and forestry. The forerunner of MEFCC already supported Participatory Forest Management (PFM), with over a million ha of forests actively under PFM throughout Ethiopia. To this capability has been added a range of capacities and experience from MOA and the Environment Protection Authority. MEFCC is currently managing the national REDD+ Programme and several fast-start investment projects financed by the CRGE Facility.

86. This experience and know-how, which has been used to inform the design of the proposed project[57], has been embedded in the new Ministries; the structure of the new organizations also ensures that appropriate capacity will be available at national, regional and local levels. At federal level, all Ministries have a division for specialized sub-sector coordination, and at regional levels are structured as autonomous Bureaus with several divisions mirroring the federal structure. At Woreda level, each Ministry is represented by Woreda offices. At all three tiers of government, there will be a recurrent and capital budget allocation based on the conditions defined by the project budget.

87. MoANR, MoLF, MoWIE and MEFCC, as the Responsible Parties, will provide project management support. In addition to carrying out the responsibilities outlined above, through their co-financing commitments the Ministries will support operations and management, and provide staff capacity and time, and infrastructure and facilities for project implementation. Generally, all agriculture- and natural resource-related Activities will be delivered by MoANR, water- and energy-related Activities by MoWIE, forest and cross-cutting climate change Activities by MEFCC, and livestock and fisheries by MoLF. Management arrangements are described more fully in Section C.7. All work will be jointly planned and implemented at landscape-level under the coordination of Woreda project coordination units to be established under each Woreda Administration Office. To this end, the following responsible parties will be implementing the following core sub-components proposed in this project;

- **MoANR –**
  - ***Activity 1.1: Improved technologies for on-farm production for climate risk management***
  - ***Activity 1.2: Management of degraded lands for improved resilience***
  - ***Activity 2.1: Market systems***
- ***MoWIE –***
  - ***Activity 1.4: Improved water supply for potable use and small scale irrigation***

[56]MEFCC was previously the Ministry of Environment and Forestry, which was created as a result of the former Environment Protection Authority (EPA) becoming a full Ministry in 2013.
[57]For more detailed information on relevant learning from past work, refer to Annex XIII.

- ***MoLF***
  - ***Activity 1.3: Improved technologies for off-farm production***
- ***MEFCC –***
  - ***Activity 2.2: Creation of integrated and decentralized hydrological and climate information system***
  - ***Activity 2.3: Improved timber and non-timber technologies***
- ***Cross Cutting (MoANR; MoWEI; MoLF and MEFCC)***
  - ***Activities 3.1 to 3.3***

88. The Ministries have worked closely together in preparing the project and, under their new constitutions, are keen to explore the new forms of integrated management that this project intends to promote and help develop. The sponsoring agencies receive operational funds from various sources for programmes, including SLMP, PSNP, and AGP. Until its restructuring, MoA managed over USD 720 million of programme funds per annum. Moreover, annual recurrent and capital budget allocations from Government are of the order of USD 429 million per annum. For 2015, MoA, MoLF, MEFCC, and MoWIE received a combined annual allocation of just over USD 761 million from the Government treasury for implementation of recovery programmes in response to the drought occurring this year (2015/16). The drought has left over 10 million people needing food assistance, recovery, and rebuilding of livelihoods, thus demanding huge Government investment[58]. The Government of Ethiopia has already committed USD 2 billion for drought response.

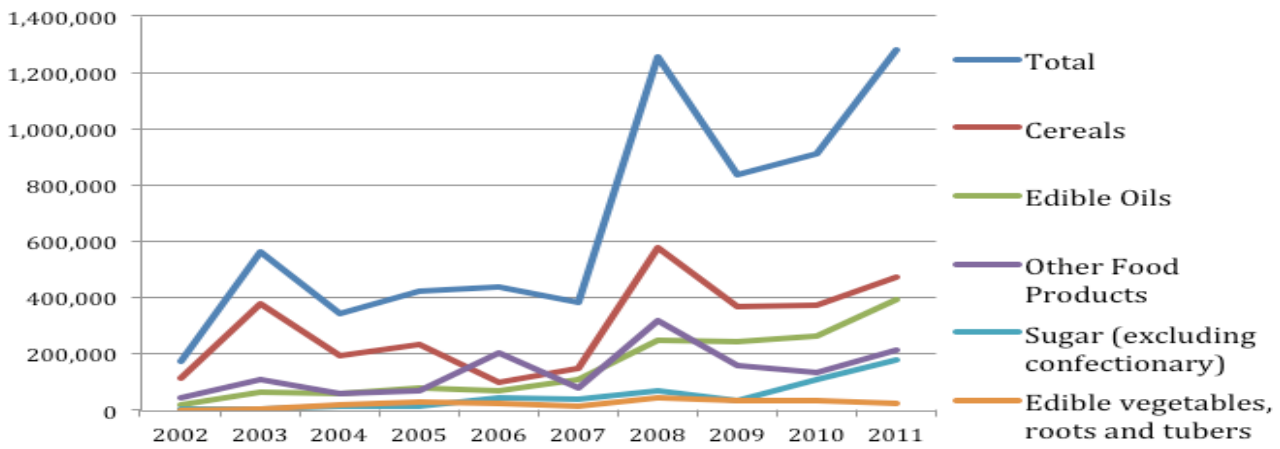
C.5. Market Overview (if applicable)

89. Generally, the markets that represent livelihood diversification opportunities are significant to the sustainable development of Ethiopia, but have remained under-developed. The primary products/services to be promoted under the project include tailored agricultural and livestock products, and weather, hydrological, and water resources information. Particularly, the market for agricultural and livestock products is significant, as reflected by growing domestic demand and imports of these products. Rural women are traditionally active in small scale trading on local markets whereas men are mostly in charge of marketing cash crops. The demand for women's off farm products has been growing steadily in Ethiopia and prices have increased significantly for products such as poultry, eggs and dairy products, honey, local brews, vegetables, and various condiments including spices and herbs. These market activities provide supplementary income for women and mitigate the impact of poverty on their families. In addition, women's off farm economic activities have significant potentials to transform their lives given adequate support in terms of access to finance, market information, extension services, technologies and business skills. All these interventions are part of the gender responsive focus of the project and will be delivered directly to women producers.

- About 12% of households spent more than 65% of total expenditures on food. The prevalence was highest in Afar (28%), Gambela (26%), and Somali (22%).[59] In rural parts of these regions, 13%, 10%, and 6% (respectively) spent about 75% or more of their total expenditure on food alone.
- Over the period 2002-2011, food imports grew from USD 173 million to USD 1.3 billion, representing an average annual growth rate of 25% (see Figure 10 for more detailed information). Cereals, edible oils and sugar recorded the strongest growth in this period.

[58]See http://www.unocha.org/eastern-africa/about-us/about-ocha-eastern-africa/ethiopia
[59]CSA and WFP (2014), *Ethiopia: Comprehensive Food Security and Vulnerability Analysis*.

Figure 10: Ethiopian Food Imports, 2002-2011 (USD000)



Source: International Trade Centre, Trademap

90. The national energy market of Ethiopia is dominated by traditional biomass energy gathered, transported, and utilized by women (e.g. wood fuels, crop residues and cattle dung), which accounts for close to 90% of total energy consumed. Most households still rely on traditional fuels that women need as a source of domestic energy. But the demand for modern energy services is increasing rapidly. The power sector is dominated by the Government as the largest provider of modern energy services; power distribution is unreliable. Meanwhile, the market for off-grid solar products has seen rapid growth in the country. Solar PV cells are manufactured in Ethiopia by METEC. This creates job opportunities in the manufacturing process as well as in maintenance services.

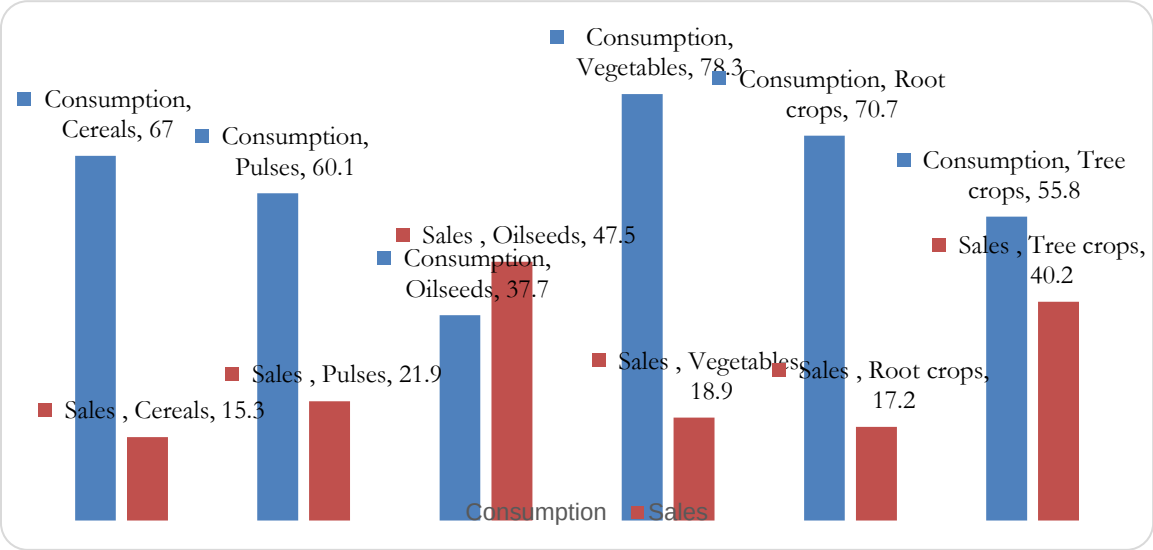
91. Replacing energy-intensive materials with sustainably- and domestically-produced wood products is a key strategic component of Ethiopia's transformation efforts. In 2013, Ethiopia consumed roughly 124 million cubic metres of wood and continues to consume more each year. With population growth and economic development projections, the demand for wood products will increase by about 27% over the next 20 years, reaching 158 million cubic metres by 2033. The increasing demand is mainly explained by growing needs for industrial round wood, driven by the expanding construction sector (e.g. housing and commercial building) and consumer demands of the growing middle class. The forestry sector must supply this increasing demand with higher quality wood products to meet the requirements of modern construction. Although wood fuel (fuelwood and charcoal) will continue to be the main forest product consumed, especially in rural areas, its relative share is expected to decrease due to rural electrification and urban development programmes underway in the country.

92. Growing national and international markets for non-timber forest products (NTFPs) (e.g. forest coffee, honey, bees wax, spices, bamboo, herbal medicines, mushroom, gums, and resins) have yet to be exploited. For example, production of honey amounts to just 53,675 tonnes per year.

93. Given the under-developed state of relevant markets, competition is not generally considered to be a significant factor for this project. Fresh and processed fruits and vegetables are produced by smallholders mainly by women, and private and state commercial farms, but current production is not adequate to satisfy growing demand. As highlighted in Figure 11, other than consumers, the other primary customer of Ethiopian fresh fruits and vegetables is processing plants (such as wineries, tomato processing plants and vegetable canning factories), which require grapevine, tomato, and various types of vegetables for processing.

94. Agricultural cooperatives are also involved in a variety of services, including agricultural production or commercialization, and provision of consumer goods and other social services. Studies indicate that about 92% and 71% of cooperatives provide agricultural inputs and credit services to rural households, respectively. Approximately 47% of cooperatives provide commercialization services or marketing services (i.e. aggregating and selling agricultural outputs).[60]

Figure 11: Utilization of Agricultural Output in 2012/13



Source: Annual Agricultural Sample Survey, Central Statistics Agency (2013/14)

Provide pricing structures, price controls, subsidies available, and Government involvement (if any).

95. Although the prices of agricultural and livestock products are largely market-driven, the Government of Ethiopia imposed a price cap on selected commodities in 2011 to ease inflationary pressures. The price cap was imposed on "basic goods and services" including sugar and edible oil. However, the prices of vegetables and fruits are largely determined by the market. In Government shops (e.g. Etfruit) the prices of fruits are to some extent fixed by the Government.

96. The price of modern energy is relatively low compared with kerosene, due to Government subsidies. Tariffs for modern energy (largely hydro-power) are heavily regulated by the Government and vary by energy end-users; tariffs are relatively low for residential uses and high for industrial and commercial uses. The Government also provides incentives (subsidies) for private companies engaged in the supply of renewable energy; such incentives are in the form of duty-free importation of renewable energy equipment and accessories. Currently, the Increasing Block Tariff (IBT) is being used in Ethiopia for pricing electricity, which is an extremely popular tariff structure in low-income countries because it is perceived to provide lower-cost access to poor households, while middle- and upper-income households and other customers pay more for electricity. Low prices in renewable energy sources have made the products more affordable to low-income populations and many companies are now seeing these populations as viable markets for commercial sales of solar products. It is expected that the Government will look to help scale-up solar solutions through improved regulatory and tariff policies.[61]

97. Public procurement policies are under reform to support the use of modern wood products in the construction sector and public housing programmes. The Green Public Procurement Policies for construction material and furniture provide investment opportunities for the private sector. They also give priority to products that support green construction. The Government provides fiscal incentives for investors engaged in the wood-processing industry. Utility poles for electrification and raw material production for the domestic pulp and paper industry are priorities to reduce future imports, given Ethiopia's ambitious rural electrification plans.

C.6. Regulation, Taxation, and Insurance (if applicable)

[60]Bernard, T., Gashaw, A. and Lemm, T. (2013), *Agricultural Cooperatives in Ethiopia: Results of the 2012 ATA Baseline Survey*, International Food Policy Research Institute, Washington, DC

[61] The current tariff for modern electricity is below USD 3 cents per KW.

Provide details of government licences or permits required for implementing and operating the project/programme, the issuing authority, and the date of issue or expected date of issue.

98. Where the project is undertaken by Government institutions, there will be no need to issue licences. With respect to aspects run by the private sector, investment licences may be required. The Ethiopian Investment Commission (EIC) is the autonomous regulatory agency responsible for issuing investment permits, work permits, trade registration certificates, and business licences as part of its one-stop-shop services for investors. The Investment Proclamation of 2002, as amended in 2003, and the 2003 Regulation on Investment Incentives, constitute the main legal framework for both foreign and domestic investment in Ethiopia. This framework describes, among other things, the forms of investment and capital requirements, investment permits, concessions, incentives, and facilities. An industrial development strategy was also issued in 2002 aimed at: (i) placing private investment as the engine of industrial development; (ii) promoting export-led and labour-intensive industrial development; and (iii) promoting joint ventures in industrial development. Regarding the forest sector, the current draft Federal Forest Proclamation has provisions for "certificates of possession" to be provided to forest user groups, and requires Government institutions to make best efforts to strengthen tenure security for participatory forest development associations and community groups.

Describe applicable taxes and foreign exchange regulations.

99. Government institutions responsible for managing the project are not subject to any profit or business taxes. Individual farmers are liable to pay agricultural land-use and income taxes; the tax burden on cooperatives is less than for individual farmers. These taxes are under the jurisdiction of regional governments. Generally, the land-use fee is based on the individual farmer land size, while the agricultural income tax varies depending on the farmer's gains. Thus, if – as intended – the project generates additional income to individual farmers, this will be subject to the regional agricultural income tax. The same is true for income generated from forest and water resources.

100. Where the project requires import of goods from abroad, this necessitates payment of import duties and taxes. There should be no delay or other difficulties encountered in settling Government imports, as there is standing instruction to the Tax Office to release goods from port by completing the appropriate paperwork.

101. The National Bank of Ethiopia (NBE) is mandated to issue foreign exchange directives to control the transactions and allocation of foreign exchange resource. The local currency, the Ethiopian Birr, is not freely convertible. The NBE, therefore, prioritizes the provision of foreign exchange for selected goods and services. Payments for imports can be made by letter of credit, cash against documents, and advance payment. MoFEC has significant experience with international procurement and strong relationships with the Federal Public Procurement and Property Administration Agency, which is responsible for management of international procurement to international standards.

Provide details on insurance policies related to project/programme.

This is not applicable to the proposed project.

C.7. Institutional / Implementation Arrangements

102. **UNDP's** overall role as an Accredited Entity is to provide oversight and quality assurance through its Headquarters and Country Office units. This role includes: (i) project preparation oversight; (ii) project implementation oversight and supervision, including financial management; and (iii) project completion and evaluation oversight. It also includes oversight roles in relation to reporting and knowledge-management. The 'project assurance' function of UNDP is to support the Project Steering Committee by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project assurance must be independent of the Project Manager; therefore, the Project Steering Committee cannot delegate any of its assurance responsibilities to the Project Manager. A UNDP Programme Officer, or M&E Officer, typically holds the Project Assurance role on behalf of UNDP. The 'senior supplier' role of UNDP is to represent the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The senior supplier's primary function within the Steering Committee is to provide guidance regarding the technical feasibility of the project.

103. The project will be implemented following UNDP's National Implementation Modality (NIM), according to the Standard Basic Assistance Agreement (SBAA) between UNDP and the Government of Ethiopia, the Country Programme Document (CPD), and the policies and procedures outlined in the UNDP Programme and Operations Policies and Procedures (POPP)[62]. NIM complies with the financial management and procurement guidelines of UNDP. There are no other payments for UNDP except direct costs of management and oversight of the project.

104. The **National Executing Entity** – also referred to as the **National Implementing Partner** in UNDP terminology – is required to implement the project in compliance with UNDP rules and regulations, policies and procedures (including the NIM Guidelines). According to the UNDP POPP, an Implementing Partner is "the entity to which the Administrator has entrusted the implementation of UNDP assistance specified in a signed document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in such document." By signing a project document, an implementing partner enters an agreement with UNDP to manage the project and achieve the results defined in the relevant documents. In addition, an implementing partner may enter agreements with other organizations or entities, known as **Responsible Parties**, which may carry out project activities including procurement of goods and services consistent with the procedures and thresholds provided in the Public Procurement Administration (PPA) policy and procurement arrangements of the CRGE Facility [63], and produce project outputs on behalf of the Implementing Partner. Responsible Parties are accountable directly to the Implementing Partner.

105. The Implementing Partner for this project is the Ministry of Finance and Economic Cooperation (MoFEC). MoFEC is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. The following four Responsible Parties have entered into agreements with MoFEC to assist in successfully delivering project outcomes and are directly accountable to MoFEC as outlined in the terms of their agreement: The Ministry of Agriculture and Natural Resources (MoANR), the Ministry of Livestock and Fishery (MoLF), the Ministry of Environment, Forest and Climate Change (MEFCC), and the Ministry of Water, Irrigation and Electricity (MoWIE).

[62] See https://info.undp.org/global/popp/ppm/Pages/Defining-a-Project.aspx

[63] Refer to the section 11.9.1 of the CRGE Facility Operations Manual on page 89.

106. MOFEC is the entry point for external development cooperation in the country. By law, it is bestowed with the power and duty to manage and coordinate bilateral economic cooperation as well as the relationship with international and regional organizations such as UN agencies, the World Bank, IGAD, COMESA, etc. and follow up on the impact of the same on the performance of the country's economy. MOFEC has established the CRGE Facility, which is governed by the CRGE Facility Management Committee, comprised of high level decision makers of ministries including the abovementioned, to mobilise, access, and support the implementation of Ethiopia's CRGE Strategy in a coordinated manner. This way, it will avoid duplication of efforts and provides fiduciary and program management assurance to the financers. For instance, MOFEC has experience of leading and coordinating the implementation of multi-billion national flagship programs portfolios such as the PSNP, SLMP, PBS, One WASH, etc. through its Channel One Program Coordination Unit (COPCU) and in collaboration with World Bank. These programs are being implemented by many line ministries including the aforementioned. MoFEC is the designated entity empowered by the GoE to coordinate and implement this project, and assumes full financial and programmatic accountability for the funds disbursed by it from UNDP to the implementing line ministries. MoFEC, through its CRGE Facility, will release funds to the authorized accounts of the Responsible Parties. MoFEC may request information, without notice, from a Responsible Party about the approach being used for implementation, and where appropriate investigate, withdraw funding and/or cancel any future payments. Under circumstances of fraud, corruption, and mistreatment of funds, supported with audit evidences, MoFEC will trigger legal procedure to enforce repayment of funds.

107. The CRGE Facility is an operating entity under MOFEC that manages and administers climate finance mobilized from bilateral and multilateral sources. The CRGE Facility is guided by strategic directions set by the Environmental Council and the CRGE Ministerial Steering Committee. It is being operated by a Secretariat established under MOFEC and the Ministry of Environment, Forest and Climate Change (MEFCC). The Administration of the CRGE Facility is consistent with Ethiopia's existing public finance regulations. The operational cost of the CRGE Facility, other than the costs of the project staff, which will be hired, was computed and included as government co-financing.

108. The overall objectives of the Facility are to access, mobilize and combine domestic and international sources of finance (both public and private) to support the implementation of the CRGE strategy through grants as well as guarantees and results-based payments. Specifically, the Facility mobilizes financial resources and ensures effective use of the funds for the intended purpose and reporting of the same to the institutions and the stakeholders. Below are the major purposes of the CRGE Facility.

- Serves as a vehicle to mobilize, access, and combine domestic and international, public and private sources of finance to support implementation of CRGE Strategy through grants as well as guarantees and results-based payments
- Enables the Government to directly access international climate funds such as the Green Fund by ensuring compliance with international standards and requirements (including on the monitoring, reporting, and verification of activities, and the effective and transparent use of finance);
- Supports and incentivise a programmatic approach to climate change activities, minimizing the transaction costs, and duplication associated with a projectized approach;
- Provides a single engagement point where the Government, development partners, the private sector, civil society, and other stakeholders can engage and make decisions about climate change issues, thus enhancing coordination and aid effectiveness and reducing fragmentation;
- Facilitates the integrated management of climate change with related agendas such as disaster risk;

109. The Facility has prepared and operationalized comprehensive Operations Manual[64], Monitoring and Evaluation System, Social and Environmental Framework, and Private Sector Engagement Framework. These documents were reviewed and enriched with inputs from the CRGE Facility Advisory Board, which constitute Academia, DFID, Norway, Denmark, World Bank, UNDP, Private Sector, CSOs and came into force after approval of the CRGE Facility Management Committee. In the Management Committee, UNDP is one of the three development partners who have observer status. The CRGE Facility Operations Manual is very much consistent with the Program Implementation Manual (PIM), which governs the collaboration between the UN Agencies and the government of Ethiopia. UNDP deployed an international consultant to support the preparation of the Operations Manual of the

[64]Operations Manual of the CRGE Facility is attached in Annex – XIII(d)

CRGE Facility. As per the operational manual of the CRGE Facility, and the agreed upon project proposal, the Responsible Parties will prepare and provide to MoFEC the following statement reports:

- Quarterly Financial reports
- Quarterly Technical reports
- Annual audited financial statements, reports, and external audit management letter
- Annual technical progress reports, including on environmental and social safeguards, policies and procedures, implementation, and monitoring
- Final technical reports, after the completion of the activities in the proposal including audited financial statements

110. A fund disbursement arrangement shall be prepared by the pertinent Responsible Party and agreed with MoFEC and UNDP. Tranches of disbursements will be released on receipt of quarterly financial and progress reporting, which demonstrates delivery of project milestones for the reporting period. For UNDP to ensure that cash transfers are properly managed, Harmonised Approach to Cash Transfer (HACT) assessments will be undertaken on the following relevant institutions: MoFEC, MoANR, MoLF, MEFCC, and MoWIE. The project will also establish a purchasing review committee for the project as per UNDP Financial Regulation and Rule 121.01.

111. The project follows a landscape-based integrated approach and requires engagement of different stakeholders at macro and micro levels. The relevant Responsible Parties will each establish a **Project Coordination Unit (PCU)**, which will be responsible for the overall coordination and leadership of sector-specific activities, including preparation of annual/biannual work plans, and their implementation, monitoring, and supervision. They will also ensure that a similar structure is established at regional and Woreda levels. Each RP will hire one Lead Technical Officer who will directly report to the CRGE Unit Coordinator in his/her Ministry. The Technical Officers will be assisted by the existing staff in the ministry. The PCUs will operate at national level and provide guidance and support to regional sector coordination units. At regional level, a total of 10 Technical Officers (one per region) will be hired to conduct regular monitoring, supervision, and oversight of project execution at Woreda level. One expert who will be responsible for provision of technical input to beneficiary households and conduct regular monitoring and follow up will be hired to each of the 22 target Woredas. In addition, one finance officer per Woreda will be in place. Community representation and engagement is coordinated by Kebele (village) Committees. In each of the targeted 176 project kebeles, a Community Facilitator will be hired by the project. Several institutions – such as the Disaster Risk Management Commission (DRMC), the National Meteorological Agency (NMA), federal and regional agricultural research institutions, as well as private sector entities and civil society organizations (CSOs) – will also be partners assisting the project delivery entities at all levels.

112. MoFEC will be the implementing partner, and will be responsible for overall coordination of the project at Federal level, to which it will assign dedicated staff. This team will regularly communicate with the project coordination units of the delivery ministries, the Bureaus of Finance and Economic Development (BoFEDs), and Bureaus of Environment, Forest and Climate Change in each region. The project will be guided by the **Project Steering Committee**, termed the Ministerial Steering Committee, which will comprise the State Ministers of the project delivery ministries as well as a senior representative of UNDP. UNDP will provide quality assurance for the project implementation. This entity will be chaired by the State Minister of MoFEC and the State Minister of MEFCC responsible for Climate and Environment. The Committee will meet four times a year to review overall performance of the project, consider and approve the quarterly plans as well as any essential deviations from them, and provide strategic guidance to the Responsible Parties and the CRGE Facility. It will arbitrate on any conflicts and establish solutions in ways that ensure management for development results, best value for money, fairness, integrity, transparency, and effective international competition. In cases where a consensus cannot be reached within the Committee, a final decision shall rest with the senior UNDP representative on the Ministerial Steering Committee.

113. There will also be a **Technical Committee** enabling the technical experts from the delivery ministries and advisory entities to meet periodically to discuss and plan joint actions. The Technical Committee will also ensure technical-level collaboration with regional entities and ensure cross-sectoral collaboration on matters of common interests. The CRGE Facility will coordinate the technical-level engagements and serve as a secretariat to both the Ministerial Steering Committee and the Technical Committee.

114. The **Project Manager,** under the direct Supervision of the CRGE Facility Director in MOFEC, will run the project on a day-to-day basis within the constraints laid down by the Ministerial Steering Committee. He/ She will be part

of the CRGE Facility team and closely collaborate with the technical officers in the line ministries, regional bureaus and Woredas for the successful delivery of the project. The Project Manager function will end when the final project terminal evaluation report, and other documentation required by the GCF and UNDP, has been completed and submitted to UNDP. The Project Manager is responsible for day-to-day management and decision-making for the project and for the establishment of internal control processes in the project. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

115. Specific responsibilities of the Project Manager will include:

Overall project management:

- Manage the realisation of project outputs through activities;
- Liaise with the Ministerial Steering Committee to assure the overall direction and integrity of the project;
- Identify and obtain any support and advice required for the management, planning, and control of the project;
- Responsibility for project administration;
- Monitor the budgets of the Responsible Parties and provide quarterly variance reports to the Ministerial Steering Committee;
- Coordinate the work of the Woreda Project Coordinators; and
- Liaise with suppliers.

Running the project:

- Plan the activities of the project and monitor progress against the quality criteria;
- Mobilise goods and services to initiative activities, including drafting TORs and work specifications;
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Manage and monitor the project risks; and
- Be responsible for managing issues and requests for change by maintaining an Issues Log.

116. To ensure that all the plans and guidelines can be translated into effective work on the ground, there will be a Woreda Coordination Office established in each of the 22 participating Woredas under the office of the Woreda Administrator, and headed by Woreda/landscape project coordinators. As this is the actual level at which project activities will be executed and that interaction with the direct beneficiaries and stakeholders occurs, priority will be given to assigning the Woreda Coordination Unit with the necessary human resources, budget, and logistical responsibilities. Under the direct supervision of the Woreda Administrator, the Woreda Project Coordinators will run day-to-day project activities and processes, engage stakeholders, and mobilize communities at target landscape level. Within each Woreda, Kebele/village committees will engage in project implementation, their responsibilities including (but not being limited to), mobilizing community contributions and representing the community in project management.

117. Local stakeholders and community members have a key role to play in the implementation and monitoring of the project. Consultations with all stakeholders, including women groups and community leaders will be organized to ensure that there is clear understanding of roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. At the Kebele (community) level, Development Agents (DAs) will be responsible for advisory support and extension services to local beneficiaries (mainly farmers with special attention to women who need extension services tailored to their gender differential roles and new opportunities). DAs will be responsible for distributing material inputs and providing technical training and backstopping in the implementation of programme activities. The DAs along with the kebele administration, community representatives and Woreda experts will identify beneficiaries of the project based on pre-defined beneficiary selection criteria. Utmost focus will be given to gender balance and equal representation of women headed households, youth and girls which will get high priority. In addition, the following beneficiary selection criteria will be applied;

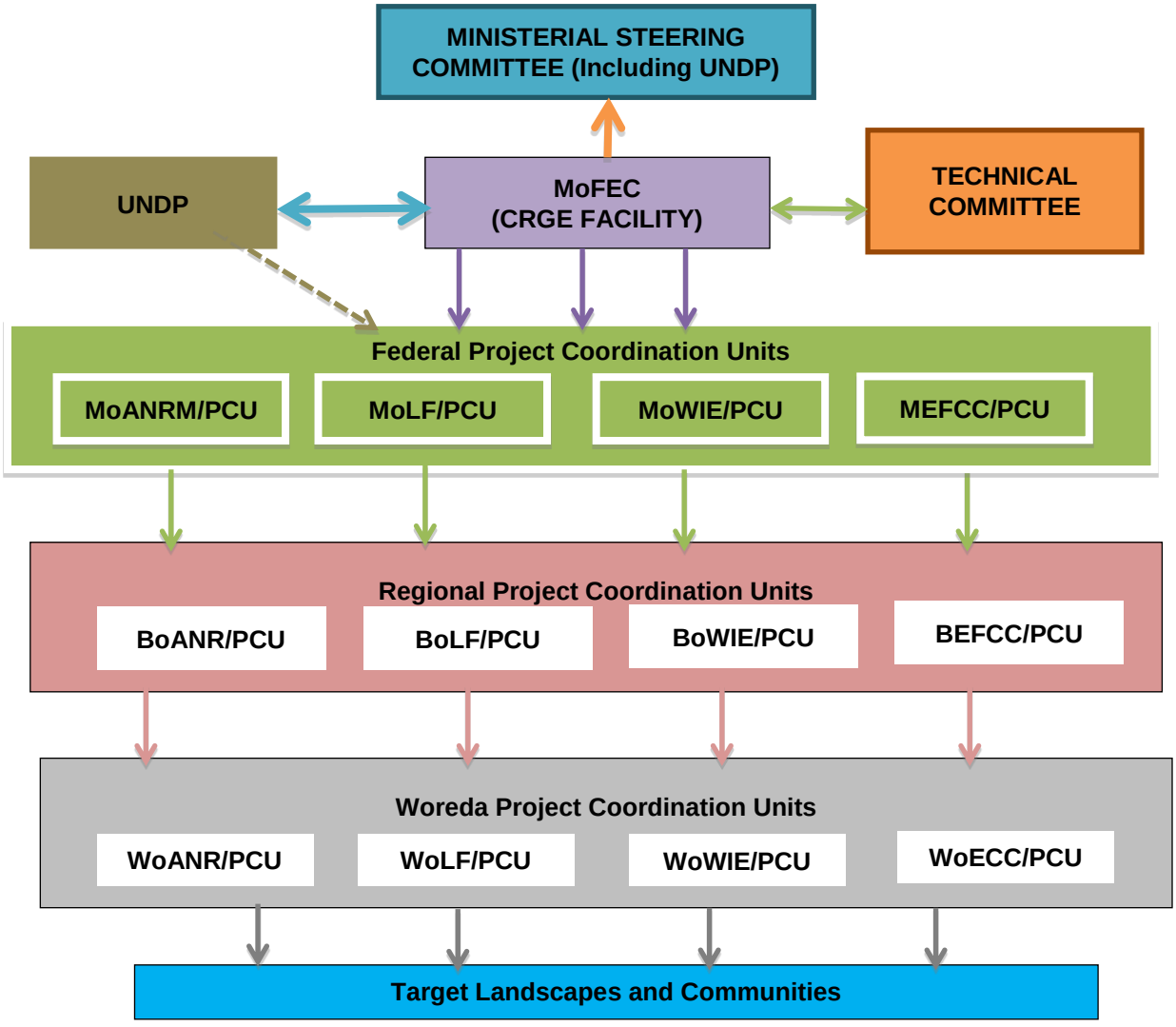
- Households who did not or do not benefit from other related projects currently and those who are poorer
- Being a food insecure and vulnerable household
- Households who own land and/or labor
- Households interested to work on communal land (especially for those who do not hold land to work on, female headed households and youth groups)

- Households that are members of savings and credit groups or are interested in getting involved in and can benefit from credit and saving including revolving fund (organized under small-micro enterprises, cooperatives and credit and saving organizations)

These criteria will be applied in a flexible way depending on the issues involved as credit and revolving funds are provided to different activities.

118. The project coordination and governance arrangement is depicted in Figure 12. This project governance structure will ensure that cross-sectoral coordination and collaboration can occur at national, regional, and local levels, allowing for adaptability in approach while ensuring necessary levels of compliance and control.

Figure 12: Project Governance and Organization

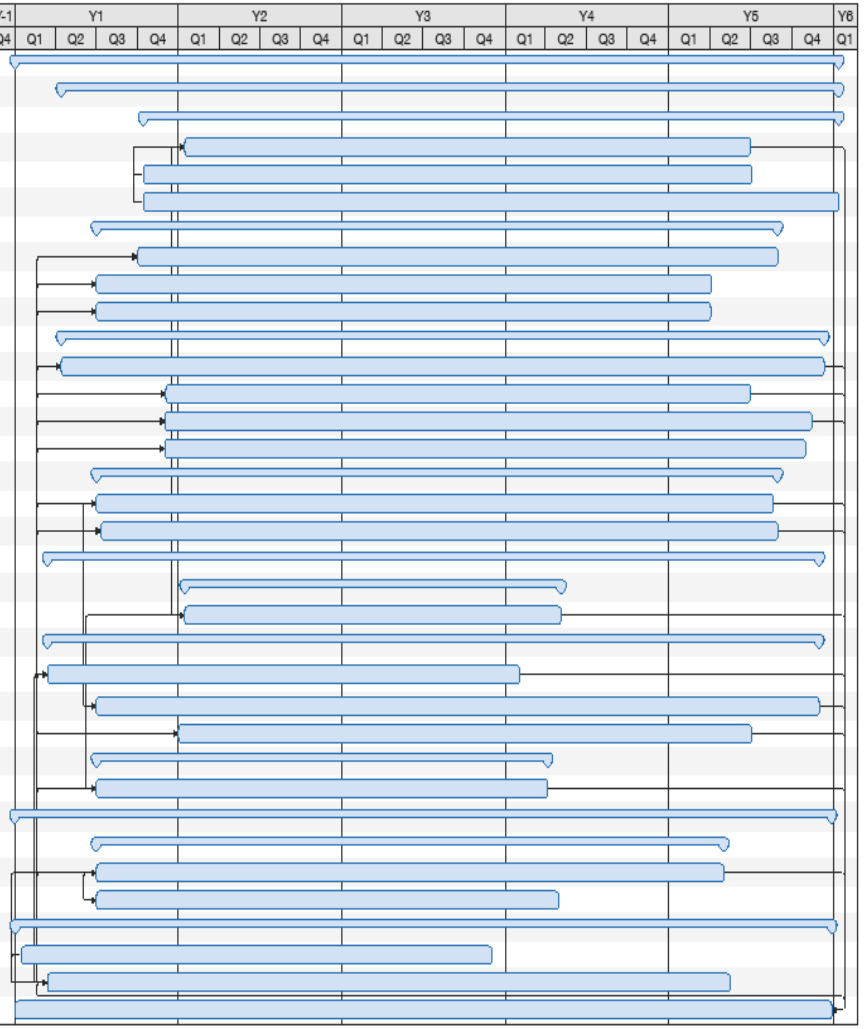


119.

C.8. Timetable of Project/Programme Implementation

A summary of the project timetable is provided below; a full version has been provided in Annex X.

#	Title
0	Ethiopia Drought Resilience Proposal
1	Output 1 - Technologies and infrastructure solutions for resilient livelihoods
2	Activity 1.1 - Improved technologies for on-farm production for climate risk management
3	Drought tolerant crop varieties seed system and improved agronomic practices provided
4	Farmland treated and homestead developed
5	Pre and post-harvest technologies strengthened
6	Activity 1.2 - Management of degraded lands for improved resilience
7	Communal lands treated and developed
8	Degraded forestlands rehabilitated
9	Forest plantations expaned
10	Activity 1.3 - Improved technologies for off-farm production
11	Livestock feed supplied
12	Selected breed supplied to smallholder farmers
13	Poultry production increased
14	Apiculture Promoted
15	Activity 1.4 - Improved water supply for potable use and small scale irrigation
16	Ground Water is Developed using PV-powered pumping system
17	Consturction of small scale irrigation (SSI) and associated water retaining structures
18	Output 2 - Livelihood Diversification and Protection
19	Activity 2.1 - Market systems
20	Small businesses promoted
21	Activity 2.2 - Creation of integrated and decentralized hydrological and climate information system
22	Meteorological infrastructure and information systems installed and functional to generate real-time weather observation data and hydro-meteorological products
23	Water Resource Monitoring instruments installed and used for ground water monitoring
24	Early warning system (EWS) and weather services enhanced
25	Activity 2.3 - Improved timber and non-timber technologies
26	NTFP technologies improved
27	Output 3 - Enabling Environment
28	Activity 3.1 - Strengthened systems and practices for climate responsive planning and budgeting
29	Woreda-based climate responsive integrated planning and budgeting system estbailshed/strengthened
30	Support provided for effective rolling out of MRV practices
31	Activity 3.2 - Improved institutional capacity
32	Strengthen institutional infrastructural capacity
33	Human resource capacity strengthened
34	Learning and communication systems established



D.1. Value Added for GCF Involvement

120. The project developers have thoroughly examined alternative sources of financing for the proposed project, and its constituent Outputs. It was concluded that the GCF is best placed to provide the essential support.

Why the GCF?

121. The project represents a major element of the CRGE strategy. The GoE and participating communities are committed to invest locally-available resources to the degree possible; external funding is required to help introduce the technology and supporting infrastructure – particularly relating to improving reliable access to water and introducing climate smart agricultural methods – that will enable adaptation to climate change, and provide the basis for essential livelihood diversification and resilience-building. Without these essential investments, the adaptation will not be feasible. The GCF is believed to be the ideal financial partner to support such a climate change adaptation initiative, as other potential sources will be less able to invest at a scale that will enable this project's holistic approach – which is essential to transformational change. The proposed project is well aligned with the GCF's investment priorities, and should contribute substantially to the achievement of Fund-level impacts. More specifically, the GCF is believed to be the ideal partner for the following reasons:

1. **Alignment with GCF goals and objectives.** The GCF is committed to support developing countries' transition to climate-resilient and low-emission development. Given the commitment of the project to deliver transformational adaptation impacts and mitigation co-benefits, it is well aligned with GCF priorities, including specific aims to help encourage low emission and climate-resilient agriculture while decreasing deforestation and land degradation. The proposed actions in this project are consistent with the GCF's investment framework, given the project's intent to: increase the resilience of food systems and strengthen food security; support the diversification of livelihoods; improve access to food and water; and strengthen the resilience of ecosystems. Many of the poorest in Ethiopia depend on agriculture for their livelihoods. They are therefore highly impacted by disruptions to agricultural systems, and the risk of such disruption is high. Similarly, proposed activities that will increase access to modern energy services for productive uses through solar watered pumps are not sufficiently catered for by other climate funds. Despite the availability of climate funds working in the forest sector, it is feared that the estimated mitigation benefits of the forest restoration activities presented in the proposal are unlikely to capture the interest of existing funds, which tend to focus on major rainforest countries with greater mitigation potential. Despite the significant potential of climate-smart agriculture (CSA), there has been relatively modest emphasis on this approach by existing climate-related funds (accounting for just 5% of approved finance to date).
2. **Closing the gap in resources available to support adaptation.** As is the case in many parts of Africa, Ethiopia is characterised by a low adaptive capacity due to, among other aspects, its relatively low level of development and its high dependence on agriculture. Support from the GCF will enable significant scaling-up of CRGE capacity building investments, and a vital shift from individual projects to an integrated approach. Reduced fragmentation in funding sources will help reduce the burden on already capacity-strained Government agencies. Not only is the GCF best placed to mobilise the level of funds necessary for this large-scale response to the drought crisis in Ethiopia, it also provides grants, which are particularly suitable for adaptation projects, and appropriate given Ethiopia's own resource constraints.
3. **Help maximize co-benefits through mitigation.** By enabling Ethiopia to introduce solar PV pumps for irrigation and potable water supply, while building the resilience of vulnerable communities, the GCF can significantly help Ethiopia achieve some of the GHG emission reduction targets stipulated in its Intended Nationally Determined Contribution (INDC), as well as support the country's shift to a climate compatible development pathway.
4. **Help Ethiopia leverage additional finance to support the shift to a climate-resilient growth strategy.** The contribution of the GCF and this project should pave the way for increased engagement of the private sector in the growth of Ethiopia's green economy. For example, the promotion and increased utilization of new technologies such as improved seeds, irrigation, and post-harvest handling is expected to bring new private companies into the market to satisfy the demand for inputs, equipment, and services. The involvement of the GCF will leverage, instead of crowd out, these other sources of investment. It will also help develop models that can be rolled-out to other parts of the country, thus creating further private sector opportunities.
5. **Increase the likelihood of achieving systemic change.** The combination of technologies, natural resource management practices, strengthened market linkages, and enhanced institutional and human capacity will enable smallholder famers and relevant Government institutions both to adapt to immediate climate change challenges and be better prepared to adapt in the future.

Why not alternative sources of support?

122. Other potential sources of finance are not able to respond to all these project needs. This is true for alternative climate funds, as this proposal does not fit into their identifiable niches. Particularly, the project's approach emphasizes climate-smart agriculture; despite the significant potential of this approach, there has been relatively modest emphasis on it in existing climate-related funds (accounting for about 5% of approved finance to date). The GCF has indicated a much stronger interest in climate-smart agriculture as a pathway to sustained adaptation. Furthermore, while the forestry-based activities are an essential part of the overall integrated approach, the scope and scale of this proposed work is thought to be inadequate to capture the interest of existing funds, which are more focused on big rainforest countries demanding larger-scale interventions with an emphasis on climate change mitigation. The GCF offers a possibly unique opportunity to integrate this into the holistic approach of the project, thereby leading to transformational development.

123. While private sector (local and foreign) investment undoubtedly has a role to play, some of the activities and outputs of this project have "public good" characteristics, in particular the high costs of exclusion and non-rivalry, as a result of which smallholder farmers have little or no incentive in investing. This is true, for example, with respect to the small- and medium-scale irrigation schemes, the hydro-meteorological information and early warning systems, and rehabilitation of communal lands, capacity building and infrastructure, and knowledge and learning essential to this project. Where the Outputs or Activities can be characterized as private goods, information asymmetry and risk aversion usually prevent smallholder farmers from making the investments required to improve or maintain their productivity in the face of climate change. Smallholder farmers are generally risk-averse. It is only when they perceive the risk-reducing benefits of investments that they will be willing to increase expenditure as part of their strategy to cope with, and adapt to, drought, and climate shocks.

124. Where private investment might be appropriate, unfortunately resources are generally not readily available in the local markets, as they do not yet consider such investments to be economically and financially feasible, mainly due to high transaction costs and limited banking assets. This results in a high cost of borrowing for smallholder farmers,[65] leaving them with the option of using their personal savings, wealth and skills, all of which are subject to critical limitations.[66]

125. Wherever possible, the CRGE Facility is helping to mobilize domestic resources. Over recent years, the Government has improved its effectiveness in mobilizing revenue through tax reforms and other innovative measures. However, the revenue generated is still very low and it will be some time until it will be possible to raise anything approaching adequate amounts from domestic sources. Access to foreign sources is also constrained given that Ethiopia's economy, currently characterized by a severe trade-deficit, suffers from inadequate availability of foreign exchange. Given Ethiopia's limited foreign exchange reserves, the availability of USD from the GCF grant will be essential to enable procurement of technology from abroad.

126. Consideration has also been given to the options of borrowing from international development banks and tapping into capital market and foreign direct investment (FDI). LDCs are, in general, not favourably appraised in the international capital markets. FDI in Ethiopia has been limited although it has been increasing over the years, registering $953 million in 2013. However, limited perceived availability of opportunities for commercially-viable productive investments at acceptable levels of risk continues to be a major problem. This is reflected in the high cost of borrowing. The country raised $1 billion at a cost of 6.625% in a debut international bond issue in 2014. International and regional development banks provide concessional loans. However, the country's debt burden reduces its ability to raise significant amounts of resources either from the banks or the bond market.

127. It is, therefore, concluded that none of these alternatives will add to this project a value of the same scale and quality as what the GCF can deliver. Given identified funding constraints, access to adequate grant-based resources is considered essential to the successful implementation of this critical project. This will help leverage necessary investments by the Government, the smallholder farmers and private companies. Were the GCF to

[65] Holden *et al* (1998).

[66] It is to be noted that the proposed project also intends to raise household savings, wealth and skills through livelihood diversification and improvement and capacity building, thereby raising households' willingness and ability to make such investments on their own in the future.

agree to support this pivotal project, the CRGE Facility will be well positioned to collaborate with other partners to deliver additional elements of the broader strategy.

D.2. Exit Strategy

128. The project has been designed to bring about sustainable transformation in the resilience of vulnerable communities to drought and increasing unpredictability of rainfall, through a combination of strengthened:

- Institutional and regulatory systems for gender and climate-responsive planning and development;
- Awareness of climate threats and risk-reduction processes; and
- Adaptive capacity, combined with reduced exposure to climate risks.

129. The first of these focuses on the creation of an enabling environment for diversified and productive livelihoods; the second two empower the communities themselves to take advantage of this improved enabling environment. Under each of these outcomes the project promotes collaborative approaches for the development of localized solutions. Through participation in learning and decision-making women and men beneficiaries in the communities will build sustainable capacity. Furthermore, their equal involvement in critical decisions will increase their ownership and commitment to make their solutions work, and to take responsibility after project completion. Crucial to sustainability, the combination of greater participation in the planning and the gains from access to improved technologies and methods should in turn lead to increasing incomes as well as resilience. The economic benefits will ultimately be the driver of sustainability, as these will enable on-going asset building.

130. Building on these economic benefits, by the end of the five-year project duration the selected communities will be able to continually adapt to changes in climate on a self-sustaining basis, with limited Government assistance. Woreda-level administrations will have been strengthened to carry out integrated, gender responsive climate planning and delivery, and enabled to continuously provide relevant technical assistance and services to both women and men in the communities.

131. At the highest level, the proposed actions have originated from GTP II; given that this is the overarching mid-term development plan of the country, this will ensure direct institutional linkage and coordination with relevant national and regional programmes (such as PSNP, Household Asset Building and others). The efforts of other delivery partners, including CSOs and NGOs, will also be aligned with the project activities. Support through the project will focus mainly on gender equality, building human capacity and system development, at national, sub-national, local, and community levels. Gender gaps and capacity gaps will be continually identified through regular project planning processes, and addressed through appropriate capacity building strategies and activities. Progress towards self-sustainability will be regularly monitored, with responsibility being progressively handed over to stakeholders as capacity is built.

132. The project will be implemented through the regular agricultural extension, disaster risk management (DRM), livestock, natural resource, and other Government structures involving farmers and farmers' organizations, thus helping to create a sense of ownership at all levels. As technical support to the intended project beneficiaries will be provided through the existing Government extension system, this will further strengthen its capacity in CSA and new and improved technologies. It is expected that the extension system will continue to provide participatory and demand-driven services in line with the new extension strategy beyond the lifespan of the project. The GoE is committed to further support and strengthen the extension service, which will provide increased opportunities for rolling-out project results. The project will focus on delivering the benefits of extension services to men and women equally. The project will address the biases in the delivery of extension services, and ensure that they are tailored to the different needs of women and men and their gender specific demands. The project will ensure that the agents are adequately trained to deliver gender-sensitive extension services.

133. This clear alignment with the country's strategies and plans, combined with a focus on capacity building, will ensure that by project completion the targeted Woredas can sustain efforts in the participating Kebeles, as well as extend learning to other territories. This will ensure maximized returns for GCF's investments. Financial sustainability will be enhanced by concentrating GCF funding on the higher-cost capital expenditures required to initiate the transformation process (for example, plantation establishment), with annual operating costs then becoming substantially lower, these then becoming part of on-going local budgetary commitments.

134. In addition, the following specific strategies will be used to assure sustainability of the project results:

- **Gender equality dimension:** The project mainly builds local capacities in ensuring that gender standards in programming and operation of the project are adhered by the project implementing entities. The project seeks to create greater capacity among staffs and stakeholders of local actors to fulfil their responsibilities effectively. To this effect, consultation will be conducted with the Gender affairs units in each of the micro watershed for their gender responsive interventions and the sustainability of their actions. The capacity building component of the project will ensure that implementing entities have proper policies and implementation guides, and gender integration checklist that they will use during the project's life and after it phases out. To ensure its success and sustainability, the project will provide a series of capacity development and skill trainings on gender within the various project components and budget lines. These interventions will be delivered by locally established training institutions and will have a transformative and long lasting impact on gender equality and women's empowerment by demonstrating the multiple values of gender responsive planning and budgeting. The training will be delivered at Farmers' Training Centres and include: gender analysis of climate change and its differential gender impact (for women leaders, project staff, and development agents); focus groups of women for agenda setting and strategic priorities for women; leadership and assertiveness skills for women community leaders; delivery of gender responsive services for extension workers and credit service providers; value chain analysis and economic opportunities for women through off farm income generating activities and investment in seeds, organic fertilizers, livestock, modern beehive, poultry, and dairy processing and marketing technologies and other inputs. These deliberate and targeted gender interventions will increase women's participation in various value chains, access to extension services and agricultural inputs, supply, and market linkages. The project will promote 50/50 gender balance as a guiding principle at all levels of decision making, in particular in Kebele water management, and technology selection and budgetary committees. Project implementation manuals and/or rules for committees in natural resource management, safety net, co-operatives, and other agricultural programmes will institute 50/50 female and male membership, provide leadership skills training for women to promote their role and participation in formal and informal groups, Gender impact evaluation will measure the use and benefits of labour and time saving farm tools, and the introduction of new technologies, extension services for women, community facilities that provide care for children, the elderly, and those ill and disabled that reduce excessive workloads, ensure girls school retention and empower women and girls.

  The project activities will be guided by a detailed gender analysis and focus group discussions with women beneficiaries at Kebele level and up to the Weredas, at the beginning of the project and at different benchmarks. The process will help to identify the differential roles and needs of men and women and the actions to be taken in the different Kebeles to support women and narrow gender gaps in all project interventions. Throughout the implementation of the project, gender-sensitive M&E tools will be used to collect information to show what worked and what did not work during the project intervention. This will build the evidence base for informed decisions related to gender equality during and beyond the project lifetime while at the same time hold implementers accountable to their commitments. The project will eventually carry out a gender impact assessment as part of its lessons documentation, to identify and share gender related impacts of the project. This will be used to contrast with the initial gender analysis information and will show the effects of the project at household and community level. It will show if the project has contributed to women's empowerment, if there have been any changes in gender roles and/or relations, and if it had any negative outcomes such as domestic violence and double burden issues. The assessment will provide valuable information not only for the Kebele and Woreda experts who will follow up and sustain the activities alongside the communities but also for the Government of Ethiopia and various development actors. Based on the outcome, potential risks to sustainability will be identified and appropriate risk mitigation strategies will be devised accordingly.

  Implementing a gender-responsive project will be transformative as it will benefit men and women equally, and increases the success acceptance and sustainability of the interventions.

- **Operation and Maintenance:** Institutions that will be partnering in the implementation of the project are carefully selected taking their contribution to sustainability of results as one important criterion. In other words, institutions that have decision-making power on matters covered by the project or those which influence such decision-making are deliberately selected because their engagement will be critical for the sustainability of project results or activities. These include operation and maintenance of irrigation schemes installed through the project, supply

and use of improved technologies including solar PVs and agronomical practices (climate smart agricultural practices), and natural resource management activities. If local, regional, and federal institutions, which make relevant decisions or which influence such decisions, are included as partners, it will help assure the continuity of such activities and hence sustainability of project results. The project will continue to bring new institutions on board during the implementation if these institutions are believed to have an impact on project sustainability.

- **Institutional and human capacity:** As stated above, if the results of the project are to be sustainable, some of the activities (examples of these activities are provided above) must be continued after the completion of the project. One factor that affects the sustainability of the installed schemes is an element of the presence of strong institutions and availability of trained and capable personnel. As stated above in relation to systemic changes, the project will result in enhanced capacity of government (federal, regional, local) to provide technical support. In addition, the project will enable the integrated development planning and delivery capacity at the local level. The project services will also be delivered using existing government and community structures. Thus, gender responsive technical support will continue to be provided by the government (federal, regional, local) after the project period. During the life of the project, targeted beneficiaries will be trained on operations and maintenance of the project infrastructures. Pertinent infrastructure use "by-laws" will also be prepared by the project to govern the equitable use of the schemes by the community. The project addresses capacity building issues and gender gaps comprehensively including both soft-interventions (skills and knowledge development) and hard-interventions (installation of equipment's and infrastructure). After the completion of the project, some systems and infrastructure will be handed over to local administration or community-based organizations as appropriate. When these are handed over to local administration, it is the local administration which largely covers the costs. When these are handed over to the community, it is the community which largely covers the costs. However, staff payment and security services to the extent that the employment is carried out by the local administration will be effected by the later.

- **Reducing Barriers:** Not all inputs and services of the project interventions will continue to be provided directly by federal, regional or local governments as the drivers will eventually shift to the market and the community-based organization established. To the extent that the market and community-based organizations, including women's grassroots associations, cooperatives, and other groups are strengthened and expected to play roles in the sustainability of project results, it is appropriate that the project ensures that barriers, which have prevented these services to be provided by the market or community-based collaboration, are effectively eliminated or reduced. These barriers include information asymmetry (the fact that smallholder farmers are not well informed of risks, causes or practices, and technologies of reducing risks), risk averseness (the fact that smallholder farmers will be constrained from investing because of their risk averseness), limited ability of smallholder farmers to pay, and limited supply of technologies and inputs. The project is designed with the view of not suspending the operation of these barriers for five years but with a view of effectively eliminating or reducing these barriers so that smallholder farmers are willing and able to pay for improved technologies and inputs and that community-based organizations and market suppliers are willing and able to supply the technologies and inputs. The project will help raise the ability of smallholder farmers (both men and women, including female heads of households) by raising their productivity and diversifying their livelihoods. It will raise their willingness by working to ensure that smallholder farmers are informed of risks, causes, adaptation strategies and alternative inputs, practices and technologies.

- **Provision of Spare parts:** Spare parts will be provided to the woredas to ensure that the infrastructures will continue to run throughout the life of the project and show to the community the importance of investing on spare parts for the longevity of the schemes. This will encourage the users and the communities to allocate enough funds for operations and spare parts purposes to ensure that the infrastructures will not fail after the termination of the project. Ensuring participation of beneficiaries, irrespective of gender, in the implementation of the project will also help create strong community demand which is a critical factor in determining their willingness to pay for the operations and maintenance of the infrastructures installed. It will also be an opportunity for local artisans to develop their maintenance services and skills, especially in water technologies.

Women and local artisans will be trained to conduct some levels of maintenance and eventually some of the spare parts and technologies can be designed and locally produced to meet women's needs at affordable cost.

- **Knowledge Management and Communication:** The project will also put in place a robust and effective knowledge management and communication structure. Through this, the goals, actions, and results of the project are continuously analyzed and communicated widely. This is based on widely recognized experience that as beneficiaries, men and women and other stakeholders understand the goals and results of the project, they will be more willing to develop ownership and participate in on-going activities beyond the project lifecycle. The project will ensure that the beneficiaries and other stakeholders will be engaged in the analysis of the activities and results of the project. Focus groups of women will value and share across Woredas' women own knowledge of their environment and their coping skills and strategies. The stakeholder engagement plan is incorporated as an element of the exit strategy. The knowledge management system will also ensure that lessons learned are captured and effectively disseminated. As part of the exit strategy, lessons will be drawn and documented based on focus groups of women that will evaluated the intended and unintended outcomes, the positive and negative impacts on gender equality and women's empowerment. Women will communicate their experience via media and model the project for possible replication in other areas.
- **Building Assets:** By the end of its lifecycle, the project will have accumulated extensive assets in the form of soft assets (administrative procedures for quality control, monitoring, evaluation, gender analysis, knowledge management, and communication) and hard assets (equipment and infrastructures). These will be handed over to relevant government institutions at the right level (federal, regional or local) in accordance with applicable government regulations. Infrastructures installed in the Woredas will be handed over to local administrations and or community-based organizations.
- **Procurement and Quality Control:** The quality of equipment's and infrastructures that will continue to be operational post the project's lifecycle is an important factor that determines project sustainability. Hence, the project will follow a strategy of ensuring the quality of these in accordance with government regulations regarding procurement and quality control.
- **Technology Identification:** Improved technologies, inputs, and practices to be promoted by the project are fit for purpose and have been selected after proper consultation and participation of beneficiaries including women groups. This is one of the strategies of this project for sustainability.
- **Country Ownership:** The project draws contributions from government and project beneficiaries in addition to the GCF financing. Experience in development planning and delivery across the world testifies that this is a critical factor in ensuring sustainability. The project will also, as stated above, work to create the ability and willingness of government and project beneficiaries to contribute post the project lifecycle. A strategy of strengthening community-based organizations and relevant suppliers in the market is followed to ensure sustainability. Strengthened community-based organizations, women groups and local suppliers of inputs and technologies is also one of the outcomes of this project.

135. These and other specific strategies such as gender responsive planning and budgeting will be further elaborated and incorporated in the project implementation manual, structures, and systems to be put in place at the outset of project implementation.

In this section, the accredited entity is expected to provide a brief description of the expected performance of the proposed project/programme against each of the Fund's six investment criteria. Activity-specific sub-criteria and indicative assessment factors, which can be found in the Fund's Investment Framework, should be addressed where relevant and applicable. This section should tie into any request for concessionality made in section B.2.

E.1. Impact Potential Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas
E.1.1. Mitigation / adaptation impact potential

16) **Mitigation Impact**

136. The overall GHG emission reduction target of the project is 22.516 Mt CO_2e over the project lifetime (15 Years).

- Given that land use sectors are the largest source of GHG emissions in Ethiopia (88%)[67], significant mitigation benefits will be achieved:
  - In the agriculture and livestock sectors: enhancing lower-emitting techniques for agriculture, enhancing yield-increasing techniques, intensifying animal mix diversification to lower-emitting animals, improving value-chain efficiency for livestock, and increasing the use of mechanization. These initiatives will result in GHG reductions of 2.94 Mt CO_2e over fifteen years.
  - In the context of forests, a combination of afforestation/reforestation, management of degraded lands, to reduce deforestation will reduce an estimated 19.3 Mt CO_2e over fifteen years.
  - Replacement of diesel generators with the adoption of solar photo voltaic (PV) will lead to a reduction of 0.276 MtCO_2e emissions over a period of fifteen years.

Thus, the project will contribute to Fund level impacts in relation to: reduced emissions through increased low emission energy access and power generation; and reduced emissions through land use, deforestation, forest degradation, and sustainable management of forests and conservation and enhancement of forest carbon stocks.

Adaptation Impact

137. This initiative will directly impact 1.2 million people (over 50% are women) of the most vulnerable population of Ethiopia by improving their access to water and food, promoting alternative livelihoods, empowering women, improving health and wellbeing, improving their access to climate information, improving resilience of ecosystems and the availability of ecosystem services, and introducing improved and climate-smart technologies. Collectively, these results will make the communities more resilient to climate change risks. Specific adaptation impacts include the following:

- Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions:
  - Directly and indirectly, the project will help approximately 2.5 million people (over 50% are women and 30% are female heads of households) become more resilient to drought and increasing variability in rainfall, which is around 20-25% of the number of people severely impacted by the current drought crisis,
  - Directly and indirectly, the project will help approximately 500,000 households (at least 30% female house hold heads) adopt a wider variety of livelihood strategies/coping mechanisms, and
  - The project will increase agricultural productivity, incomes and savings,
  - The project will decrease crop and livestock loss, including through crop diseases, and
  - The project will increase use of more productive and climate smart technologies and inputs (including drought-tolerant seeds and improved breeds), while decreasing reliance on crop and livestock production/increasing diversity of crops, and increasing diversity of economic activities, including through increasing off-farm activities;
  - The project will bridge gender gaps and build women's capacities to play a critical role as beneficiaries and as leaders in the project design, orientation, and implementation
- Increased resilience of health and well-being, and food and water security, because of:
  - Increased amount of land benefitting from irrigation,
  - Increased and more reliable access to water for personal and irrigation purposes,
  - Increased food security (decreased reliance on food aid and increase in women's food intake),
  - Reduction in malnutrition,
  - Reduced school drop-out rates
  - Increased girls' school enrollment and retention
  - Reduced domestic chores and burden on women
  - Increased access to extension services through services dedicated to women

- Increased resilience of ecosystems and ecosystem services:
  - Reduction in deforestation, overgrazing and other practices leading to land degradation,
  - Rehabilitation of degraded forestlands through building physical and biological moisture and soil conservation structures, and
  - Increased agroforestry, extraction and processing of NTFPs, and enhanced forest/woodland/bamboo management;
- Strengthened institutional and regulatory systems for climate-responsive planning and development, including through:
  - Increased participation in community planning (including women),
  - Adoption of tailored products for improved decision-making, and women's equal share in decision making
  - Increased capacity and responsiveness of government agencies;
  - Increased involvement of women in community based and local government institutions targeting 50/50 representation
- Increased generation and use of climate information in decision-making;
- Strengthened adaptive capacity and reduced exposure to climate risks, including through:
  - Growth in private sector activities, and
  - Increased availability of appropriate forms of financial services; and direct access to credit by women
- Strengthened awareness of climate threats and risk-reduction processes

138. The project will generate a discernible climate change adaptation impact both directly and locally through the provision of improved infrastructure, and indirectly and structurally through mainstreaming gender equality and of climate change adaptation into development plans and operations.

Mitigation Impact

139. The overall GHG emission reduction co-benefits of the project are expected to be significant.

140. The project will contribute to Fund-level impacts in relation to: reduced emissions through increased low-emission energy access and power generation; and reduced emissions through land use, deforestation, forest degradation, and sustainable management of forests and conservation and enhancement of forest carbon stocks.

141. As the project is, at its core, a climate adaptation project, these emission reductions are co-benefits rather than explicit targets.

142. The CRGE Facility has developed a Monitoring and Evaluation Framework for its investment portfolio. The manual is consistent with the national M&E practice and the mid-term development plans. For this project, budget has already been allocated to develop Project Implementation Manual (PIM) which also includes amongst others M&E based on the project log-frame including the Gender Action Plan agreed upon indicators and means of verifications.

E.1.2. Key impact potential indicator

Provide specific numerical values for the indicators below.

[67] The main activities responsible for GHG emissions within Ethiopia´s land use sector are: livestock (42% of total national emissions), deforestation and forest degradation (37%), and agriculture (9%) (FDRE, 2015).

<table>
<tr><td rowspan="4">GCF core indicators</td><td rowspan="2">Expected tonnes of carbon dioxide equivalent (t CO_2 eq) to be reduced or avoided (Mitigation only)</td><td>Annual</td><td>1.5 Mt CO_2e</td></tr>
<tr><td>Lifetime</td><td>22.516 Mt CO_2e</td></tr>
<tr><td rowspan="2">Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience);
Number of beneficiaries relative to total population, disaggregated by sex (adaptation only)</td><td>Total</td><td>Direct 773,281 million indirect 2.5 million people (or 500,000 households). 50% of the beneficiaries will be women.</td></tr>
<tr><td>Percentage (%)</td><td>2.6% of total population of the country. 50% of the beneficiaries will be women.</td></tr>
<tr><td>Other relevant indicators</td><td colspan="3">22.516 Mt CO_2e reduced or avoided from implementing initiatives in the agriculture, livestock and water sector;
Number (percentage) of households adopting a wider variety of livelihood strategies/coping mechanisms. The project aims to have 773,281 direct beneficiaries of which 378,559 will be female. This will include various livelihood activities including apiculture (26,676 HH), access to irrigation schemes (12,686 HH), establishment of small businesses (11,000 individuals), access to early warning systems (140,000 HH) provision of selected breeds (2,000 HH), and poultry production (220 HH). Except for the poultry production which will comprise 100% of the female headed households, the remaining activities target to reach 30% female headed households.
Percentage of food-secure households
Increase in the number of households with year-round access to potable water supplied through low-emission energy.
Expected increase in generation and use of climate information in decision-making.
By the end of the project 154,656 households, of which 44,655 are female headed households, are estimated to be food secure, have access to year-round potable water supply and use climate information in decision making.
Increase in the number of hectares of irrigation land watered through low-emission energy
Area (ha) of habitat rehabilitated or restored. 80,000 ha will be rehabilitated through the project.
Increase in number of households reached by climate early warning systems and other risk-reduction measures. A total of 140,000 households of which 40% are women households will benefit from the project.
Perception of men, women, vulnerable populations, and emergency response agencies of the timeliness, content and reach of early warning systems
Percent of target population aware of the potential impacts of climate change and range of possible responses
Increase in the number of children being enrolled into schools
Increase in women’s income and in the number of women involved in productive economic activities (comparative time use and household survey between project beneficiaries and others) in each kebelle, for M&E purposes
Decrease in child mortality and water-related deaths
Increased use of hydro-geological and weather data for planning by decision-makers
Increased use of budgeting and tracking of climate-related expenditures at the Woreda level</td></tr>
<tr><td colspan="4">Describe the detailed methodology used for calculating the indicators above.

Agriculture, livestock and forests:

For GHG emissions measurement in livestock, soils, and biomass, the EX-Ante Carbon-Balance Tool (EX-ACT) methodology, developed by FAO, has been used to estimate the net carbon balance from GHG emissions and carbon sequestration.</td></tr>
</table>

- In the forest sector, GHG emission reductions have been estimated using carbon sequestration rates/emissions reductions based on IPCC good practice guidance and REDD+ emission Factors[68].

No.	REDD+ option (intervention type)	Area (ha)	ER Potential Per Year (tCO_2e/ha)	Annual ER Potential (tCO_2e)	Project ER Potential within 13 of the 15 pro years (tCO_2e)
1	-Restoring degraded forest and woodlands	80000	10.75	860000	11,180,000
2	-Enclosing degraded communal grazing/range lands	50000	3.24	162000	2,106,000
3	Promoting bamboo development and processing	10000	14.4	144000	1,872,000
4	Commercial forestry	30000	10.75	322500	4,192,500
	Total				19,350,500

- Livelihood and adaptation benefits, including jobs, were estimated using unit costs for specific activities and the average daily payment in the Ethiopia labour market (USD 1.5/day). The total number of beneficiaries is projected based on the scale of the Outputs (i.e., as described in detailed in Section C.3), where an average family size of five per household is assumed.

Solar water pumping system for water supply

The average daily diesel requirement for a 8 KW diesel generator is 7.9L per hour and the assumption is that the pumps will effectively run for 10 hours a day, cumulating to 79 liters of diesel consumed per site per day. The average fuel consumption for one year per site, therefore, is calculated as 79L/day*365.5day = 28,835 L/yr. The lifecycle of the system is 15 years (equivalent to the life cycle of solar water pumping). The total fuel consumption within 15 years for one site will thus be 432,525 L (28,835 L/y*15yr). The average total carbon dioxide emissions within 15 years for one site are 2.664kg/L*432,525 L= 1,150,516.5Kg CO2. This is due to the replacement of an existing diesel based water-pumping generator by the solar water pumping system at one site. Note that 2.664kg/L is the carbon dioxide emission released from 1L of fuel. Therefore, the total number of Kg of CO2 that will be avoided as a result of replacing the diesel generators by solar PV for two hundred forty (240) water wells in the 22 project woredas, will reduce 0.276 Mt CO_2e[69] over a period of fifteen years and generate ~ 2 MW of solar powered energy from this project.

E.2. Paradigm Shift Potential

Degree to which the proposed activity can catalyze impact beyond a one-off project/programme investment

E.2.1. Potential for scaling up and replication (Provide a numerical multiple and supporting rationale)

143. The Theory of Change outlines the linkages between the project initiatives and subsequent changes in farmers' behaviour and impacts on livelihoods. As described earlier, drought is the dominant climate change-induced shock that frequently affects rural populations. Reflecting this, one of Ethiopia's major challenges is to reduce the widespread poverty, and food and nutrition insecurity that results from the following:

144. Climate change-induced drought weakens farmers' resilience capacity. The direct risks that drought poses for farming households are food becoming scarce and more expensive, safe drinking water becoming scarce and more expensive, and declining health. All these factors converge into the multiple burdens that weigh down on women who are traditional providers of water, food, energy, health care in addition to farming alongside male farmers.

[68] Assumptions made include – one-year preparation period, an additional year for establishment, intervention will cover all project areas during the 1st year of establishment, program period is 15 years and 13 years after establishment are considered for Emission Reduction (ER).

[69] Power Generated from the Solar PVs estimates were generated based on conservative estimation of power needs from the Feasibility Studies that are required to pump 1.5 l/s from a head of 30 meters.

145. Farmers often sell productive assets, such as draught animals, to feed their families during and after a drought. Such sales reduce yields and the family's income for many seasons, potentially resulting in a poverty trap; and

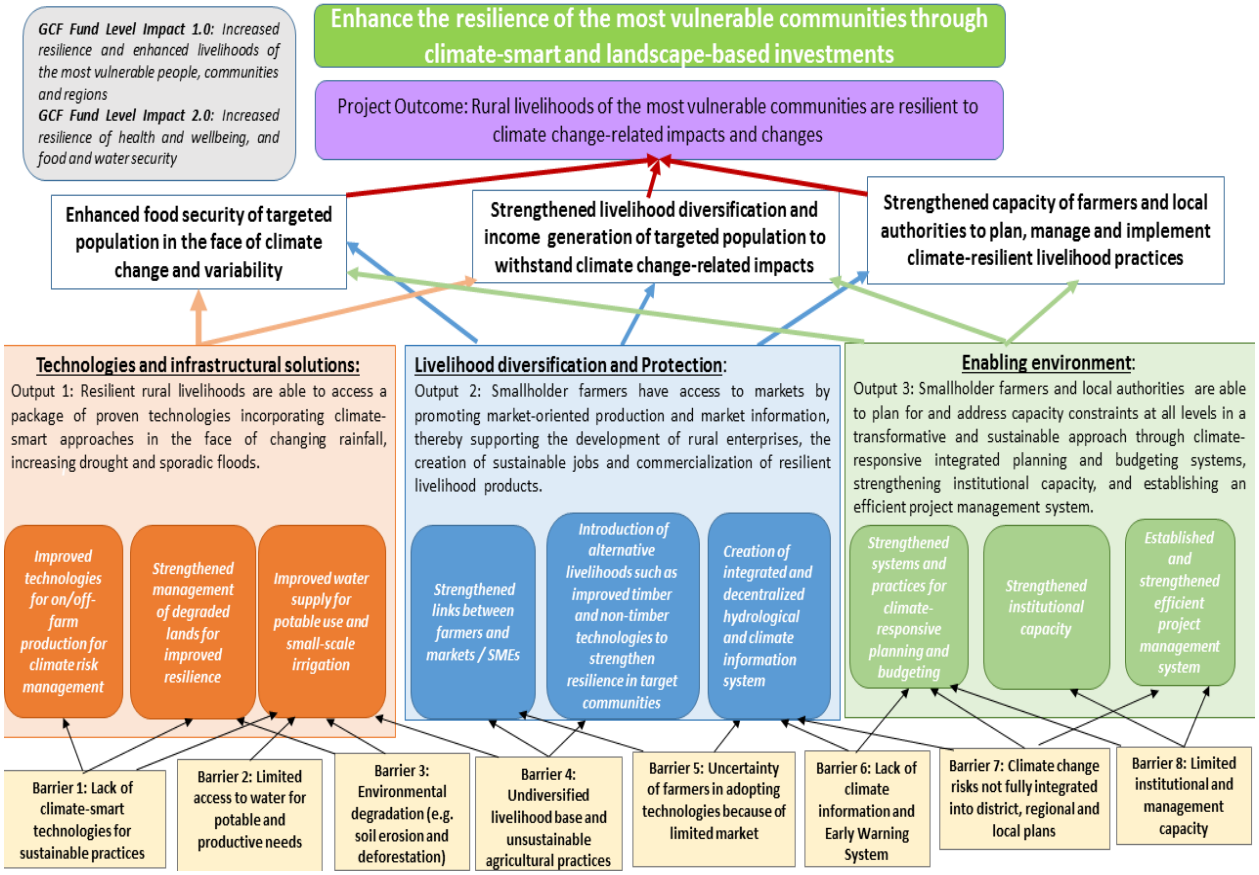
146. The potential effect on productive investments and consumption in growing seasons with good rainfall. The threat of climate change-induced drought may cause farmers to invest less in all seasons due to weak capacity and uncertainty as households' lack timely climate-related information.

147. Given the multi-faceted effects of climate change-induced hazards on rural livelihoods and environment, a silo-based intervention will not address these issues. Instead, a holistic and coordinated approach is required to build community capacity that will enhance: (i) absorptive capacity (e.g. coping strategies, risk management, and savings); (ii) adaptive capacity (e.g. use of assets, attitudes/motivation, livelihood diversification and human capital); and (iii) transformative capacity (e.g. governance mechanisms, policies/regulations, infrastructure, community networks and formal safety nets)[70]. The project activities will affect the livelihoods of those households vulnerable to climate change-induced hazards. The project interventions will place women at the forefront as providers of information on climate resilience and coping strategies that impact on the natural environment and could enhance yields. Water diversion and water retention structures will protect fields from excess water and retain water for dry spells. Trees will prevent surface runoff and soil erosion. Participating households and most vulnerable women stakeholders may also learn techniques and skills, while working on the project activities, which they can then use on their own fields after the project. The project also intends to improve livelihoods by allowing farmers to preserve food consumption and/or their asset holdings after a drought and to repay their loans. The project is expected to enable farmers to increase investments, translating into higher yields, assets and incomes in good seasons, and, therefore, improved food security and livelihoods in all seasons.

148. This combination should develop increased resilience, with climate-vulnerable communities continuing to maintain and build resilience after the project is finished, having become able to mobilize men and women stakeholders adapt to future – not just current – climate and other risks. Thus, helping to break the drought cycle in a gender- responsive manner. For this to happen, inter-linking pathways of change are required, as illustrated in Figure 13.

[70] Food Security Information Network (FSIN),*Resilience Measurement Principles*: http://www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/1_FSIN_29jan_WEB_medium%20res.pdf.

Figure 13: Project Theory of Change



149. Resilience capacity is often multi-dimensional and encompasses economic (e.g. assets), technological (e.g. improved agricultural/livestock practices, low-emission technologies, etc.), environmental (e.g. resources, natural resource management practices), infrastructure-related (e.g. roads, information system, etc.), safety nets and institutional (e.g. governance/leadership, regulation, etc.), resources, and capabilities. In the process, asset levels and quality can be improved and/or repaired, landscapes can be restored, soils improved, new skills and abilities can be learned, and new markets can be developed or accessed. Taken together, these changes result in improved livelihood security and income per capita. Given that the approach delivers mitigation co-benefits, this will further contribute to achievement of the CRGE and gender responsive strategy.

150. The following critical elements will be the mechanisms that will be valuable to replicate the project at scale;

- Farmers Field day will be organized as part of the parcel of the project to exchange experience amongst neighboring Woredas, which are not targeted directly by this project;
- Policy brief will be prepared for decision makers so to make an informed decision;
- Knowledge management and outreach programs and events will be organized at all levels to capture relevant views and critics from all stakeholders including women groups;
- Research and academia will be involved in synthesizing relevant project results and to generate valuable lessons to inform the design process of other national programs;
- Lessons captured will include, amongst others, how an integrated gender responsive design, implementation, and monitoring modality of this project has influenced its outcome;
- Joint stakeholders monitoring and supervision missions including the non-government actors will be organized to draw lessons and best practices through beneficiary consultations (focus groups of women) and field observations;
- Conducting workshops, seminars, and other lesson learning events on how the lessons learned from this project could be used to inform other national programs vis a vis SLMP, PSNP, and WASH;

- Enabling elements particularly the training of women as development agents, planners, and implementers at all levels will be captured to be replicated in other programs.

E.2.2. Potential for knowledge and learning

151. The project will generate knowledge and learning that will contribute significantly to the building of resilience of rural communities to climate change in Ethiopia, and more broadly, in the Horn of Africa and other parts of the world suffering from increased incidence of drought and variability in rainfall. This learning will be enriched through the varied circumstances of the 175 Kebeles in which the project will be implemented. While there will be common characteristics to many of these locations (essential to assure both their relevance and feasibility), there will also be significant differences in the landscape conditions, as well as in institutional and social factors. This will help produce essential learning in (among other things):

- The application of alternative CSA technologies and support infrastructures per landscape conditions;
- The role of ecosystems and biodiversity in climate change adaptation;
- The critical success factors in achieving the type of holistic, integrated planning essential to the successful diversification of rural livelihoods in response to climate change in ways that help improve adaptation capacities and mitigate GHG emissions;
- Allied to lessons in integrated gender responsive planning, insights into the institutional frameworks necessary to the enablement of systemic change towards climate-resilient development pathways;
- How to strengthen disaster risk management, in particular in response to drought, and the role of initiatives such as Early Warning Systems in enabling such responses at scale;
- The creation and execution of MRV systems that can be applied to other initiatives; and
- The most effective ways of involving rural communities (men and women farmers) in determining how best to adapt to climate change, both to build short-term welfare and optimize the use of natural resources.

152. The measures under this project will be implemented through partnerships of Government, communities and the private sector, and will thus create or strengthen institutions, community-based organizations, small business enterprises, youth and women groups, and the like. Consequently, best practices available in one region can be adapted to others. Action research will be integrated throughout the project, with the full engagement of communities, research, and development partners, allowing their recommendations to improve future approaches. The lead ministries already regularly engage with academic/research institutions, and these institutional linkages will be reinforced during project implementation. In this regard, relevant development-oriented research will be conducted to identify means for the creation or strengthening of knowledge, collective learning processes and institutions.

153. Ethiopia is committed to playing a leadership role in the response of lesser-developed countries to climate change, and (under Output3) the project includes explicit measures to help the dissemination of all learning generated by the new approaches to those that might benefit from it.

E.2.3. Contribution to the creation of an enabling environment

154. Ethiopia recognizes the involvement of the private sector as an engine to deliver most of its ambitious actions/targets outlined in the CRGE and GTP II strategies. Consequently, the project will endeavour to create an enabling environment for greater private sector investment, for example by giving momentum to the on-going policy and legal reforms with respect to improving forest governance, developing clear benefit-sharing mechanisms, tree ownership, and establishment of sustained community-private-government partnerships. Ethiopia already provides significant private sector incentives, but awareness is often lacking. Thus, the project will engage private sector actors to disseminate information regarding the investment incentives and preferable market conditions (such as those for wood, timber, and NTFPs). The revised Forest Policy will further improve the investment climate by removing financial barriers for entry, especially for small and medium business, by providing credit for investment in forestry and/or incentivizing private investors through tax breaks, provision of lands, and technical expertise. Moreover, the project will create an enabling environment for investors by leveraging public funds to catalyze private sector involvement wherever appropriate. Public-private partnership (PPP), community-based organizations, women's groups and youth group development will help establish an enabling environment for household members, local communities, cooperatives, and the private sector to open commercial services, cottage and agro-processing industries, and generate additional income.

155. The project will establish participatory research and knowledge-sharing systems that will help farmers and rural communities to develop, test, and scale-up locally-adapted farm and land management systems and enterprises. It will also create proper links among research institutions, educators and extension workers, and local communities to share knowledge and innovation from diverse activities and new climate-smart agricultural practices. This will promote sustainability of the project.

156. The proposed project will act as an innovation hub, testing a range of new approaches in climate-smart agriculture, gender responsive interventions, which together can and will transform the way similar projects are implemented in the future. Previous project interventions focused on plot and farm-scale innovation. The proposed project, however, will apply a landscape-based approach, which will be implemented in a more comprehensive and coherent manner. In addition, this project avoids a silo approach and promotes integration among different sectors, including, crop, livestock, forest, and water development in any specific landscape.

157. The introduction of new technologies and promotion of diversified livelihood activities especially for women will generally lead to stronger local markets, as well as to the transformation of the Ethiopian agricultural sector. In the context of forestry in Ethiopia, the major new techniques and innovations include forest-based partnerships, market-based forestry approaches and MRV. The adopted forest-based partnerships model between communities, smallholders, and enterprises has delivered promising outcomes in some eastern and southern African countries by spurring economic development and/or sustaining rural livelihoods. Investments in forests and accompanying industries with improved awareness of gender impacts on household wood consumption will also help to achieve climate mitigation and rural development. The innovation here is combining forest sector modernization with climate finance to achieve significant climate change adaptation benefits.

158. Within water management, the establishment of PPPs, community-based organizations, women's groups and youth groups in the target Woredas will encourage the participation of the private sector and local cooperatives in market development. The private sector will start to supply spare parts and participate in the maintenance and operation of the irrigation systems, as well as starting to install new systems as the demand for the new technology increases. As the technology is adopted and managed by gender balanced water management committees, the community will collect fees, a proportion of which will be shared by the Government, thus creating a foundation for further scaling-up of the system. This will also create easy access to water points by women and girls and opportunities for household members, local communities, cooperatives and the private sector to open commercial services, and cottage and agro-processing industries.

159. The project will introduce climate-informed planning and budgeting systems at Woreda level. This will address the need to allocate essential operating expenses which will be managed through agricultural extension works. This will be complemented by fees collected from farmers using the water schemes. Strong community participation and women's leadership in managing the water infrastructure will be built, which is critical for the sustainability of project outputs.

160. The project incorporates activities to improve farmers' access to credit from micro-finance institutions with priority and focus on credit facilities for women heads of households to access farm implements and for women farmers who want to expand their off-farm products. This will reinforce efforts to enhance on- and off-farm incomes, which is essential for project sustainability.

E.2.4. Contribution to regulatory framework and policies

161. Ethiopia is already taking significant strides in the development of national regulatory and policy frameworks to progress investment in climate-resilient development. Achievements to date include the Climate-Resilient Strategy for Water (MoWIE) as well as the One WASH National Programme.[71] The current water resource management policy objective is to enhance and promote national efforts towards the efficient, equitable and optimal utilization of the available water resources of Ethiopia for significant socioeconomic development on a sustainable basis. The establishment of PPPs, community-based organizations, women's associations, cooperatives, and youth groups will help foster the development of local regulatory frameworks that encourage the participation of cooperatives, communities, and the private sector in similar initiatives, and the up-scaling of these elements of the project.

[71]Federal Democratic Republic of Ethiopia (2014), *One WASH National Programme.* Addis Ababa, Ethiopia.

162. In the context of forestry, MEFCC is set to launch a Public-Private Dialogue (PPD) in which the private sector (represented by the Chamber of Commerce) and relevant Government actors (represented by MEFCC) will discuss the concrete legal and regulatory measures required to transform the contribution of the forest sector to the national economy by improving participation of the private sector. The PPD will provide the forum for discussion while the project will serve as a show-case on how the proposed reforms can be operationalized, including through measures, such as tax breaks or the provision of ready-to-invest land. Discussions will be conducted with banks (state-owned and private) to explore how they can provide credit to women farmers and be involved in forest-based financing (availing the much-needed upfront finance as well as benefit from the revenues that can be generated). The Forest Law, which is currently under revision, will consider some of the initiatives supported by the project.

163. In addition, the project expects to facilitate a shift from centralized to decentralized DRM policy in Ethiopia. This system will then serve as the framework for regional governments to develop regional and local specific DRM legal frameworks and extract lessons that will feed into policy and strategic issues, as well as understand the reasons for project successes in specific Woredas.

E.3. Sustainable Development Potential

Wider benefits and priorities

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

Environmental co-benefits

164. Activities that enhance access to water through the replacement of diesel generators by solar PV pumps will result in reduced CO_2 emissions. Reduced deforestation and forest degradation, together with rehabilitation of communal lands through integrated natural resource management and promotion of bamboo production, will result in a range of environmental benefits, including enhanced local surface and groundwater sources, conservation and rehabilitation of biodiversity, reduced soil erosion and soil degradation, and carbon sequestration. The supply of improved technologies and promotion of best-practices through farmer training and on-farm demonstration will help reduce soil erosion and degradation, improve soil fertility through increased organic content and increase sequestration of carbon in the soil. Women will benefit from this training and they will make informed contributions to the committee in charge of selecting technologies.

Social co-benefits

165. The proposed project will increase the food and nutrition security of the most vulnerable through project activities (supply of technologies, infrastructure services and diversified livelihoods) that increase the production and productivity of food and promote additional food sources (horticultural produce, poultry food and dairy products) that are rich in nutrition. This will reduce social inequality by improving the wealth and income of the most vulnerable, mostly poor women.

166. The project will also improve the health and safety of project beneficiaries through improved availability of water, nutrition, and food security, the reduced need for women to travel long distances to fetch water, and increased incomes. Increases in household income and improved access to water sources will also result in improved access to education, particularly for girls and children.

Economic co-benefits

167. Jobs will be created from management of communal lands and irrigation schemes, as well as through the creation of enterprises for the supply of improved technologies and poultry, bee-keeping and similar activities. These will improve the purchasing power of households, which will in turn drive local economies. The project will also reduce disaster-induced loss of crops and livestock, and their distress sales. Nationally, the project will improve the foreign currency reserve through reduced spending on fertilizers, increased exports of high value, and reduced expenditure on importing food for relief and other purposes.

Gender-sensitive development impact

168. The Government of Ethiopia has developed gender-sensitive policies based on several national laws concerning women's land ownership rights, labour, education, and marriage. In 1993, the Government adopted the National Policy on Women to encourage gender-sensitive public policies and interventions across Government ministries. The following year, the drafting of a new constitution laid out women's equality as a right under the law. Article 25 of the new Constitution "guarantees all people's equality before the law and prohibits any discrimination on grounds of gender." Article 35 deals exclusively with the rights of women and addresses several areas such as affirmative action, customary practices, and property rights, among others.

169. However, despite the policy support and although women represent half of the population and contribute about 70 per cent of the food production in Ethiopia, they do not share equally in the fruits of development. Compared to men and boys, women and girls are strongly disadvantaged. Their experience is characterised by higher levels of illiteracy and ill health, poorer livelihoods and a lack of basic human rights; gender is an important dimension of rural poverty. Rights such as access to land, credit and other productive resources are difficult for women to attain. They work longer hours than men and lack adequate representation in leadership and decision making positions. Ethiopian women are triply disadvantaged: as poor people they live under the same harsh conditions as their male counterparts, as women they suffer from cultural biases which undervalue their contribution to development and prevents them from increasing the productivity of their labour and they carry the full burden of household management for which they get very little support[72].

170. Women play an extremely important role in the natural resource management, in crop and livestock production, soil and water conservation, and in value chain activities such as the processing and sale of livestock and food. This is despite the international evidence from across regions that women have less access than men to productive resources and opportunities. Many smallholder farmers in Ethiopia are women either because they are household heads or wives; they grow crops, raise animals, collect water and wood for fuel, care for family members and engage in other social obligations. Research suggests that women are more likely to re-invest their income in their family improving its welfare, education, nutrition, and health.

171. Men use natural resources in agriculture, logging, and fishing for commercial purposes more than women. In crop production men tend to focus on market-oriented or cash crop production, whereas women often work with subsistence crops and vegetable gardens. In some cases, there are complementary roles, for example, men clear land, women plant and tend crops and men harvest and market crops. However, the roles may overlap as women often work with their husbands in producing cash crops or they take over their husband's role because of migration. Decision makers' failure to recognise these changing gender dynamics affects women's livelihoods and that of their families. It marginalizes women from access to extension services, credit and technologies, decision making, and other support systems.

172. Currently, statistics on women relate mostly to female-headed households. In this proposal, the proportion accounts for 30 per cent of households in the intervention areas. According to UN Women, 2014 Gender profile of Ethiopia, 27% of women aged 15-49 have never been married, 58 per cent are married, 4 per cent are living with a man and 11 per cent are divorced, separated, or widowed. Progress on gender equality demands that policies and programmes address the needs of all women; this requires data that recognises women are not a homogeneous group.

173. Many studies support the observation that women's lack of access to and control over resources reduces their net productivity. A gendered division of labour, in most cases, reinforces the superiority of men and their control over resources and benefits. In terms of access to land the national statistics show that female-headed households had access to an average of 0.45 hectares of crop land while the figure for male households was 1.18 hectares. There is a similar trend in livestock ownership where 66 per cent of female, compared with 80 per cent of male-headed households' own cattle. Ownership of a pair or more of oxen, a key indicator of household wealth, is 66 per cent in male-headed households compared with 29 per cent for female-headed households[73].

[72] MDG Achievement Fund and UN Women (2013). MDG Advancing Gender Equality: Promising Practices – Case Studies from the Millennium Development Goals Achievement pp 78.

[73] IFPRI (2014). A Review of Selected Topics of Gender and Agricultural Research in Ethiopia over the Last Decade.

174. Gender disparities are neither static nor immutable. It has been recognized that when women get the same amount of inputs as men, their productivity increases dramatically. According to the FAO, providing women farmers' equal access to productive resources could increase yields on their farms by 20-30 percent and could raise total agricultural output by between 2.5-4 per cent. Hence, in the implementation of the project in each micro watershed, equal access to extension service and other required inputs will be provided.

175. As mentioned above, Ethiopia has suffered from recurrent droughts, food crises and long-term food insecurity, and perpetuating an intergenerational cycle of malnutrition. Child malnutrition impacts later the workforce and the productivity of the adult population. Ethiopia's Productive Safety Net Programme (PSNP) aims to enhance the resilience of rural households that are vulnerable to food insecurity and improve nutrition.

176. According to the World Summit on Food Security, 2009, if one or more of pillars of food security (availability, access, utilization, and stability of food) are not in place, or when any of these key variables are disrupted, the food security of communities, households and individuals is at stake. Even when there is food stability and all four pillars are in place, inequality, lack of access to the justice system, divorce, wife inheritance, and other social norms mean that women are much more likely to be poor and vulnerable to food insecurity; food stability does not automatically translate to food security for women and children.

177. Nationally 21 per cent of female-headed households have access to extension services as against 36 per cent of male farmers. Married women are particularly disadvantaged as services are often provided to men farmers with the assumption that training will cascade to women. According to one study agricultural knowledge transfer from husband to wife is insufficient or non-existent.[74]

178. Women's lack of access to credit, irrigation, fertilizer, and improved seeds contributes to their reduced productivity when compared with men. One case study showed that women produced 57 percent lower maize yields than men because of their reduced access to inputs and technology[75].

179. Climate change has different impacts on men and women. Because of their associated roles, power-relations, access to resources, and needs, women are typically more vulnerable than their male counterparts. The project aims to deliberately target female-headed households and women in male-headed households, to increase their resilience and well-being. The project consists of interventions that yield differential and enhanced benefits for the different needs of women and men. For example, the project will promote the participation of women in improved technologies for off-farm activities such as poultry production. This intervention will improve access to, and control of, income generated from such activities for the direct benefit of women.

180. In Ethiopia, one of the adverse impacts of climate change is water shortage for both human beings and animals. This increases women's work burden, as the number of hours spent collecting water is increasing, while there will also be a decrease in the quality of water and increased risks to health. In such circumstances, men and women cope differently: men from poorer households may migrate to urban areas while women are left behind to work on farmland, look after the family and possibly engage in income-generating activities. In many cases, women must sell assets and resources to help them cope. Consequently, they will not have enough assets to prepare for the next crisis. Walking long distances to fetch water can expose women and girls to harassment or sexual assault. The provision of water supply through the project will address one of the causes of inequality by extending the working day and thereby increasing the time available to women to engage in income-generating activities.

181. Further, women's access to information is typically more constrained than men's – and early warning systems may need to take targeted measures to include women and, thereby, improve their access to information. Thus, the decision-making power of women will improve over assets and finance, as will their ability to manage climate change risks through diversifying crops and storing food or seeds.

[74] . Fong and Bhushan (1996) Toolkit on Gender Analysis in Agriculture. Gender Toolkit Series No. 1.
[75] AgajieTesfaye and DereseTeshome (2012). Assessing the potential role of small-scale women food producers in a climate smart Agricultural Development in Ethiopia. Oxfam America. Addis Ababa

182. The gendered dimensions of control over natural resources are exacerbated by climate change. The MoANR notes that women and men do not benefit equally from watershed management and other natural resource management programmes. The Programme Implementation Manual (PIM) for the Productive Safety Net Programme (PSNP, 3rd phase) introduced affirmative action to reduce the working hours for women in public works by 50 per cent. However, the provision is not implemented and women work as many hours as men despite their multiple roles as farmers, housewives, and carers.

183. Decisions about natural resource management are frequently community-led. Women within such decision-making processes are often under-represented in community leadership roles and reluctant to publically voice their views, meaning that their issues and concerns may not be considered. Likewise, their knowledge and ideas about how to manage local situations are not included in local plans and policies. The vast majority of agricultural extension agents (approximately 81 per cent) are male. As a result, women farmers are discouraged and effectively denied the opportunity to participate and gain from extension services. In addition, literacy levels limit their access to other means of transmitting technical knowledge. Equally, women's lack of public presence restricts their ability to share their knowledge and skills in land management with members of the community. Hence, during implementation of the project, training will be provided to improve participation of women in leadership and decision making positions.

184. In summary, the project interventions will take into consideration, the different needs of men and women in the intervention sites and contribute to narrowing gender inequality. The project will ensure women's equal opportunities to participate in planning, implementation, monitoring, and evaluation of the project with clearly identified gender-sensitive indicators; building the resilience of female-headed households and women in male-headed households by giving them access to credit, training, and technologies; and alleviating conditions that have adverse consequences on the health and safety of women in the project area. It also recognizes that women are not only victims of climate change but have a strong body of knowledge and lived expertise that can be tapped in planning for climate change adaptation strategies.

185. The project is designed in the framework of the Post-2015 development agenda, which focuses on the three dimensions of sustainable development: economic, social, and environment. The different components of the project are aligned with relevant sustainable development goals including goal 1, 2, 6, 8, 12, 13, and 15. Some sustainable development indicators have already been included in the logical framework:

- Number of food-secure households (in areas/periods at risk of climate change impacts)
- Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses
- Coverage of degraded lands managed and protected in response to climate variability and change
- Coverage of degraded forest lands rehabilitated in response to climate variability and change
- Number of males and females reached by climate-related early warning systems and other risk-reduction measures established/ strengthened
- Use of climate information products/services in decision-making in climate-sensitive sectors
- Number of males and females made aware of climate threats and related appropriate responses

E.4. Needs of the Recipient

Vulnerability and financing needs of the beneficiary country and population

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

186. Vulnerability is closely linked with poverty. In Ethiopia, food insecurity, malnutrition, and vulnerability remain high. 29% of the population is absolute poor, and 44% suffer from chronic malnutrition[76]. Climate risks will increase the probability of more households falling into poverty and facing transitory or chronic food insecurity,

[76] Ethiopia Demographic and Health Survey (2011).

particularly in drought-affected areas (notably the eastern areas, the central highlands, and pastoral areas). Specific causes of vulnerability include the following:

- **Impact of temperature increase:** A number of studies indicate that the impact of increasing temperatures has a significant effect on crop gains. A 1% increase in temperature will reduce farm revenue by 1.3%, with the situation becoming even bleaker in hotter environments, with a loss of up to 1.6%.
- **Drought:** Ethiopia has been, and will increasingly be, subjected to the negative impacts of reduced precipitation and drought. Drought has had, particularly, a well-documented impact on agricultural productivity. As recently as 2002/2003, drought caused up to 4% reduction in national GDP, a 12% reduction in agricultural output, and 15% inflation; in 1984, drought caused a 10% reduction in GDP[77].
- **Soil erosion:** Although soil erosion does not pose an immediate threat to human and animal life, the economic loss due to crop productivity and environmental degradation is estimated to be about 2-3% of GDP per annum.

187. Smallholder farmers – the most vulnerable to climatic changes – will be the direct beneficiaries of the project in the target Woredas. Vulnerability will be addressed as follows:

- The productivity of the beneficiaries in the target Woredas will be improved through the introduction of different gender responsive climate-smart technologies and practices;
- Consequently, availability of food will be enhanced, helping to solve the problem of food shortage in times of climate-related disaster;
- Watersheds will be restored and will become more productive due to the introduction of best agricultural practices and integrated resource management activities that fully involve women; and
- The rural populations in the targeted Woredas will benefit from early warning information, which will improve the ability to anticipate hazards.

188. The project will also increase the capacity of local governments to prepare and deliver development plans that consider climate change effects.

E.4.2. Financial, economic, social, and institutional needs

189. Due to high population growth, the absolute number of poor in Ethiopia (about 25 million) has remained unchanged over the past fifteen years, despite rapid economic growth. The country's per capita GDP of US$631 is substantially lower than the regional average of US$1,257 and among the ten lowest worldwide. Ethiopia is ranked 173 out of 187 countries in UNDP's Human Development Index (HDI). Having estimated that total expenditure of around USD 150 billion over a period of 15-20 years is required to build a middle-income green economy, Ethiopia is devoting more than half of its annual budget to investments in infrastructure and social services, including for health and education. However, a large funding gap remains, analysis conducted by GoE having concluded that the additional investment needed to achieve desired levels of resilience is around $236million per year until 2030. This represents a budget uplift of 18%. This uplift should be seen in the context of an assumed increased spending on resilience options of almost 200% by 2030 under a baseline scenario (rising from $0.3billion to $0.8billion).

Other sources of financing

190. All alternative sources of financing have been explored and analysed; the results of such analysis are summarized in Section D.1. Ethiopia suffers from budget deficits, which are remedied by borrowing internationally and locally. There is, however, a limit to the extent to which the country can borrow without resulting in major macroeconomic shocks. Traditional development partners already make significant contributions, many of which are complementary to/would benefit from the proposed project.

Institutional and Implementation Capacity Needs

191. Ethiopia has built strong core institutions responsible for designing sectoral policies and strategies, and overseeing their implementation, these benefitting from extensive experience in the implementation of different national and global commitments (e.g. the MDGs). Most project implementation will occur through existing institutional structures, effective coordination being a critical success factor. Having said this, a recent nationwide

[77] CRGE Strategy (2013).

capacity needs assessment found significant capacity limitations, which the proposed project will help to address. Further support is needed at the central level with respect to specific knowledge and skills in MRV and building public-private partnerships. At regional and district levels, the capacity needs are more related to the tools and procedures to implement national policies and strategies. Among the main stumbling blocks is poor follow-up on training and ineffective M&E. Limitations in capacity also extend to infrastructure needed for a robust early warning system.

192. The Executing Entities (EEs) to this project have replica structures that stretch to district and Kebele (Sub-district) levels. They do have extensive experience in management and coordination of big national flagship programs and projects. The MoANR, one of the EE, has a mandate to implement agricultural development strategies, ensuring the food security of the country. It has extensive and rich experience in managing and implementing large-scale donor and Government funded projects and programs. Apart from its project management capabilities, the Ministry has rich experience in engaging with several stakeholders and development partners for national priorities. The other EE, MEFCC, is elevated from the former Environmental Protection Authority, and reconstituted in May 2013 with the mandate to develop and implement programs in environmental management and forestry. MEFCC has inherited several capacity and experience from MOA and EPA and is already managing the national REED+ Program, afforestation and restoration activities on millions of hectares degraded land, participatory forest management activities, and several fast start investment projects financed by the CRGE Facility. The Ministry of Water, Irrigation and Electricity (MoWIE), has substantial accumulated experience in project and programme management. It is currently administering 72 international projects and 56 national accounts. The fast-track programme managed by MoWEI has five components/projects include: (1) accelerating the National Biogas Program Ethiopia (NPBE); (2) strategic support upgrading climate and hydrological information systems 3) improving the Livelihoods and Lifestyles of Rural Communities through the Dissemination of Solar Energy Technologies; and (4) solar power for water supply and irrigation. The ministry is also implementing Energy+ funded by the Norwegian Government. There is also a National Meteorological Agency (NMA) which is an autonomous Government Agency, mandated to establish meteorological stations, monitor, produce, and communicate weather and climate information, provide weather and climate services to national stakeholders, and share meteorological data in line with its international obligations. NMA has eleven Regional Meteorological Branch Directorates throughout the country, which are mandated to further tailor and communicate products within their area of responsibility as well as administer meteorological stations networks. Its data communication systems are networked though computer LAN and WAN, particularly with its eleven branch offices.

193. Despite the strong organizational structure, experience, and functional systems of the EEs, the project has incorporated organizational, system, and human capacity building activities under the “Enabling Environment” component. The project will recruit dedicated staff at federal, regional, and Woreda levels. It will also organize tailored trainings, workshops, etc. as well as make available tools, equipment, and other facilities. The proposed capacity building actions in this project are designed to respond to the “CRGE Capacity Need Assessment” that was conducted by the MoFEC in the year 2015. The main objective of the capacity needs assessment was to understand the gaps and needs in relation to deliver the CRGE objectives and vision. The capacity needs assessment report has identified sector specific capacity development measures that are required to better understand climate change impacts, response measures and to plan, monitor, and report accordingly on active Climate Change initiatives. Specifically, it has identified measures to mainstream CRGE into policy responses, attract international and domestic resources, disburse funds to priority actions, and apply effective financial management to ongoing activities.

194. Regarding building capacity in CRGE, the Agricultural Technical, Vocational and Training Centers aggressively invest in producing Agricultural Development Agents with a range of technical skills (animal science, plant science, and natural resource management). The agricultural development agents provide demand-responsive extension and short-term training services for farmers. Currently, more than 80,000 development agents are deployed at the Kebele level throughout the country. Furthermore, academic programs and universities have started to adapt and include CRGE in their overall objectives and thus curriculum development. They also enhance existing staff knowledge and skill through distance educations programs. The Ethiopian Academy of Science (EAS), supports and hosts the Ethiopian Panel on Climate Change (EPCC), to consult on how to review capacity building opportunities involving the universities and other knowledge think tanks, such as the Environment and Climate Research Center (ECRC), Environmental Development Research Institute (EDRI), and the Climate Science Centre (CSC).

E.5. Country Ownership

Beneficiary country (ies) ownership of, and capacity to implement, a funded project or programme

E.5.1. Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs

195. The project is closely aligned with Ethiopia's submissions to the UNFCCC, including:

- The **Second National Communication** (SNC, 2014), which observes that "Ethiopia is one of the most vulnerable countries to climate variability and change due to, among others, its high dependence on rain-fed agriculture and natural resources." Further, "past assessments have shown agriculture, water and human health as the most vulnerable sectors. From a livelihood approach, smallholder farmers who depend heavily on rain-fed operations and pastoralists are found to be the most vulnerable". The Second National Communication specifically identifies drought as one of two key impacts of climate change in Ethiopia: "Based on the frequencies of the events, the number of people affected (including loss of life) and the estimated damage, the biggest impacts are from droughts and floods." The list of recommended priority actions for the agriculture sector provided in the SNC (page 126) is fully aligned with the project, and includes irrigation schemes, reforestation, improved seed varieties, better weather information, and training for farmers.
- The **National Adaptation Plan of Action** (NAPA, 2007) observes that "Drought is the single most important climate-related natural hazard impacting the country." Of the 37 priority adaptation actions identified by the NAPA (page 8), the GCF project will directly address 18 and indirectly another four. Further, the NAPA identifies institutional coordination and capacity building as needed prerequisites to effective adaptation actions.
- The **Intended Nationally Determined Contribution** (INDC, 2015) notes that "Ethiopia requires substantial resources to build resilience… to climate shocks" and observes that the country's key adaptation needs relate to "protecting the population – especially in rural areas – from the adverse impacts of global warming" and "safeguarding economic development…in the most vulnerable sectors to climate shocks, including health, agriculture, water".

196. Ethiopia has demonstrated its determination to fight climate change nationally (notably through the CRGE strategy) as well as globally, and has already made important international adaptation commitments, including the following:

- At the global level, at the UN Summit on Forest Action Statements and Action Plans in September 2014, Ethiopia pledged to restore 15 million ha of degraded and deforested lands by 2025. This significant pledge is additional to the 7 million ha afforestation/reforestation pledge stated in the CRGE Strategy. The Government of Ethiopia has also made an international commitment to implement REDD+. The national REDD+ strategy emphasises resilient green growth in rural Ethiopia, through productive forest landscapes, healthy forests, and productivity of land around the forests to achieve: (i) reduced GHG emissions through avoided deforestation and forest degradation, and carbon sequestration through tree planting; (ii) reduced vulnerability of rural populations and the rural economy to exogenous shocks from climate risks, disasters, drought, flood, and disease; and (iii) reduced level of stress on biodiversity, water, and soil resources.
- At the regional level, Ethiopia is a principal actor in the New Partnership for African Development (NEPAD), whose strategic framework for Pan-African socio-economic development features climate change and sustainable natural resource management as a cornerstone. The country's climate change strategy is fully aligned with the endorsements of climate change adaptation and mitigation strategies made by the African Heads of State and the Regional Economic Communities (for example, IGAD).

E.5.2. Capacity of accredited entities and executing entities to deliver

197. The UNDP Country Office in Ethiopia is well placed to oversee the implementation of the GCF project. It has built close connections with the National Executing Partner (MoFEC) and the Responsible Parties – MoANR, MoLF, MEFCC and MoWIE – through implementation of many climate change adaptation and natural resource management projects and programmes worth in excess of USD 120 million. UNDP also co-chairs the United Nations Country Team (UNCT) and the periodic preparation of the United Nations Development Assistance Framework (UNDAF) for climate change. It is also an active member of the DRM Task Force to promote collaboration on DRR issues among UN agencies.

198. UNDP has financially and technically supported the development and operationalization of the CRGE Strategy. Specific areas of support have included (among others): establishment and operationalization of the CRGE Facility, and capacitating the individual CRGE Sector Units: MoANR, MEFCC, MoFEC, MoWIE, the Ministry of Industry (MoI), the Ministry of Transport (MoT), and the Ministry of Urban Development and Housing (MUDH).

199. Moreover, UNDP also facilitated the review of the National Environment Management Policy to integrate climate change, DRR, and early warning system aspects into the National Development Plan (NDP), as well as contributed towards the development and subsequent approval of the National Disaster Risk Reduction and Management Policy.

200. UNDP's strategic positioning on climate resilience-building in Ethiopia is informed not only by its comparative advantage but also by its global leadership position – particularly South-South cooperation – on sustainable land management and strengthening natural resources management as a critical element in increasing climate change resilience. UNDP has considerable experience in managing climate resilience and ecosystem management projects in the region, particularly those with disaster management, early warning and climate change adaptation components. It is also informed by UNDP's working principles of optimising resources and capacities through multi-sectoral and multi-stakeholder-driven partnership approaches. This is the approach UNDP has been using in Ethiopia, particularly through its DRR and natural resource management projects. The Country Office in Ethiopia has a fully-fledged Climate-Resilient Green Growth Team comprising a Team Leader, a Technical Advisor, a National Climate Change Specialist, a Programme Specialist, a Programme Analyst and Programme Associates, as well as two dedicated GEF Small Grants Programme (SGP) staff and additional project-level coordinators. The Country Office is supported by Regional Technical Advisors (co-located in Addis Ababa, in the UNDP African Regional Service Centre), as well as by policy, adaptation, economics, and climate modelling experts in New York and Bangkok.

201. The project will build on Ethiopia's track-record in implementing early warning systems and enhancing livelihoods (including on-going UNDP-supported projects). For example, the lessons learned from the African Adaptation Program (UNDP project) demonstrated the importance of climate change adaptation planning and interventions from a mono-project and sectorial based approach to a comprehensive and strategic approach, characterized by multi-sectorial integrated planning. Implementation of 16 green technologies in selected 97 districts through the establishment of green enterprises has got direct relevance for output 1 of this proposal. Successful implementation of this project triggered the allocation of 2% from the National Regional States annual budget for environment. UNDP has successfully completed the implementation of Promoting Autonomous Adaptation in Ethiopia's GEF project (5.9 million USD) and best practices documented. The lessons learned from the project have got direct relevance for the GCF proposal. Several activities have been implemented by this project. The major improved technologies and adaptation practices promoted involve crop production, fruit and vegetable production, animal husbandry, beekeeping, solar energy, crop insurance, access to weather information, water harvesting, irrigation development, and environmental rehabilitation. The project will be implemented by national institutions using UNDP's National Implementation Modality, which is designed to ensure domestic systems are used for accountability and building capacity. The interventions through this project will be compliant with the Fund's social and environment safeguards and with stakeholder consultations. UNDP's work programme in Ethiopia directly contributes to the project, as exemplified by the most recent Country Programme Document (CPD), which prioritizes two areas under its inclusive economic development portfolio: (a) natural resources management, adaptation and developing resilience to climate change, and disaster risk, and (b) green growth, expanding livelihoods and employment opportunities, including supporting the integrated approach to fostering sustainability and resilience for food security.

202. The Ministry of Agriculture has an extensive track record in successfully hosting large-scale programmes and projects, including the SLMP, AGP PSNP, MERET, and DRSLP. The sector also has a well-established field extension system, in which communities actively participate. Similarly, MEFCC has substantial experience in managing and implementing Government, loan and grant projects financed by development partners (e.g. the World Bank and GEF). MEFCC is implementing a decentralized structure in this budget year (2015-2016), which is in line with the country's decentralization process, and will start to open its own structure at regional, zonal, and district levels through an institutional capacity building programme. Until then, MEFCC continues to use the existing structure in MoANR at Regional, Woreda, and Kebele levels.

203. MoWIE has institutionalized its CRGE Unit, functioning under the Environmental Impact Assessment and Social Development Office, which is responsible for the overall coordination and facilitation of the programmes and projects related to the CRGE initiative, currently including the Energy+ programme and the Fast Track Investment (FTI) projects. Ten programme/projects proposals (five Energy+ Programme and five FTI projects) were approved in 2013. The Fast Track Programme has five components/projects, including "Strategic support

to upgrading climate and hydrological information systems in Ethiopia for climate-resilient development and adaptation to climate change", and "Improving the livelihoods and lifestyles of rural communities through the dissemination of solar energy technologies for water supply and irrigation".

204. MoFEC is responsible for driving the economic policy of Ethiopia and providing oversight on national financial management, national development planning, and development programme implementation, executing these responsibilities in all Government sectors, endowing it with extensive experience overseeing financial management and programme implementation nationally. This has included implementation of climate change mitigation and adaptation initiatives valued at over USD 400 million, as well as large-scale programmes such as the USD 2 billion Protection of Basic Services (PBS) Programme that also has components focusing on resilience-building and provision of safety nets for the most vulnerable members of society. MoFEC is mandated to enter contracts and sign international agreements on behalf of Ethiopia, and participates in building financial management capacity, monitoring and evaluation, and establishing transparent working systems. MoFEC has established sector involvement and advocacy mechanisms, and has Bureaus of Finance and Economic Development (BoFEDs) situated in the regional capitals of Ethiopia.

205. The CRGE Facility, which has already attracted finance from development partners, is housed within MoFEC. The CRGE Facility has principal/functional organs, including a Management Committee, Advisory Board, Technical Team and Financial Team. The Facility has adopted an Operations Manual that describes the overall governance and implementation frameworks as well as the fiduciary standards to be complied with by the Facility and delivery partners. These standards comply with the requirements of donors and reflect GCF standards. MoFEC/CRGE Facility was accredited as a National Implementing Entity to the GCF in March 2016.

E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders

The Letter of No Objection is provided in Annex I.

206. The design of this proposal has been driven by the NDA at the highest level. The NDA and MoFEC have jointly developed a guidance book focusing on accessing and channelling climate finance in general, and the Green Climate Fund and the Adaptation Fund in particular. The NDA and MoFEC have jointly provided training at all levels on how to develop bankable pipeline proposals, and together have appraised bankable proposals that were submitted by line ministries. The CRGE Management Committee ensures strong country ownership by closely and regularly following the development of project proposals.

207. The project design follows a demand-driven bottom-up approach, which is well suited to climate resilience-building in Ethiopia's rural context. This approach – in which affairs are steered by communities, have a voice in determining priorities and are actively involved in project identification, planning, development, and implementation – has in the past contributed to positive results due to enhanced ownership by beneficiary communities and local authorities. This type of engagement commenced during the preparatory stages, as possible project approaches were considered and refined through stakeholder consultations on the CRGE Strategy. Proposed approaches were prepared by seven sectoral teams involving more than 50 experts from more than 20 leading Government institutions. These were discussed during regional and sectoral consultations to ensure national alignment on priorities, confirm initial findings, create awareness and build collaboration. The Ministry of Agriculture facilitated consultations with, among others: 75 participants from the regions; Government line ministries and regional and local governments; UN agencies (such as UNDP and WFP), non-government organizations (including Oxfam GB, Oxfam America); CSOs (such as Climate Change Forum Ethiopia); private companies (e.g. construction and consultancy firms); and research organizations (the Ethiopian Institute of Agricultural Research (EIAR), the Agricultural Transformation Agency (ATA), the Ethiopian Seeds Enterprise); and development partners (Climate and Development Knowledge Network (CDKN), and the Global Green Growth Institute (GGGI)). To support implementation of GCF-supported projects and other similar interventions in the future, the Agro-Meteorological Stakeholders Platform has been established.

208. In the forestry sector, consultations included a validation workshop attended by, among others, Amhara Forest Enterprise, the Ethiopia Environment and Forest Research Institute, and UNIQUE. Consultation meetings were also held to brief all responsible stakeholders (at district, regional, and federal levels) about project concepts, including consideration of shared responsibilities. Subsequent village meetings, informal and formal discussions and other communication platforms were also leveraged. In these multi-stakeholder engagements and consultations, major problems and the corresponding responses were identified, prioritized and reflected in the

proposal. Consequently, all chosen interventions are well aligned with the priority areas of local, district, regional, and federal administrations.

209. In the water sector, and working with stakeholder representatives from universities, regions/local communities, Government bodies, and NGOs, consultation meetings were held in five river basins, to create awareness of the importance of the envisaged approaches to water management, and to begin to build support for responsive solutions. In every river basin, a committee comprising high-level professionals of different disciplines has been established to facilitate future work.

210. During proposal development, at least two separate missions of technical experts were undertaken to each of the 22 target Woredas. Such missions included substantive discussions with local government officials, local development partners, and local communities. Engagement such as this will be sustained during project implementation, as an intrinsic part of learning and capacity building.

211. Reports of stakeholder meetings including regional and federal consultations, and multi-stakeholders' engagement plan are available as annexed XIII (b).

E.6. Efficiency and Effectiveness

Economic and, if appropriate, financial soundness of the project/programme

E.6.1. Cost-effectiveness and efficiency

212. Ethiopia is a Least Developed Country (LDC) with limited resources that have to be allocated to a wide range of adaptation initiatives and other urgent financial needs. The proposed grant from the GCF will help promote transformative change without crowding out private and other public investment. The grant will be targeted at activities that tend to have pay-offs that fully accrue only in the long-run or which are of a 'public good' nature and, therefore, cannot be addressed by the private sector. The combination of GCF grant financing and stakeholder co-financing has been designed to stimulate systemic change that can be rapidly scaled-up.

213. The costs of the activities identified are determined in a way to cover the minimum cost possible to achieve project objectives. Thus, the project is intrinsically efficient and cost-effective. As shown in E.6.5, a comparison of total project financing with the adaptation impact the project aims to achieve suggests that a substantial amount of adaptation benefit (as well as incidental mitigation co-benefit) is expected to result from the financing to be used.

214. Activities to be undertaken by the project specifically address the climate change adaptation needs of stakeholders, who are mainly farmers and pastoralists. The Outputs involve creating awareness and capacity building as well as actual implementation of activities on the ground. Thus, they are expected to have positive effects on long-term investments to be made by the stakeholders.

E.6.2. Co-financing, leveraging, and mobilized long-term investments (mitigation only)

215. The co-financing ratio, defined as the total amount of co-financing relative to the Fund's investment in the project, is a ratio of 0.68:1. Government co-finance (just over USD32.4m, constituting around 19.5% of the total project cost) comes from the commitment of public finance from the Government's own treasury; Community co-finance (about USD 34.9million) is largely an in-kind contribution – estimated from activities that communities are willing to undertake without pay. The community in-kind contribution will strongly leverage the GCF investment, given the essential complementarity of the new technology that this enables.

216. Attempts to leverage new investment will be made as project implementation progresses.

E.6.3. Financial viability

217. The financial rate of return has not been calculated because the benefits of the proposed activities that the Government implements (benefits such as increased production or cost savings) do not directly generate revenues to the Government. Rather, the Government is providing support to farmers, pastoralists, and other agents so that these groups can adapt to climate change in addition to benefitting in other ways. Hence, only the expected economic rate of return for the project, where it is possible to estimate benefits of the proposed interventions, have been calculated for a 15-year period. The economic returns in terms of economic net present value (ENPV) and economic internal rate of return (EIRR) are briefly presented in Section F.1 below. Results of

sensitivity analyses are also reported in Section F.1 below. More details for the economic analysis are shown in Annex XII.

218. Without the proposed GCF contribution the project would need to be down-scaled considerably, either by reducing or eliminating some of the Activities that are integral to the longevity and sustainability of the project. Given the focus of GCF contributions on vital capital investments, it would likely not be possible to achieve the paradigm shift, as this requires the introduction of new technologies as well as practices. This in effect means that the project in the form it is proposed now would not be viable without GCF funding.

Please describe financial viability in the long run beyond the Fund intervention.

219. It is expected that the activities started in the project will continue after the GCF intervention. In particular, given that the GCF grant is used to cover investment costs, other costs will be covered after the fifth year of the project following the exit strategy indicated elsewhere in this document.

E.6.4. Application of best practices

220. The overall design of this project is based on several best practices, particularly the Landscape Approach, Climate-Smart Agriculture (CSA), and the Livelihoods-based Approach. The Landscape Approach was first documented in 1992, since when a variety of organizations (including CGIAR, the Nature Conservancy, WRI, IUCN, FAO, WWF and GCP) have been involved in refining integrated landscape approach frameworks.

221. Various investments in agriculture, forest, and water have been undertaking over years in Ethiopia. Consequently, compelling diagnostic review of existing and previous programs and projects on climate resilience and adaptation has underpinned the design of this GCF proposal. Such investments include Ethiopia's afforestation and reforestation regular programs; Sustainable Land Management programs, Agricultural Growth Programs, Productive Safety Net Program (PSNP); WASH Sector-Wide Approach and UNDP GEF projects, including Climate Information and EWS, Promoting Autonomous Community and Adaptation Project, and Coping with Climate Change and Drought Projects, implemented in Ethiopia. Please refer annex VI for summary of some of the flagship programs.

222. Some common and unique lessons that are drawn and considered in the design of this project include;

- Full alignment and synchronizing project objectives and targets with the national development plan – Growth and Transformation Plant (GTP) and the country's CRGE initiatives are strongest incentive for political commitment at all tiers of government. The integration of CRGE and GTP now provides strongest incentive and accountability for the effective and efficient implementation of project.

- Strong popular / community participation, including women's equal participation, is the necessary condition for effective implementation of community based, gender responsive resilience initiatives. In Ethiopia community participation in natural resource conservation has been highly promoted and yielded good results and, therefore, most projects scaled up such experiences. This project offers a unique opportunity to scale up positive outcomes and effective coping strategies devised by vulnerable and resilient women.

- Shift from single sector approach to multi-sector coordination in design and delivery of resilience interventions to harness the synergy of complementary initiatives, which otherwise fragmented and incomplete, avoid duplication and strengthen capacity through capacity pulling. In particular, at the Woreda and landscape/grassroots level, various sectoral initiatives targets the same landscape and population in compartmentalized ways and as a result do not benefit from the synergy. The success of core interventions on projects depends on strong community-based institutions.

- Building on existing national level frameworks and institutional arrangements: Ethiopia follows a decentralized administrative system; each lower level of governments has its jurisdiction. Most programs/projects have established implementation arrangements in accordance with existing arrangements. Both at Federal and Regional level essential institutional arrangements have been emplaced to attain project objectives. They also established effective vertical linkages and support implementation through intensive institutional capacity building efforts at all levels.

- As demonstrated under various projects and programs in Ethiopia and SLM in particular, "*demand-driven bottom-up approach is relevant for natural resource management and local development in Ethiopia's rural set-up. This development approach in which communities steer affairs, have a voice in determining priorities and are actively involved in project identification, planning, development, and implementation, which contributes to generate ownership and is greatly valued by both beneficiary communities and local authorities. Similarly, it is important to provide enhanced support to technical design and implementation issues regarding subprojects especially road improvements and irrigation schemes, physical and biological rehabilitation practices, business development and planning, off-farm income generation, climate finance mainstreaming, market intelligence as well as providing options for solutions to identified development problems*" (the world bank PAD).

- Active engagement of Woreda leadership in project management and implementation has been critical in the success attained in many projects and programs. There is, therefore, a need for engagement of Woreda leadership and sectoral office heads;

- Rural households are limited through a variety of constraints that hinder their ability to enable themselves to increase their incomes and sustain their livelihoods. These constraints include *inter alia* lack of new ideas and knowledge on income generating activities, limited access to new technologies and value addition approaches, particularly to increase shelf life of products for better marketing options as well as limited access to production inputs and markets. Support is, therefore, required, especially for women, to overcome such constraints and effectively improve livelihoods and income levels.

- Climate resilience interventions such as the SLM shall be considered as an integral part of rural development, and, therefore, a more holistic approach is needed to support livelihood development at the rural community level;

- The Productive Safety Net Program (PNSP) is a component of the Ethiopian Governments' Food Security Program, which is an essential feature of food security investments strategy for chronically food insecure Woredas of Ethiopia. The development objective of the program is, among other, to contribute to reducing household vulnerability and improving resilience to shock. PSNP implemented public work activities including, among other, soil and water conservation, rural road construction, water supply, small-scale irrigation and earth dams and agricultural services, including the construction of farmer training centers (FTCs). The lesson from this mega program, includes the PSNP-PW technology package and approach that has: improved the household income; Increased the productivity and carrying capacity of the watershed; increased competence and coordination of staffs in the target area and improved accessibility by road, increased availability of water. Evaluation has also indicated that there is significant room for improvement with regards to: planning approaches; comprehensiveness of the watershed development package; improvement of the technologies implemented;

- In Ethiopia, the landscape approach has been applied in different context and scale, for instance, for farming system and (micro) watersheds. Currently, however Integrated Watershed Management (IWM), Participatory Forest Management (PFM), Integrated Water Resource Management (IWRM) and Integrated River Basin Management (IRBM) are slowly picking up and being practiced in some sectors. In addition, an ecosystem approach is followed in the protected areas management. However, there are still constraints and challenges reported about collaborative planning and implementation across boundaries, sectors, and actors for achieving integrated landscape management.

- As a fundamental departure, therefore, the project will implement a gender responsive, integrated landscape approach in the design and implementation of interventions. In this case, Kebele (sub-district) will be a landscape unit, where bio-physical, social-cultural, and economic institutions interface with each

other and thereof, it is chosen as the project intervention unit. This approach is likely to successfully build women's leadership capacities from bottom up and demonstrate the investment returns of a gender focused approach.

- Micro-watersheds will continue to constitute major element of the landscape mosaic and will be a unit of planning and implementation of interventions such as the soil and water conservation, agro-forestry, water harvesting, water development, reforestation and afforestation, flood protection, etc. Moreover, Kebele has an institutional structure, which include elected Kebele Council, Kebele Manager, sector offices, farmers training centers, school and health post, etc. It is the lowest administrative structure, and, therefore, will be an ideal coordination and engagement platform.

- Cutting edge technologies and good practices are emerging in the area of EWS. A midterm review of the UNDP GEF project on CIEWS indicated a number of good practices. Automatic Weather Stations procured and installed at 40 stations spread across 11 regions has scaled up climate proofing of exiting monitoring infrastructure, against incremental risk. Technical staff is capable of installing and operating the AWS, after factory level trainings given at the stations. Meteorological Regional Branch Directorates forecasting capacity improved to use and analyze real time data collated from the AWS forecasting system.

- Good Practice – Build capabilities and resilience against climate shocks: The project had to combat with impacts of El Nino in 2015 and in early 2016 which were related to drought, heavy rains, and flood during low rainfall seasons. Responding to the disasters was a practical experience to showcase the enhanced capacity of the national forecasts and monitoring system being operated by NMA, HWQD and NDRMC Emergency Operation Centre. The national agencies were responsible to coordinate and report early warning and situations at federal level. NMA, HWQD, and NDRMC as member of the National Technical Committee of the Government of Ethiopia shared and presented national level forecast and prediction information advisories for the drought (April to Dec 2015) and flood (April- June 2016).

223. With respect to forestry, site-species matching, appropriate nursery and plantation technologies, and a clear market strategy for goods and services are the key factors for success. Accordingly, careful attention has been paid to selection of the appropriate forestry technologies and practices. Application of site–species–market approach principles (which promote consideration of relevant socio-economic and environmental attributes) will help ensure that the selected species match the site conditions as well as market requirements. Seedlings with high genetic quality (for example, Eucalyptus clone) will also be used. Women's indigenous knowledge of the local biodiversity and their role as custodians of the natural flora will be tapped into when afforestation and selection of species are discussed and considered in a community.

224. A 2011 study by GIZ shows that Ethiopia has significant solar power potential, especially in the western and eastern lowlands, which receive high insolation. To this end, an FAO study published in 2015 recommends that renewable energy options, and, particularly, solar power technologies, as very promising solutions for sustainable agriculture in the country. The Government of Ethiopia is commissioning various pilot projects through the African Development Bank that use solar and wind energy for water pumping in rural areas of Ethiopia, the experience from which will help mainstream these technologies under the Government's Universal Access Programme (UAP).

225. Through a MoWIE water pumps initiative, 300,000 PV-powered water facilities in the regions of Amhara, Oromia, Tigray, and the SNNP have been implemented. The objective of the initiative is for rural localities to be able to receive potable water through facilities powered by renewable energy sources. To this end, the initiative has ensured a more sustained supply of water at lower economic, environmental, and social costs than the fossil fuel-powered water pumping systems that could have been installed under the business-as-usual scenario. PV solar systems have also been installed in more than 120 public-sector health centres and eight community centres through a GIZ initiative, benefiting more than three million people to be able to access modern energy services.

226. Attention has also been given to the best ways of gathering learning and promoting innovation in an integrated manner. The project has drawn on international best and emerging practice in the design and implementation of adaptive learning and up-scaling systems for climate change adaptation. Particular reference has been made to a review of a flagship five-year climate change adaptation programme covering 49 villages in rain-fed regions of rural India, including the monitoring, evaluating, learning and up-scaling practices that supported this programme.[78] This programme was selected as a benchmark for the following reasons: (1) its technological focus was integrative and covered a range of resilience issues (ecological restoration, health and livelihoods) as well as low-carbon community development; (2) learning practices underpinned its design and valuable lessons can be drawn from the experience of the programme in combining learning and M&E tools; and (3) up-scaling was a major focus of the programme, at district, state, and national level. Two key lessons applied in the project design are: (a) the importance of taking an iterative, learning-based approach in the development of local adaptation solutions; and (b) the focus on the design of up- and out-scaling pathways from the outset of the project, again taking an iterative, learning-based approach. These lessons will help ensure the continual application and adaptation of best technologies and practices.

E.6.5. Key efficiency and effectiveness indicators

GCF core indicators

Estimated cost per t CO_2e, defined as total investment cost / expected lifetime emission reductions (mitigation only)

(a) Total project financing	US$ 166.977million
(b) Requested GCF amount	US$ 99.648 million
(c) Expected lifetime emission reductions overtime	22.516 Mt CO_2e
(d) Estimated cost per tCO_2eq (d = a / c)	**US$9.33 million / tCO_2eq**
(e) Estimated GCF cost per tCO_2eqremoved (e = b / c)	**US$4.02 million / tCO_2eq**

Please describe how the indicator values compare to the appropriate benchmarks established in a comparable context.

These figures imply that the GCF is being asked to contribute USD 4.02 million to achieve an emission reduction of 1 ton CO_2 equivalent. It should be borne in mind that these represent co-benefits from a project focused primarily on adaptation. These co-benefits do make critical contributions to the larger goal of achieving systemic change towards low-carbon and climate-resilient development pathways.

Expected volume of finance to be leveraged by the proposed project/programme and because of the Fund's financing, disaggregated by public and private sources (mitigation only)

See section E.1.2.

Other relevant indicators (e.g. estimated cost per co-benefit generated as a result of the project/programme)	A total number of 2.5 million people are expected to benefit from the project, directly or indirectly, considering the various co-benefits. Thus, the

[78] Colvin J,Chaturvedi M, Stantchev Skeie D (2014),*External Review of the WOTR-SDC-NABARD Project: 'Climate Change Adaptation in Rain-Fed regions of Maharashtra, Madhya Pradesh and Andhra Pradesh'.* Delhi.

	estimated cost per beneficiary is USD 65.8(and USD 39.4 for the GCF).

**** The information can be drawn from the project/programme appraisal document.***

F.1. Economic and Financial Analysis

Please provide the narrative and rationale for the detailed economic and financial analysis (including the financial model, taking into consideration the information provided in sectionE.6.3).

The detailed economic analysis and assumptions are presented in Annexes XII (b) and (c).

227. As noted in section E.6.3 an economic analysis was conducted for the proposed project. Appraisal guidelines for public sector projects prepared by MOFEC have been followed (MoFED 2004 and MoFED 2008). Annexes XII (b) shows the conclusions of the economic analysis, together with related assumptions and information.

228. Economic net present value (ENPV) is calculated using a 10% discount rate. The ENPV at a 10% discount rate for the project is USD 69,678,489 and the corresponding economic internal rate of return (EIRR) is 24%. Tests of sensitivity of the ENPV and EIRR show the following:

	NPV (at 10%) in USD	IRR
Increase in investment cost by 10%	64,814,564	17%
Increase in operating cost by 10%	18,273,256	15%
Decrease in total benefits by 10%	10,670,062	13%

229. This sensitivity analysis shows that economic returns are more sensitive to changes in benefits of the project compared with changes in investment costs and operating costs of the project. However, in all cases, the economic internal rate of return is higher than the 10% discount rate used.

230. It should be noted that, as explained in Annex XII (b), there are reasons to believe that net benefits of the project may be underestimated. These include:

- The period considered for the economic analysis is 15 years; the fact that infrastructure such as irrigation canals typically have an expected life of 20 years or more implies that some net benefits that accrue after 15 years are not considered and terminal value is not considered in the analysis.

- Cost estimates for the period after the fifth year of the project are assumed to be the average yearly costs of the project during the first five years (except that only 75% of the average yearly cost of labour contribution of communities for forestry and construction of infrastructure is considered after the fifth year as such labour is needed much less in the period after the fifth year). This is in addition to costs associated with using capital equipment that is included. This is likely to imply overstatement of costs as some of the costs incurred in early years of project implementation (such as capacity building) are not expected to be needed as much as in the first five years.

- There are some benefits not captured in the economic analysis, including the economic value of different ecosystem services provided by forests and natural resource management activities, such as increased groundwater recharge, reduced soil degradation and mitigation of floods on lower catchment livelihoods, and GHG emissions reduction from agriculture and use of solar powered pumps.

Based on the above analysis, please provide economic and financial justification (both qualitative and quantitative) for the concessionality that GCF provides, with a reference to the financial structure proposed in section B.2.

231. The GoE, the farmers and pastoralists are contributing a significant amount of funds for the implementation of the proposed project. However, the degree of reliance on the Fund's support varies across Outputs, the project cannot be accomplished without the Fund's support. Either it will have to be scaled-down or some Activities may have to be removed without the Fund's support. The proposed project is expected to have a high impact when the different Activities are implemented together in the areas identified. Taking these points into account, and noting that Ethiopia is an LDC with very limited resources to devote to climate change adaptation, the concessionality that the GCF provides in reference to the proposed financial structure is justified.

F.2. Technical Evaluation

232. Project preparation has validated this technology package as being economically-viable, environmentally-friendly, socially-viable, and cost-effective for users (in terms of operation and maintenance). The project requires investment in technology at a scale that can deliver a sustainable climate-resilient development pathway in vulnerable communities through a combination of the following technologies, tailored to local circumstances.

- Adoption of new natural resource monitoring technologies for effective planning and management;
- Adoption of new/improved technologies for increased on- and off-farm production;
- Restoring/rehabilitating forest land/ecosystems;
- Promotion of NTFP extraction technology for increased employment opportunities and livelihood diversification;
- Provision of potable water supply through solar-powered schemes for increased gender equity, and social and environmental improvement; and
- Provision of underground and surface water for small-scale PV irrigation schemes to facilitate the shift from rain-fed subsistence agriculture and to increase productivity.

233. These technologies have been assessed to be the most appropriate in view of: (i) the extent of the climate shock and its impact on vulnerable communities in Ethiopia; (ii) the experience gained from similar interventions in the past (see Section E.6.4 for an overview of selected best practices); and (iii) their consequences on ecosystems, current practices (considering in particular the inadequacy of current production techniques) and the economic context (most starkly evident through the deterioration in the living conditions of vulnerable communities). These considerations suggest that the selected technologies are the most relevant ones and, crucially, that is the combination of these that is necessary if effective economic, financial, and technical responses to drought are to result in improved living conditions and increased resilience of communities.

234. At the sectoral level, the project focuses on building the resilience of agriculture, including livestock, forest and water resources. In the agriculture sector, investments in small-scale irrigation schemes can have a transformational impact on climate-vulnerable communities. Initial results show that these irrigation systems have considerable impact in terms of enhancing crop productivity, as well as encouraging adoption of high-value horticultural crops. The effectiveness of micro schemes, which are relatively inexpensive and technically straightforward to implement, has been particularly high. To ensure sustainability of irrigation schemes, management capacity development programmes are embedded both within the user associations and within public support services.

235. Numerous past and present successes in the Ethiopian forest sector demonstrate that investments in forests and accompanying value chains are transformational in building the resilience of vulnerable communities and ecosystems to climate change impacts. Most of the reforestation and sustainable forest management activities have long been implemented across different agro-ecologies of Ethiopia, in the process having undergone rigorous improvement and refinement over the years. Some of these technologies have been introduced from other countries and customized to the local context. Improved technologies from the international community (such as clones produced through tissue culture, commercial nurseries and a modern wood-processing industry) are also critical for enhancing the adaptation potential of vulnerable communities. Given that the country is endowed with an ideal climate for selected forest species and low-cost labour, the chosen technologies/practices in the forest sector (for example, afforestation and reforestation and NTFP technologies) are appropriate technologies/practices for adaptation (and, incidentally, mitigation). Afforestation/reforestation will be achieved through mobilizing local resources, including labour. Promotion of NTFP technologies will also be labour-intensive, thereby creating employment opportunities, especially for women and the youth.

236. The technologies required to deliver safe water and climate-smart water management schemes include Clean Energy Technology (CET), such as photovoltaic solar panels, which has the potential to simultaneously address three key global challenges of energy, poverty, and climate change. CET can help not only in the reduction of GHG emissions but also promote access to energy and link sustainable energy with productive uses, small businesses and job opportunities, especially in rural areas which often are not connected to the national grid.

237. The project's approach of using solar energy-based technology to provide safe water for the community and water for irrigation from the ground or the surface water will replace the current trend of installing diesel-based generators. Diesel generators consume fuel, require frequent maintenance (e.g. lubricants and spare parts) and have a very short expected lifetime. Thus, the solar-driven option has been selected as the most viable in terms of financial and environmental results. The solar water pumping system has been chosen due to reduced maintenance needs compared to the conventional (diesel-based) water pumping system; as no fuel is needed, this also greatly reduces transport costs. In addition, as the targeted communities are dispersed, grid connectivity is not a viable option. Therefore, the solar pumping system is technologically and economically advantageous for the selected sites. The proposed approach is also highly sustainable, as it will continue working for a minimum of 20 years and is economically, socially, and environmentally friendly.

238. Technical evaluation for Irrigation and potable water supply schemes has been attached as Annex VII of the response sheet

F.3. Environmental, Social Assessment, including Gender Considerations

239. As part of the requirements of the GCF, an assessment of, and management for, environmental and social impacts – i.e. an Environmental and Social Management Plan (ESMP) – has been prepared in line with the relevant GCF safeguard policies on social and environmental management, also considering the relevant UNDP and Government of Ethiopia (GoE) policy, legal and institutional frameworks related to environmental and social assessment.

240. The envisaged project has three Outputs, namely: Output 1) - Technologies and infrastructure solutions for resilient livelihoods; Output 2) - Livelihood Diversification and Protection; and Output 3) - Enabling Environment. Each Output comprises a number of Activities, each of these comprising multiple Inputs. The project design assumes that implementation will be supported in an average of eight Kebeles per Woreda. The exact combination of activities to be implemented in each Woreda depends on local circumstances and needs.

241. The **major social benefits** of the project include increased productivity of livelihoods and their capacity to adapt to climate change; provision of employment opportunities to local populations, with a special focus on the needs of local youth and women); provision of direct employment during the construction phase and at operational stage of sub-projects, such as pond construction, access roads to water facilities, and irrigation sub-projects; and indirect employment through aspects such as operation of water facilities and maintenance activities, which will offer greater job opportunities for women and girls over a longer period of time.

242. Water supply systems under this project will ensure that the general public in the targeted areas has 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 production that will increase the income of rural farmers, resulting in enhancing their quality of life.

243. Improved animal husbandry, along with the implementation of safeguard measures, will enhance the productivity of farmers, increasing their income and accruing health benefits from consuming the various products of domestic animals.

244. Increased access to credit facilities, with dedicated credit services for women, will enhance the productive capacity of farmers, while conservation measures will result in increasing water yield of wells and springs, soil fertility improvement, which will contribute to increased production and improved health of communities. Agro-forestry will increase the resilience of farmers due to the availability of multiple crops in their fields.

245. The **environmental benefits** of the planned conservation structures include protection of soil against damage due to excessive runoff, increase in yield of springs and water wells, and avoidance of soil erosion. Better productivity on less tilled land due to improved seeds will also contribute to soil conservation. Conservation

structures are essentially environment-enhancing projects and agro-forestry provides shade to plants, conserves water and protects from soil erosion.

246. The potential adverse impacts identified include:
- Potential risk of import of seeds of alien species along with basic seeds;
- Potential impact resulting from the expropriation of land for conservation and planting activities;
- Potential social impact because of land-use change, such as changing from mono-crop production to agro-forestry;
- Possible farmer resistance due to long gestation periods of fruit trees to accrue benefits;
- Generation of solid waste (hazardous and non-hazardous) and site-level infrastructure construction;
- Competition in water use between domestic and irrigation use;
- Water logging and salinization due to irrigation mal-practice; and
- Impacts of spraying of toxic chemical fertilizers and herbicides.

247. Appropriate mitigation measures with budget estimates are provided in the full ESMP report (see Annex VI). In due consideration that the impacts identified are in general localized to the project implementation site and will be rectified with the implementation of the appropriate mitigation measures, the project is assessed as **Category B**.

F.4. Financial Management and Procurement

248. The financial management and procurement of this project will follow UNDP financial rules and regulations available here: https://info.undp.org/global/documents/frm/Financial-Rules-and-Regulations_E.pdf

249. Further guidance is outlined in the financial resources management section of the UNDP Programme and Operations Policies and Procedures available at https://info.undp.org/global/popp/frm/Pages/introduction.aspx

250. UNDP has comprehensive procurement policies in place as outlined in the 'Contracts and Procurement' section of UNDP's Programme and Operations Policies and Procedures (POPP). The policies outline formal procurement standards and guidelines across each phase of the procurement process, and they apply to all procurements in UNDP. See here: https://info.undp.org/global/popp/cap/Pages/Introduction.aspx

251. The project will be implemented following the National Implementation Modality (NIM) following NIM guidelines available here: https://info.undp.org/global/documents/_layouts/WopiFrame.aspx?sourcedoc=/global/documents/frm/National%20Implementation%20by%20the%20Government%20of%20UNDP%20Projects.docx&action=default&DefaultItemOpen=1

252. UNDP will ascertain the national capacities of the Implementing Partner/Executing Entity by undertaking an evaluation of capacity following the Framework for Cash Transfers to Implementing Partners/Executing Entities (part of the Harmonized Approach to Cash Transfers (HACT) - https://undg.org/wp-content/uploads/2015/02/2014-UNDG-HACT-Framework-English-FINAL.pdf

253. All projects will be audited following the UNDP financial rules and regulations noted above and applicable audit guidelines and policies.

254. The NIM Guidelines are a formal part of UNDP's policies and procedures, as set out in the UNDP Programme and Operations Policies and Procedures (POPP) which are available here: https://info.undp.org/global/popp/Pages/default.aspx. The NIM Guidelines were corporately developed and adopted by UNDP, and are fully compliant with UNDP's procurement and financial management rules and regulations.

255. The national executing entity is MoFEC - also referred to as the national 'Implementing Partner' in UNDP terminology - is required to implement the project in compliance with UNDP rules and regulations, policies and procedures (including the NIM Guidelines). In legal terms, this is ensured through the national Government's signature of the UNDP Standard Basic Assistance Agreement (SBAA), together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. Both documents require compliance. Prior to signature of the project document, all national Implementing Partners need to have undergone a Harmonized Approach to Cash Transfer (HACT) assessment by UNDP to assess capacities to implement the project. During implementation,

UNDP will provide oversight and quality assurance in accordance with its policies and procedures, and any specific requirements in the Accreditation Master Agreement (AMA) and project confirmation to be agreed with the GCF. This may include, but is not limited to, monitoring missions, spot checks, facilitation and participation in project board meetings, quarterly progress and annual implementation reviews, and audits at project level or at Implementing partner level on the resources received from UNDP.

256. The Harmonized Approach to Cash Transfer (HACT) framework consists of four processes: (1) macro assessments; (2) micro assessments; (3) cash transfers and disbursements; and (4) assurance activities. Assurance activities include planning, periodic on-site reviews (spot checks), programmatic monitoring, scheduled audits and special audits. During micro-assessment, there can weaknesses identified for which actions are required to addresses the gaps. When a spot check finds that the gaps are not addressed it will mean that the level of assurance activities will have to remain higher and modalities of engaging with that implementing partner will have to be reviewed if necessary. All details are available here: https://undg.org/wp-content/uploads/2015/02/2014-UNDG-HACT-Framework-English-FINAL.pdf. The HACT Assessment will be competed last week of November 2016.

257. The project will be audited in accordance with UNDP policies and procedures on audits, informed by and together with any specific requirements agreed in the AMA currently being negotiated with the GCF. According to the current audit policies, UNDP will be appointing the auditors. In UNDP scheduled audits are performed during the programme cycle as per UNDP assurance/audit plans, on the basis of the implementing partner's risk rating and UNDP's guidelines. A scheduled audit is used to determine whether the funds transferred to the implementing partner were used for the appropriate purpose and in accordance with the work plan. A scheduled audit can consist of a financial audit or an internal control audit.

258. GCF resources will be provided to the implementing partner, less any agreed cost recovery amount. Under UNDP's national implementation modality, UNDP advances cash funds on a quarterly basis to the implementing partner (executing entity) for the implementation of agreed and approved programme activities, in accordance with UNDP standard policies and the NIM Guidelines. The implementing partner reports back expenditure via a financial report on quarterly basis to UNDP. Any additional requirements will be as in accordance with the AMA as and when it is agreed.

G.1. Risk Assessment Summary

259. *Available research*[79] *shows that effective risk assessment should consider the following:*

- Category 1: Preventable Risks – internal risks that are controllable or avoidable, and that ought to be eliminated or avoided. This risk category is best managed through active prevention: monitoring operational processes, and guiding people's behaviours and decisions toward desired norms;
- Category 2: Strategy Risks, which are different from preventable risks because they are not inherently undesirable. These represent the risks inherent in the project to achieve the transformative results being sought. This category needs a risk-management system designed to reduce the probability that the assumed risks materialize and to improve the ability to manage or contain the risk events should they occur; and
- Category 3: External Risks, arising from events outside the project and beyond its influence or control. Sources of these risks include natural and political disasters and major macroeconomic shifts. Because such risks cannot be prevented from occurring, their management must focus on rapid identification and mitigation of their impact.

260. By applying this approach, the risk assessment has concluded that the proposed project is **medium risk**. This is considered a tolerable risk, given the ambitious nature of the project; low risk would imply an inadequate level of innovation.

261. Eight specific risk factors have been identified, four each from the Preventable and Strategic risk categories[80]. Half of these eight factors are assessed as having high risk, in that their occurrence would have major impact on project results. However, for three of the four preventable risks (which focus on the financial, technical and operational, social and environmental and similar risks that might prevent the project objectives from being achieved), the likelihood of these occurring is assessed to be low (with "Inadequate operational capacity to support the introduction the proposed project approaches" being assessed as medium probability), this largely reflects the range of risk management and mitigation methods in place. Accordingly, with respect to "preventable" factors, the project is assessed to be low risk.

262. By comparison, all strategic risk factors have been assessed as having a medium likelihood of occurrence. This is to be expected, given the ambitious nature of the proposal. Ultimately, the project seeks to achieve sustainable behavioural change. The primary risk is that the project is unable to motivate people, communities, private enterprises, NGOs, and public bodies to participate, contribute, learn, and adapt in the ways that are envisaged. If they do not, then the risk is that new technologies and practices may not be adopted, new market relationships might not be formed, new support infrastructure does not develop, and new rules and regulations are not introduced. Should this happen then some beneficial impact might occur (as communities may achieve some immediate improvement in livelihood circumstances) but changes are unlikely to be sustainable and systemic change will not be achievable. In this regard, the project is assessed to be medium risk, reflecting efforts taken to mitigate the identified risks, including the application of lessons-learned from the considerable body of relevant experience, which among other things demonstrates the critical importance of using fully-participative approaches that help all stakeholders to incrementally adapt solutions based on a common understanding of the challenges encountered.

G.2. Risk Factors and Mitigation Measures

Please describe financial, technical and operational, social and environmental and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures.

Selected Risk Factor 1

Description	Risk category	Level of risk	Probability of risk occurring
Insufficient availability of necessary financial resources	Preventable, financial risk	High	Low

[79] Reference is made in particular to the article 'Managing Risks: a New Framework', by R. S. Kaplan and A. Mikes, published in *Harvard Business Review*, June 2012.

[80] While the assessment includes identification of External Risks, as these are beyond the project's direct control or influence, they have not been addressed in the mitigation measures described in Section G.2.

Mitigation Measure(s)
263. Initial mitigation of risk has been achieved through detailed project design and planning, and related financial forecasting and modelling, including identifying what local stakeholders can contribute and how the GCF can best add value. While the risk that this factor represents to project success is therefore high, the likelihood of its occurrence has been reduced. This reduction has been reinforced through the collaborative planning process that has been adopted, which has built the commitment of the Ethiopian stakeholders to mobilize all feasible resources in support of the project, and, particularly, in relation to operational items. Assurances of stakeholder contributions have been secured, the assessment being that necessary financial resources will be available given the GCF's support and the successful management of the proposed activities. With GCF support targeted towards capital expenditures, this should ensure the sustainability of developed solutions. Detailed monitoring of the utilization of financial resources against plan and projected results is a priority of the project management system, which will further help reduce the risk of inadequate resources being available, or that they are used inappropriately or with sub-optimal effect.

Selected Risk Factor 2

Description	Risk category	Level of risk	Probability of risk occurring
Inability of communities to successfully adopt new technologies	Preventable, technical risk	Medium	Low

Mitigation Measure(s)
264. For livelihood diversification to be feasible, it is essential that communities can successfully adopt the new technologies and associated practices; this factor, therefore, carries a medium level of risk. However, the proposed technologies have been proven (in other programmes in Ethiopia or elsewhere) and their appropriateness has been established. There remains the risk of a reluctance to adopt them (which is part of the strategic risk associated with bringing about systemic change), but this will be addressed through the high levels of support that the project intends to provide during their introduction, including in training that targets women beneficiaries and developing the abilities of new users, and helping them to gain maximum benefit from their utilization. Given the desperate situation that many targeted communities face, the reluctance to try new approaches is expected to be relatively low, the training and development, therefore, represents the key mitigation measure that will be required.

Selected Risk Factor 3

Description	Risk category	Level of risk	Probability of risk occurring
Inadequate operational capacity to support the introduction of the proposed project approaches	Preventable, operational risk	Medium	Medium

Mitigation Measure(s)
265. Ultimately, the project aims to build the resilience and adaptive capacity of men and women in the targeted communities. Nevertheless, it is appreciated that these communities will be heavily dependent on the additional capacity that the project will provide including skills and leadership training for women to address the severe challenges they face and build a sustainable development path. The required operational capacity has been identified through project design and planning, and the various institutions involved have committed to provide the support essential to success. Each of the sectors will be fully represented by the relevant line ministries. The risk of this capacity not being available is considered low, given that all project plans are clearly aligned with the evolving strategies of the relevant line ministries, which in turn are clearly aligned with national priorities. The levels of support required will be continually monitored and adjusted through the project's M&E system. In the unlikely event of capacity gaps arising, these will be addressed through the cross-sectoral project governance system, reflecting the shared responsibility for the success of the project.

Selected Risk Factor 4

Description	Risk category	Level of risk	Probability of risk occurring
The proposed approaches to livelihood diversification are found to be unfeasible	Preventable, operational risk	Medium	Low

Mitigation Measure(s)

266. Providing sustainable diversification paths is unlikely to be easy. The project has addressed this risk through several strategies. The first is the integration of a variety of natural resource management approaches that, introduced in a coherent and adaptive way, have the potential to move people away from traditional methods and to create increasing demand for the new products and services being offered. 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. During project execution, action learning mechanisms will help share information across participating communities so that the best ways of addressing specific implementation challenges can be developed and applied as appropriate.

Selected Risk Factor 5

Description	Risk category	Level of risk	Probability of risk occurring
Communities fail to respond to the dangers brought by climate change	Strategic, social risk	High	Medium

Mitigation Measure(s)

267. At the heart of adaptation lies the need to raise community awareness of their vulnerability to climate change. Without this realization, communities cannot be expected to commit to the livelihood diversification that is required. The severity of the situation in the targeted communities should provide initial impetus for change. This will be reinforced by initiatives designed to raise awareness of, and improve access to, relevant information for the men and women in the targeted communities. At the outset, this will be used to show what options should be considered and to then guide people along the appropriate adaptation routes. Over time, the project will introduce participative mechanisms for review and use early warning and other relevant information to modify plans, in the process empowering communities, women and youth and individuals to continually adapt in the face of changing circumstances. The aim of the project is to complement disaster response efforts, building on any initial recoveries to add sustainable capacity to continually adapt through realistic livelihood diversification strategies. While this is considered to be the optimum response, two factors remain outside the direct influence of the project, namely the extent and impact of the drought, and the resources made available to the disaster response. These have to be taken into consideration when assessing the probability of the risk occurring, assuming that implementation can commence as early as possible in the third or fourth quarters of 2016. If this is not the case, and/or the drought conditions worsen, then it may become more difficult to channel efforts towards longer-term sustainable change rather than short-term survival mechanisms. Similarly, if Ethiopia is unable to attract necessary external assistance for the disaster response, the ability of this project to bring about sustainable change may be compromised. To some extent, this project hopes to strengthen the country's ability to attract the external assistance it urgently requires, by demonstrating a vision for, and commitment to, more transformative change that will reduce the likelihood of the future incidence of such emergencies. At the same time, it recognizes that its influence is indirect and difficult to assure, this remaining a key external risk.

Selected Risk Factor 6

Description	Risk category	Level of risk	Probability of risk occurring
Institutions fail to build the new capacities/adopt the new planning approaches that will be required	Strategic, institutional risk	Medium	Medium

Mitigation Measure(s)

268. While, ultimately, this project intends to build the resilience of the participating communities, it is essential that an institutional framework able to continually support community efforts emerges in parallel. Creation of such sustainable institutional capacity has been beyond other such initiatives for a variety of reasons, including, but not limited to, resistance to change, protection of vested interests in the status quo, gender bias, and the creation of unsustainable cost structures. This risk will be mitigated by applying the lessons learned from the considerable body of relevant experience, which, among other things, demonstrates the critical importance of using fully participative and gender responsive approaches. In this case, it is known that there is a significant demand for change, given the necessary resources and support. By bringing together an array of stakeholders including women's groups in participatory processes, the momentum for change will be increased, and the risk of these becoming challenged will be reduced. By working with existing institutions, and concentrating GCF funds on capital expenditures, the risk of building unsustainable cost structures will be avoided. At the outset, existing organizations (including Government institutions at national, regional and local levels) will assume responsibility for delivery,

while being encouraged and enabled by the project to continually collaborate and seek the integrated solutions needed in the future. It is through this facilitation of the collaboration of existing institutions that the project will manage this risk and contribute to its ultimate success.

Selected Risk Factor 7

Description	Risk category	Level of risk	Probability of risk occurring
Necessary improvements to rules and regulations are not introduced	Strategic, institutional risk	High	Medium

Mitigation Measure(s)

269. Appropriate rules and regulations are vital parts of the enabling environment. The fact that such rules and regulations do not already exist indicate a risk that there is either a lack of understanding of, or a reluctance to introduce, what is required in the context of the development of a climate-resilient economy. Preparatory work indicates that the problem is uncertainty as to what steps should be taken to create an appropriate enabling environment, and a need for support in finding the answers. The project has been designed to deliver such support. Given alignment with national priorities, there is impetus for the introduction of appropriate solutions. Where difficulties are encountered in introducing necessary changes, the cross-sectoral project governance mechanisms will provide a forum in which the nature of obstacles can be determined and political solutions can be engineered.

Selected Risk Factor 8

Description	Risk category	Level of risk	Probability of risk occurring
The project governance mechanisms fail to bring about the necessary collaborative work and/or the new institutional systems for climate-responsive planning and development	Strategic, institutional risk	High	Medium

Mitigation Measure(s)

270. A key element of the project's innovation is the participative planning that will bring about cross-sectoral integration. This innovation implies the need to try new things, which in turn suggests there is a risk these approaches will not work in practice. If this were to prove the case, it would undermine the fundamental aim of the project to bring about and institutionalize new systems for climate-responsive planning and development. This is a risk that has been confronted through the preparatory work, as the sectors have worked together to design the project as well as the collaborative management systems that are to be employed. Again, given the alignment of the project's aims with national priorities, there is a momentum and appetite for the kind of climate-responsive management systems that the CRGE strategy has helped envisage. Again, should difficulties be encountered in introducing necessary changes, the cross-sectoral project governance mechanisms will provide a forum in which the nature of obstacles can be determined and political solutions can be conceived.

Selected Risk Factor 9

Description	Risk category	Level of risk	Probability of risk occurring
Irrigation structures, water schemes and other infrastructures might not be properly and timely maintained or fixed	Technical risk	High	Medium

Mitigation Measure(s)

Communities will be adequately familiarized with irrigation technologies, which will be introduced by the project. Operation and maintenance training manual will be prepared in the local language and training will be given to Farmers Training Centers (FTC) that are established at each Kebele nationwide that give training to Farmers on multi-sectoral activities and demonstration works. Furthermore, women will be involved in decision making regarding appropriate technologies and they will take part as key-members and leaders in water committees formed for the operation and maintenance of their water and irrigation schemes. Farmer Organizations (FO) that have been established to manage water supply systems through the formation of a water committee and that make valuable contribution to planning, improving, upgrading and maintenance of water supply and irrigation schemes, will include women leaders and receive training on operation and maintenance of facilities and financial management. Use of indigenous knowledge and women's contributions to water provision will be an integral part that will be aligned with the organizational and

management aspects of the schemes. Water User Association (WUA) will have equal numbers of men and women to take charge of the implementation process and own the process so the WUA will be responsible for the continuing O&M of the schemes when they have been completed. Periodically, Woreda experts, Development Agents (DAs) and farmers will receive training of trainers so O&M knowledge is inherited and practice sustained after project closure.

Selected Risk Factor 10

Description	Risk category	Level of risk	Probability of risk occurring
The project involves procurement of technologies, goods, equipment and services from domestic and international markets. Hence there might be delays in procurement processes, supply of items, and other malpractices in procurement management	Strategic, Financial risk	High	Medium

Mitigation Measure(s)

The Ministry of Finance and Economic Cooperation (MoFEC) has significant experience with domestic and international procurement and strong relationships with the Federal Public Procurement and Property Administration Agency (PPA), which is responsible for management of international procurement to international standards. Line ministries also have procurement units or directorate, which undertake procurement of goods and services within a defined procurement threshold. To avoid delays in procurement at all levels, procurement planning will be practiced. In addition, the procurement units or directorate in each line ministry will actively engage and assign a procurement focal person. The procurement directorate in MoFEC will actively engage with PPA and the procurement directorate or units of the participating ministries. Procurement capacity building trainings and seminars will be also organized.

Selected Risk Factor 11

Description	Risk category	Level of risk	Probability of risk occurring
The successful implementation of the project seeks engagement of various stakeholders and actors at federal, regional, Woreda, and Kebele level. Lack of strong coordination arrangement will hamper the success of the project	Strategic, institutional risk	Medium	Low

Mitigation Measure(s)

MoFEC is the implementing partner of this project. It has rich experience of coordinating various national flagship programs and projects. The CRGE Facility, under MOFEC will be responsible for the overall coordination of the project. The Facility secretariat, in addition to its existing staff, will hire relevant experts (preferably a gender trainer/expert) who will coordinate the project. The CRGE Facility Management Committee (which is comprised of State Ministers from the four project delivery ministries) will also serve as Steering Committee of this project. MOFEC will ensure that the four line ministries (MOANR, MOWIE, MOLF, and MEFCC) will establish Project Coordination Unit (PCU), which will be responsible for the overall coordination and leadership of sector-specific activities. The line ministries in turn will ensure the establishment of similar coordination arrangement at regional and district level. Bureau of Finance and Economic Development (BOFED) and Office of Finance and Economic Development (WOFED) will respectively play the overall coordination of the project at regional and Woreda levels. In this connection, adequate budget is allocated for recruitment of project staff at federal, regional, and Woreda levels including gender experts.

Other Potential Risks in the Horizon

271. The likely emerging risks have been addressed through the risk analysis. Methodologically, the key to effective risk management will be the high degree of stakeholder participation that ensures the project can learn and adapt to circumstance as implementation progresses.

** Please expand this sub-section when needed to address all potential material and relevant risks.*

Please specify the logic framework in accordance with the GCF's Performance Measurement Framework under the Results Management Framework.

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level

Paradigm shift objectives	
Choose appropriate expected result	Degree to which the Fund contributes to climate-resilient sustainable development

Expected Result	**Indicator**	**Means of Verification (MoV)**	**Baseline**	**Target**		**Assumptions**
				Mid-term (if applicable)	Final	
Fund-level impacts						
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	Number of males and females benefiting from the adoption diversified, climate-resilient livelihood options including agriculture, water, climate information, access to market and credit. 50% increase in income.	Monitoring and evaluation reports, Survey report	261,049 persons M= 135,111 F= 125,938	465,941 direct male and female beneficiaries (M= 238,955 F= 226,986) demonstrating improvements in both adaptive capacity & livelihood productivity	773,281 direct male and female beneficiaries (M= 394,722 & F= 378,559), demonstrating improvements in both adaptive capacity & livelihood productivity	The livelihood and climate information services are fully maintained or sustained at grassroots levels. Smooth handover of project deliverables and materials to the communities and regions ensured to sustain achieved changes and manage the overall project risks.
A2.0 Increased resilience of health and well-being, and food and water security	Number of food-secure households (in areas/periods at risk of climate change impacts)	Household consumption-expenditure survey	52,210 hhs (male headed= 36,156 Female	93,188 (households, (Male headed= 65,915 & Female headed= 27,273)	154,656 hhs (Male headed= 110,554 & Female headed= 44,102)	The livelihood and climate information system and services

Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (if applicable)	Final	
			headed 16,054			fully sustains at grassroots levels Smooth handover of project deliverables and materials to the communities and regions ensured to sustain achieved changes and manage the overall project risks.
	Number of males and females with year-round access to reliable and safe water supply despite climate shocks and stresses	Household surveys; Monitoring and evaluation reports	40,211 households (male headed= 28,745 & Female headed = 11,466	85,989 households (male headed= 61,248 & Female headed = 24,741	154,656 households (male headed= 110,001 & Female headed = 44,655	
A4.0 Improved resilience of ecosystems and ecosystem services	Coverage of degraded forest lands rehabilitated in response to climate variability and change	Periodic surveys, terminal evaluation report	203, 946 ha degraded forest land	40,000 ha of degraded forest land rehabilitated	110,000 ha of degraded forest land rehabilitated	Regional and community level ecosystem management systems are enforced and sustained
	Coverage of degraded lands managed and protected in response to climate variability and change	Periodic surveys, terminal evaluation report	260, 343 ha of degraded land	42,000 ha of degraded land protected & managed	60,000 ha of degraded land protected & managed	
	Project Outcomes that contribute to Fund-level impacts					
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	Annual plans, Project periodic reports, Monitoring and Evaluation reports	0	80 Kebeles, 10 Woredas, 9 regional bureaus practice integrated and participatory planning, implementation and M&E in a coordinated manner.	176 Kebeles, 22 Woredas, 9 regional bureaus and 5 sectors practice integrated and participatory planning, implementation and M&E in a coordinated manner.	Government enforces integrated approaches to project implementation. This covers both the vertical institutional integration and horizontal sectoral synergies of project planning and implementation. There is also a systemic platform that readily

						avails climate information at all levels.
	Number and level of effective coordination mechanisms and synergy at the national and regional levels, including between and among relevant sector ministries	Annual plans, Project periodic reports, Monitoring and Evaluation reports	0	80 Kebeles, 10 Woredas, 9 regional bureaus practice integrated and participatory planning, implementation and M&E in a coordinated manner.	176 Kebeles, 22 Woredas, 9 regional bureaus and 5 sectors practice integrated and participatory planning, implementation and M&E in a coordinated manner.	Government enforces integrated approaches to project implementation. This covers both the vertical institutional integration and horizontal sectoral synergies of project planning and implementation. There is also a systemic platform that readily avails climate information at all levels.
A6.0 Increased generation and use of climate information in decision-making	Use of climate information products/services in decision-making in climate-sensitive sectors	Household survey, Monitoring and evaluation reports	61,604 hhs in 10 Woredas with AWS access in the project area	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	There is a functional system that generates climate information. Decision-makers are aware of, and have the capacity to use, climate information for decision-making.
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools, instruments, strategies and activities to respond to climate change and variability -	Household survey, monitoring and evaluation reports	0	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	There is an improved practice of using the technology and information provided. Vulnerable people have improved access and capacity to use climate information and technology

	Number of males and females reached by climate-related early warning systems and other risk-reduction measures established/ strengthened	Household surveys; monitoring and evaluation reports	0	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	154,656 households are direct beneficiaries (Male headed= 110,554 & Female headed= 44,102) and a total of 345,403 indirect hhs	EWS is functional. Mobile network is available in the Woredas. Vulnerable people have improved access and capacity to use climate information and technology
A8.0 Strengthened awareness of climate threats and risk-reduction processes and regulatory systems for climate-responsive planning and development	Number of males and females made aware of climate threats and related appropriate responses	Monitoring and evaluation reports	0	394,722 men & 378, 559 women direct & 870,715 men & 856, 301 women indirect beneficiaries in the project Woredas	394,722 men & 378, 559 women direct & 870,715 men & 856, 301 women indirect beneficiaries in the project Woredas	The community is willing to make use of climate information provided
MCrC2 *Number of technologies and innovative solutions (including gender – friendly technologies and solutions) transferred or licensed to support low-emission development*	Number of males and females using innovative technologies that support low-emission development	Household surveys; monitoring and evaluation reports	0	465,941 direct male and female beneficiaries (M= 238,955 F= 226,986) will be beneficiaries of technologies such as Solar PV and innovative solutions such as Climate Smart Agriculture that support low-emission development	773,281 direct male and female beneficiaries (M= 394,722 & F= 378,559), will be beneficiaries of technologies such as Solar PV and innovative solutions such as Climate Smart Agriculture that support low-emission development	There are no other initiatives that will be implemented in the targeted Woreda's which support low-emission development.
ACrC1 *Number of technologies (including gender – friendly technologies) and innovative solutions*	Number of males and females using innovative technologies that promote climate resilience	Household surveys; monitoring and evaluation reports	0	465,941 direct male and female beneficiaries (M= 238,955 F= 226,986) will be beneficiaries of technologies	773,281 direct male and female beneficiaries (M= 394,722 & F= 378,559) will be beneficiaries of technologies	This project will complement other resilient building initiatives being implemented in the surrounding Woreda's.

transferred or licensed to promote climate resilience				such as drought resistant crop varieties, improved, animal breeds, and innovative solutions such as Climate Smart Agriculture which includes amongst others small scale irrigation, effective water resource use and management and agro-forestry systems	such as drought resistant crop varieties, improved, animal breeds, and innovative solutions such as Climate Smart Agriculture which includes amongst others small scale irrigation, effective water resource use and management and agro-forestry systems	
Project/programme outputs	**Outputs that contribute to outcomes**					
Output 1: **Technologies and infrastructure solutions for resilient livelihoods**[81]	Number of households (male & female headed) benefiting from improved technologies for on and off farm production; Number of households (male & female headed) benefiting from improved management of degraded lands for improved resilience	Field survey reports; progress reports	0	85,989 HHs (Male headed= 61,248 & Female headed = 24,741) benefiting from improved technologies for on and off farm production 20,613 HHs of which 30% are female headed households benefiting from improved	154,656 HHs (Male headed= 110,001 & Female headed = 44,655) benefiting from improved technologies for on and off farm production 26,676 HHs of which 30% are female headed households benefiting from	The community will be willing to shift to Climate Smart Agricultural practices using the improved technologies and also contribute to the development of the scheme. By-laws will be respected in the equitable distribution of the water resources. MFIs are willing to avail credit line to the community and communities are willing to pay for improved

[81] Description of each Output (1 to 3) is found in section C, Detailed Project/Program Description

				management of degraded lands for improved resilience	improved management of degraded lands for improved resilience	technologies for on and off farm production.
Output 2: **Livelihood Diversification and Protection**	Number of men and women benefited from improved access to market information particularly women to market Number of households receiving EW information and real-time weather service	Progress reports; beneficiary lists, field survey reports,	73 116,000	11,000 of which 30% are female benefiting from improved access of information to market 140,000 of which 30% are female headed receiving EW information	11,000 of which 30% are female benefiting from improved access of information to market 140,000 of which 30% are female headed receiving EW information	Stakeholders such as Woreda Small and Medium Enterprise (MSE) office provides the necessary technical support; beneficiaries are willing to become members of the micro and small enterprises; there is a market for processed bamboo products. Most households will have access to media including (mobile network, radio or print media)
Output 3: **Enabling Environment**	Number of Woredas that have institutionalized the guidelines and manuals that strengthen the systems and practices for climate responsive planning and budgeting Number of experts/community members with knowledge and skills on: *MRV system, EWS; operations and maintenance; irrigation agronomy, pre- & post-agricultural practices*	Project progress report with the Woreda Offices	0 10,212	17 Woredas 26,044 out of which 40% are females	22 Woredas 47,208 out of which 40% are females	The regions and/or Woredas have necessary capacity to integrate the guidelines and manuals developed; The Woredas and community leaders assign the right persons for the capacity building trainings
Output 1	**Technologies and infrastructure solutions for resilient livelihoods**					
Activity	**Description**		**Input**		**Description**	
Activity 1.1	***Improved technologies for on-farm production for climate risk management***					

Drought-tolerant crop varieties seed system and improved agronomic practices provided	This Activity specifically intends to address the needs of smallholder farmers (e.g. low level of technology and productivity) by bringing together proven technologies and enabling farmers to access a package of interventions in crop agriculture. In particular, this Activity focuses on introducing drought tolerant crop varieties and associated agronomic practices.	• Develop sustainable supplies of basic seeds • Support the introduction of necessary seed systems • Enhance linkages with a credit facility to purchase and disseminate seedlings to households;	These inputs will enhance productivity and build farmers' resilience to climate change effects. They finance the provision of drought-tolerant basic seeds through farmers' cooperatives. Farmers will access credit facility to procure the seeds and associated agronomic practices.
Farmland treated and homestead developed	This activity aims at enhancing smallholder farmers' access to technologies on farmland treatment and homestead development. The activity includes building physical and biological conservation structures. It will introduce post-planning management and homestead multi-story agro-forestry and soil conservation measures.	• Build physical conservation structures • Build biological conservation structures • Treat gullies; • Introduce post-planting management • Introduce homestead multi-storey agro-forestry and soil conservation measures;	The input will support the development of Physical moisture and soil conservation and, biological conservation measures in 14470 and 11180 ha respectively; conduct farmland gully treatment in 4470 ha and introduce homestead multi-storey agro-forestry and soil conservation measures in 500 ha.
Pre- and post-harvest technologies strengthened	This activity has the objectives of enhancing farmers' income by strengthening pre-and post-harvest technologies in the target Woredas.	• Demonstration of post-harvest technologies • Demonstration of best soil and water harvesting techniques • Demonstration of different small- and medium-scale tractors, threshers, harvesters, silos, cultivators, decorticators and others.	These inputs intend to promote pre and post-harvest technologies to augment small farmers' income. Procurement and demonstration of different small and medium scale tractors, threshers, harvesters, Silos, cultivators, decorticators and others will be effected.
Activity– 1.2	***Management of degraded lands for improved resilience***		

Communal lands treated and developed	This Activity intends to address the severe environmental degradation that has been a critical factor underlying the declining land productivity. This activity therefore will focus on rehabilitating degraded lands and the creation of sustainable land management systems. Specifically, this sub activity envisaged, treatment and development of communal lands (e.g. physical and biological soil and water conservation, improved rangeland management, and feed conservation management systems).	• Perform physical and biological soil and water conservation (SWC) measures • Improve rangeland management within pastoral watersheds • Establish nurseries; • Purchase drought-resilient seeds and establish seedling production and/or tree and grass seedlings • Establish community-based systems for grazing land and establish efficient feed conservation management systems, practicing stall feeding for farmers	These inputs have the objectives of addressing environmental degradation through implementing physical and biological SWC measures on 6000 ha.; undertaking upper watershed gully treatment on 3750 ha, conducting range land management in pastoral watersheds on 5000 ha; establishing or upgrading 22 nurseries; and purchasing of 27500 quintals of seeds.
Degraded forestlands rehabilitated	To address the severe environmental degradation this activity focused on rehabilitation of degraded forest lands (through afforestation/reforestation, area closure, and construction of check dams).	• Procure seeds that will be used for afforestation/reforestation purposes • Support afforestation/reforestation of degraded forest land • Construct soil bunds and develop appropriate maintenance systems • Purchase and construct gabion check dams • Enable area closure of severely degraded land through enrichment planting • Collect biophysical baseline data	The inputs will invest in rehabilitating degraded forestlands. The support includes among others procurement of seeds, carry out seedling production/Tree and grass seedling planting/direct sowing with grass and tree seeds and conduct area closures for enhanced natural regeneration to improve natural resources management; introducing area closures of 1650 ha to enhance natural regeneration, and collection of biophysical baseline data on 750000 ha.
Forest plantations expanded	This Activity intends to address the severe environmental degradation, through expansion of forest plantations (e.g. fuel wood and construction material plantations, development	• Develop fuel wood and construction material plantations • Develop industrial plantations • Establish multiplication centers	These inputs benefit targeted communities from improved management of degraded land making it important to the long-

	of industrial plantations, and establishment of multiplication centers).	• Rehabilitate and restock bamboo land	term sustainability of the project. This will be realized through the introduction and enhancement of existing agroforestry, developing fuel wood; construction materials and industrial plantations.
Activity–1.3	***Improved technologies for off-farm production***		
Livestock feed supplied	Given the declining size of farmland due to population growth coupled with low productivity, off-farm activities are an important element of livelihoods in rural settings. In connection with this, this activity in particular supports farmers through promoting forage supplies and introducing efficient feed conservation and management, improved forage seed supply.	• Introduce/promote efficient feed conservation management (storage, silage, hay-making) • Improve capacity for credit access to purchase and disseminate forage seed supply;	The inputs targeting the enhancement of off-farm activities productivity. These will encompass the introduction of efficient feed conservation management by skilled and unskilled laborers. It will also supply materials such as molasses, plastic bags, etc for efficient feed conservation management.

Selected breeds supplied to smallholder farmers	This Activity aims to promote livelihood diversification of small farmers through development of increased off-farm activities (largely non-farm employment and livestock activities). To this end, this activity will facilitate farmers to access credit to procure improved breeds.	▪ Improve ability to access credit to purchase and disseminate dairy and locally-bred bulls for meat production and heifers to smallholder farmers ▪ Improve ability to access credit to purchase and disseminate sheep and goats to smallholder farmers ▪ Improve ability to access credit to purchase livestock ▪ Purchase and disseminate synchronization hormone through credit facility ▪ Introduce and strengthen improved varieties of sheep and goats; support dissemination of imported sheep and goat breeds	These inputs help smallholder farmers to access credit to purchase and disseminate improved varieties of dairy and locally bred-bulls, sheep; goats. It will provide imported sheep and goat to 2000 HHs.
Poultry production increased	Off-farm employment is expected to enhance the resilience of rural communities through income diversification. In expanding off-farm employment this activity deals with the promotion of poultry production (e.g. small chicken-egg hatchery promotion and dissemination of hatchery units).	• Promote small chicken-egg hatchery • Support purchase and dissemination of egg hatchery units	This input will promote off farm employment and reduce small farmers' vulnerability. Targeted communities will be supported by the provision of small chicken-egg hatchery and hatchery units.

Apiculture promoted	This activity intends to increase off farm income of targeted population through enhancing and promotion of apiculture.	• Support purchase and dissemination of modern beehives and farm modern beehives • Improve ability to access credit to purchase veil, glove, smoker, boots, brush, chisel, sprayer etc. for bee-keepers and Development Agents (DAs) and experts • Improve ability to access credit to purchase and distribute seeds of bee flora • Support purchase and dissemination of seeds of bee flora	This input supports the procurement and dissemination of modern beehives and 1200 Kgs of seed of bee flora.
Activity–1.4	***Improved water supply for potable use and small-scale irrigation***		
Groundwater is developed using PV-powered pumping systems	This Activity is designed to minimize the adverse impacts of climate-induced rainfall variability on the production and productivity of smallholder agriculture. This activity also intends to augment the supply of potable water through access to groundwater using solar-powered pumping systems, which will involve organizing water well drilling, construction of shallow water wells, and installing PV-powered submersible and surface pumps in the target communities	• Prepare detailed design and tender document; • Organize water well drilling, construction, supervision and commissioning of shallow wells (100-150 meters depth with 6-8 inch PVC casing) • Geophysical and hydro geological surveys • Water well drilling, construction and supervision (shallow wells) • Install submersible and surface PV pumps	The inputs are largely investments in rural water supply schemes, and substituting design generation in water pumping. Specifically, the inputs will finance the preparation and design of tender documents for consultants and contractors, conduct 396 geological and hydrological studies; construct of 396 water wells; procurement of complete set of solar powered submersible and surface water pump systems including all electro-mechanical works.

Construction of small-scale irrigation (SSI) and associated water-retaining structures	This Activity envisage a combination of interventions including development of small-scale irrigation, upgrading traditional irrigation schemes, construction of diversion weirs, and development of pipe-supported irrigation schemes in the target communities.	• Provide water harvesting structures • Construct community ponds and hand-dug wells to irrigate farmland • Develop springs to irrigate farmland • Develop and expand small-scale irrigation technologies to irrigate farmland, including traditional irrigation	These inputs will address the development and upgrading of 1100 traditional irrigation schemes, construction of 1100 diversion weirs for irrigation, installation of 550 pipe supported irrigation schemes, support 22 community pond construction activities; finance development of 990 springs for irrigation, and development of 1632 scale irrigation canals.
Output 2	**Livelihood Diversification and Protection**		
Activity - 2.1	***Market systems***		
Small businesses promoted	This Activity intends to link smallholder farmers to markets by promoting market-oriented production and improving access to market information, thereby supporting the development of rural enterprises and the creation of sustainable jobs. Development activities will address market deficiencies by promoting linkages among producers and processors. In particular, this Activity will support sustainable industries with the potential to be competitive in regional and national markets that meet the economic, environmental, social and cultural needs of rural communities.	• Establish public-private partnership (PPP) production and distribution centers for day-old and three week-old chick businesses; • Purchase and adopt lowland fruits and seedlings of fruit tree;	These inputs intend to increase resilience and enhanced livelihoods of the most vulnerable. The plan is supporting communities through the promotion of 220 chicken- egg hatchery, provide poultry value chain technical support to all regions; purchase and adopt 24,000 low land fruits.
Activity - 2.2	***Creation of integrated and decentralized hydrological and climate information system***		

Meteorological infrastructure and information systems installed and functional to generate real-time weather observation data and hydro-meteorological products	The project intends to establish integrated and decentralized hydrological and climate information systems to enhance disaster risk management capacity. Specifically, this Activity will support farmers by providing timely climate-related information, which is vital in agricultural systems that are almost wholly rain-fed.	• Procurement and installation of meteorological infrastructure (Automated Weather Stations, AWS) at Woreda level and workstations at regional level) • Establish weather information network system • Establish and implement agro-meteorological stakeholder platforms at Woreda level	These inputs are expected to increase generation and use of climate information in decision making. The purpose is to support the procurement and installation of meteorological infrastructure at woreda level, the establishment of weather information network system to 20 selected farmers, establish and implement agro-meteorological stakeholder platform at Woreda level.
Water Resource Monitoring instruments installed and used for groundwater monitoring	This activity helps to install water resource monitoring devices within the targeted Woredas to provide meaningful data to inform decision-making at all levels. This will be done through, among other things, the installation of rainfall monitoring systems, establishing weather information networks and agro-meteorological information platforms in the target Woredas.	• Procure and supply of equipment for ICT-based solutions, including through the procurement of GPS and digital cameras • Procure (supply and install) groundwater monitoring and water quality detection instruments • Supply non-vented water well monitoring devices to monitor groundwater usage and quality	These inputs will provide GPS (1 per woreda) Garmin, model MAP 64, Non vented water well monitoring device - install mini troll divers, two per woreda and Configure and install 44 non vented water well monitoring device.

Early warning system (EWS) and weather service enhanced	This systemic-level activity will focus on improving disaster risk management by improving early warning systems so that farmers are better able to assess the implications, scale, and severity of climate shocks by providing weather information that can help farmers account for climate and rainfall variation (something that is vital in agricultural systems that are almost wholly dependent on rain-fed irrigation).	• Establish EWS and provide weather service using Woreda-net; • Develop EWS-Alert and other products and communication channels • Develop Woreda-level contingency planning and funding window • Promote and operationalize Local-Level Funding Window (LLFW)	These inputs will help in generating EWS information and preparing WDRP in 22 Woredas by government staff; assess the Woreda net in all targeted Woredas, supported by federal and Regional ITCs (EWS); Establish EWS connectivity using the Woreda net, by ITC; procurement of equipment and machinery; explore options for EWS dissemination (options (mobile phone, local radio, etc.), supported by consultants (EWS); and promoting learning and documentation of lessons, developing a mechanism for scaling-up in the future, supported by consultant (EWS).
Activity - 2.3	***Improved timber and non-timber technologies***		
NTFP technologies improved	This Activity will increase forest and tree cover, which in turn will enhance the resilience of ecosystems in the face of climate change. Key interventions include, among others, establishing nursery centers and woodlots, and promoting NTFPs. Provision of NTFP technologies will be labour-intensive and hence job-creating. Other complementary interventions will include promotion of small-scale enterprises and Woreda-based rural enterprises, establishing	• Establish nursery centers • Establish woodlot and feed lot per household • Promote NTFP extraction technology • Organize youth groups in each Woreda	These inputs support 22 nursery construction; provision of appropriate gum and resin tapping tools and collection of gum and resin, provide 5 training on appropriate management and harvesting techniques (i.e., taping height, position, size, season, frequency and others); organize 50 youth/ Woreda/ year on

	grandparent farms, and adoption of lowland fruits.		collection of seed from woodlands; 5 youth group/ Woreda/ year on seed collection and 5 group/district/year on mushroom cultivation group.
Output 3	**Enabling Environment**		
Activity – 3.1	***Strengthened systems and practices for climate responsive planning and budgeting***		
Woreda-based climate responsive integrated planning and budgeting system established/strengthened	This Activity aims to address institutional deficiencies relating to climate-informed planning and budgeting through establishing and/or strengthening Woreda-based integrated planning and budgeting systems (e.g. institutionalize guidelines and manuals).	• Prepare and institutionalize guidelines and manuals in the project Woredas	The inputs are allocated to strengthen awareness of climate threatens and risk-reduction processes and regulatory systems for climate responsive planning and development. The plan includes strengthening forest governance at various level through developing organograms that fit in to regional conditions and demands; establish and operationalize project management system through developing a project operational structure and implementation manual and develop a project specific M&E template.
Support provided for effective rolling-out of MRV practices	This activity also supports the introduction and effective roll-out of MRV practices through developing and mainstreaming manuals.	• Mainstream MRV manual in the project Woredas • Develop and disseminate a knowledge product on MRV	These inputs support mainstreaming MRV through developing manual at all levels

			and conducting continuous M&E activities.
Activity – 3.2	***Improved institutional capacity***		
Strengthen institutional infrastructural capacity	This Activity addresses the means of implementation of other interventions proposed in this project in the target Woredas and is central to the sustainability of the project. This Activity will enhance institutional infrastructural capacity (e.g. establishing ICT facilities, improving Woreda-level centers, developing project operation manuals and M&E, and establishing cooperatives and community-based by-laws.	• Procure and distribute office and ICT equipment and tools • Strengthen Woreda-level centers (e.g. construct seed centers at Woreda level; improve Farmer Training Centers) • Establish/strengthen community-based organizations and systems • Facilitate access of the communities to existing MFI/credit facilities • Establish cooperatives • Develop a project operational structure and implementation manual, and develop a project-specific M&E template • Provide institutional backstopping	These inputs support forest sector capacity need assessment in 22 Woredas; provision of equipment and materials for the forest sector in targeted Woredas; enhance capacities of forestry training institutions in providing skill training; and improve Farmers' Training Centers (FTCs) to demonstrate and train farmers on climate proof measures.
Human resource capacity strengthened	This activity will enhance implementation capacity of the project through developing and strengthening human capability (through tailor-made training, and linking communities with higher institutions/research and TVT training centers.	• Provide tailor-made training at all levels; • Establish and strengthen the links between Kebeles to at least one nearby University / Research institution/TVET/ training center	These inputs support the provision of trainings for Federal regional, Zonal and Woreda experts on irrigation agronomy; conduct capacity building and training for DAs on beekeeping, irrigation agronomy, agricultural machineries and poultry production.

			The inputs will also support to strengthen the links between Kebeles to at least one nearby University / Research institution /TVET/ training center.
Learning and communication systems established	This activity will establish learning and communication systems through workshops, experience sharing and development of a database management system.	• Organize workshops, events and awareness-creation forums • Synthesize, prepare and disseminate communication and knowledge materials • Share in-country experiences • Develop one central database management system to capture all relevant data • Establish and operationalize the project management team	These inputs invest in awareness building, exchange visits, and knowledge generation and sharing to promote targeted communities resilience. Inputs finance awareness creation on closure and improvements of community grazing land; scaling-up good practices/knowledge on forest management; experience sharing on climate smart villages and demonstrations; document lessons and develop mechanism for scaling-up and ensuring sustainability, organizing a field day; conduct demonstration of post-harvest technologies, and exposure visit for different stakeholders. These inputs also address the issue of establishing Project Management System (PMS) to ensure the engagement of National, Regional, Woreda and Kebele-level actors, plus communities and other relevant stakeholders, to effectively and efficiently implement the project.

H.2. Arrangements for Monitoring, Reporting and Evaluation

272. Monitoring and evaluation (M&E) of climate change adaptation faces a number of challenges[82]. The scientific and social assumptions are difficult to predict and bound to change, whether relating to temperature and rainfall variability, population demographics or economic growth trajectories. It is very difficult to attribute changes to a given project due to the range of interconnected factors required for change. There is increasing evidence that behavioural and cognitive factors – which are difficult to measure using traditional M&E approaches – are key for climate adaptation. And there can be a significant time-lags between interventions and future impacts, also with a high probability of negative outcomes resulting from uncertainty. These challenges have been considered in designing the project's M&E methodology.

273. The monitoring and reporting system of the proposed project will be gender sensitive and will follow guidance from the GCF and comply with UNDP and GCF M&E policy, ensuring that the project maintains a simple and interactive monitoring system allowing for regular reporting and learning at all levels. It is expected that it will be based on the following core activities:

274. Activity Recording/Process Documentation: Progress monitoring will provide evidence on accomplishment of the core activities planned under each Output and Activity, which will be scrutinized by assigning milestones and implementation timelines. This will help the strategic and operational managers to identify which activities are ahead, behind or on schedule. The Executing Entity and Responsible Parties will be responsible for ensuring routine monitoring on the use of inputs (including finances) and implementation of activities.

275. Quarterly Progress Report: The Responsible Parties will submit aggregated quarterly physical progress reports to the CRGE Facility, which will coordinate the overall implementation and delivery of the project under the oversight of UNDP. The CRGE Facility will aggregate and submit a consolidated report (both financial and physical) to UNDP. 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.

276. Annual Institutional Learning Events: Responsible Parties will undertake an annual 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 participating entities (including regional entities, as relevant).

277. Annual Performance Assessment: The Responsible Parties will submit an annual Performance Assessment Report (PAR) on the project Outputs. The PARs inform two monitoring activities at the project coordination level – annual monitoring missions and annual reviews/reports – and will leverage the lessons and insights from responses to the M&E. The reporting process is similar to that for quarterly reports. Responsible Parties will aggregate component reports before submission to their respective Project Coordination Units, which will then submit to the CRGE Facility – and, from there, to UNDP. PARs capture Activity, Output and Outcome-level information. The report combines national and GCF reporting requirements, which include but are not limited to, reporting on:

- Progress made towards project Objective and project Outcomes – each with indicators, baseline data and end-of-project targets (cumulative);
- Project Outputs delivered per project Outcome (annual);
- Financial reports;
- Lesson learned/good practice; and
- Annual Work Plan (for the following year).

278. Joint 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 organized by the CRGE Facility or line ministries, to be undertaken annually, and involve the Responsible Parties and other development partners.

[82] Bours, D, McGinn, C & Pringle, P (2014a) *Guidance Note 1: Twelve Reasons why climate change adaptation M&E is challenging.* SEA Change CoP and UKCIP.

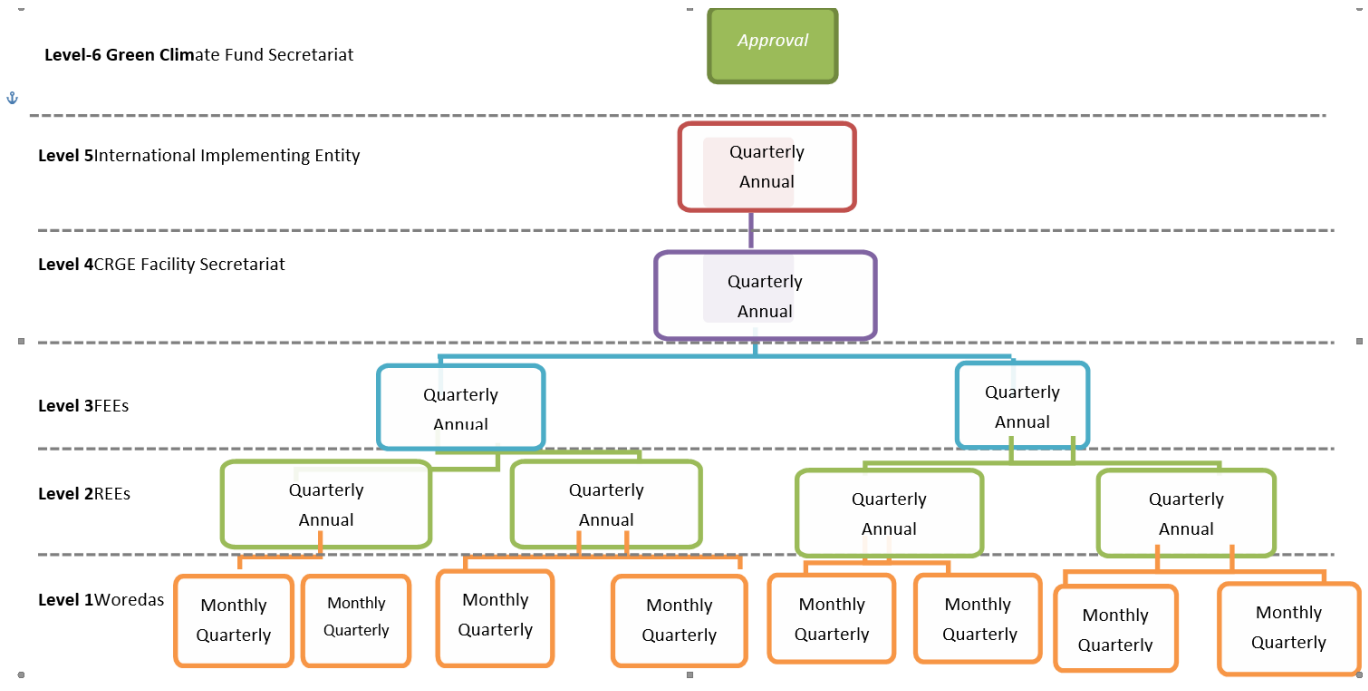
279. Ad-hoc Quality Assurance Missions: These will be co-organized by the relevant ministry and the CRGE Facility for the purpose of validating M&E information during site visits. A key part of these missions is to hold reflection meetings at regional and Woreda levels. Observations, decisions and action points arising from the mission will be distributed to participants.

280. Mid-term Review and Terminal Evaluation: Half-way through the project lifetime and during the final three months, an independent mid-term review /terminal evaluation will be organized. Both reports will summarize the results achieved (Objectives, Outcomes, Outputs), lessons learned, problems met and areas where results may not have been achieved. Output-level evaluation will be based on assessing results against the baseline. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results. Evaluations will be implemented in line with UNDP standards. The review/evaluation will be guided by best-practice approaches to evaluation of climate change interventions[83]. At mid-term, there should be an emphasis upon project or process review, with learning-oriented enquiry; the terminal evaluation will be more focused upon success in delivering outcomes and the impact on climate change adaptation in Ethiopia.

281. 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. UNDP and the CRGE Facility, in collaboration with the entities involved in the project, will identify and participate, 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, UNDP and the CRGE Facility, in collaboration with the entities involved in the project, will identify, analyze and share lessons-learned that might be beneficial in the design and implementation of similar future projects. A two-way flow of information will be maintained between this project and others of a similar focus.

The reporting path of the project is depicted as below (see Figure 16), with a description in the box underneath.

Figure 16: Project Reporting Path



Description of the reporting path:

- **Level-1:** Woredas report on monthly, quarterly and annual basis to regional sector bureaus.
- **Level-2:** Regional sector bureaus consolidate the quarterly and annual physical reports received from Woredas into one report and submit this to the respective federal ministry.

[83] Colvin J, Williams A, Ebi K &Patwardhan A (eds) (2016), *Monitoring, Evaluation and Learning for Climate Change Adaptation at the National Level.* Washington: STAP/Provia, in press.

- **Level-3:** Federal ministries aggregate the physical reports received from regional sector bureaus into one report and submit to the CRGE Facility.
- **Level-4:** The CRGE Facility presents the report to the Ministerial Steering Committee for discussion and approval.
- **Level-5:** After obtaining endorsement and approval of the Ministerial Steering Committee, the CRGE Facility will send the report to UNDP.
- **Level-6:** UNDP will then report to the GCF secretariat in accordance with the established arrangements.

I. Supporting Documents for Funding Proposal

- ☒ NDA No-objection Letter (Annex I)
- ☒ Feasibility Study (Annex II)
- ☐ Integrated Financial Model that provides sensitivity analysis of critical elements (Annex III)
- ☒ Confirmation letter or letter of commitment for co-financing commitment (Annex IV)
- ☐ Project Confirmation/Term Sheet (Annex V)
- ☒ Environmental and Social Impact Assessment (ESIA) or Environmental and Social Management Plan (Annex VI)
- ☒ Appraisal Report or Due Diligence Report with recommendations (Annex VII)
- ☐ Evaluation Report of the baseline project (Annex VIII)
- ☒ Map indicating the location of the project/programme (Annex IX)
- ☒ Timetable of project/programme implementation (Annex X)
- ☒ Project confirmation (Annex XI)
- ☒ Economic analysis (Annex XII)
- ☒ Additional background details (Annex XIII)
- ☒ Additional Supporting Documents (Annex XIV)

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

No-objection letter issued by the national designated authority

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The Federal Democratic Republic of Ethiopia
Ministry of Environment, Forest and Climate Change

ቀን 13/05/16
Date
ቁጥር 13/12-1/4094
Ref.No.

The Green Climate Fund (GCF)
Songdo
Republic of Korea

Re: Funding proposal for the GCF by the United Nations Development Programme (UNDP) regarding "Responding to the increasing threat of drought: building the resilience of the most vulnerable communities through climate-smart and landscape-based investments".

Dear Madam/Sir,

We refer to the project "***Responding to the Increasing Risk of Drought: Building Gender Responsive Resilience of the Most Vulnerable Communities***" in Ethiopia as included in the funding proposal submitted by UNDP to us on 9 May 2016.

The undersigned is the duly authorized representative of the Ministry of Environment, Forest and Climate Change (MEFCC), the National Designated Authority of Ethiopia.

Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project as included in the funding proposal.

By communicating our no-objection, it is implied that:

(a) The government of Ethiopia has no-objection to the project as included in the funding proposal;
(b) The project as included in the funding proposal is in conformity with Ethiopia's national priorities, strategies and plans;
(c) In accordance with the GCF's environmental and social safeguards, the project as included in the funding proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project as included in the funding proposal has been duly followed.

We acknowledge that this letter will be made publicly available on the GCF website.

Kind Regards,

Kare Chawicha
State Minister,
Environment & Climate Change

CC

Honorable Minister
Ministry of Environment Forest and Climate Change,
Federal Democratic Republic of Ethiopia
Addis Ababa

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Environmental and social report(s) disclosure

Basic project/programme information	
Project/programme title	Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities.
Accredited entity	UNDP
Environmental and social safeguards (ESS) category	Category B

Environmental and Social Impact Assessment (ESIA) (if applicable)	
Date of disclosure on accredited entity's website	2016-11-09
Language(s) of disclosure	English, Amharic
Link to disclosure	http://www.et.undp.org/content/ethiopia/en/home/library/environment_energy/EthiopiaGCF/ The ESMP below contains an impact assessment (ESIA) consistent with the requirements of PS1 for a category B project.
Other link(s)	http://
Environmental and Social Management Plan (ESMP) (if applicable)	
Date of disclosure on accredited entity's website	2016-11-09
Language(s) of disclosure	English, Amharic
Link to disclosure	http://www.et.undp.org/content/ethiopia/en/home/library/environment_energy/EthiopiaGCF/
Other link(s)	
Resettlement Action Plan (RAP) (if applicable)	
Date of disclosure on accredited entity's website	n/a
Any other relevant ESS reports and/or disclosures (if applicable)	
Description of report/ disclosure	n/a