Ministry of Environment, Forest and Climate Change, Ethiopia

United Nations Development Programme

Project title: Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Ethiopia		
Country: Ethiopia	**Implementing Partner: Ministry of Environment, Forest and Climate Change**	**Management Arrangements:** National Implementation Modality (NIM)
UNDAF/Country Programme Outcome*:* By 2020 key Government institutions at federal and regional levels including cities are better able to plan, implement and monitor priority climate change mitigation and adaptation actions and sustainable resource management.		
UNDP Strategic Plan Output: 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.		
UNDP Social and Environmental Screening Category: Low	**UNDP Gender Marker:** 2	
Atlas Award ID number: 00097070	**Atlas Output ID/Project ID number:** 00100923	
UNDP-GEF PIMS ID number: 5559	**GEF ID number:9135**	
Planned start date: May 2017	**Planned end date:** April 2022	
LPAC date: March 17, 2017		

Brief project description:

Smallholder farming (cultivation and pastoralism)is the mainstay of Ethiopia's economy across the six regions in which this project will be implemented. Farming takes place in often highlydegraded and vulnerable environments where there is substantial loss of vegetation, associated erosion and declining soil fertility. Huge demand for natural capital including biomass fuels exacerbates environmental degradation and affects food production. This projectproposes anintegrated approach that brings together capacity to achieve food security with the need to restore and sustainably manage key environmental resources. It does thisthrough three interrelated components: Component 1 ensures effective multi-stakeholder platforms are in place to support the dissemination and uptake of integrated approaches; Component 2 develops specific approaches and puts in place effective mechanismsto scale up across target sites and, more widely, in the country; and Component 3 establishesa systematic monitoring, assessment, learning and knowledge management mechanism that supports influencing at a wider scale in Ethiopia – and via the Regional Hub project[1]– across other SSA countries under the IAP. Infusing all components is a commitment to gender-responsive development, in which women

[1] The Regional Hub Project (PIMS 9070) is an IFAD-led initiative designed to coordinate regional support components across the 12 GEF-funded FSIAP countries.

stakeholders within smallholdercommunitiesplay a central role in economic and environmental transformations.	
FINANCING PLAN	
GEF Trust Fund	USD 10,239,450
UNDP in Cash	USD 500,000
(1) Total Budget administered by UNDP	**USD 10,739,450**
PARALLEL CO-FINANCING	
Government in kind	USD 144,465,431
(2) Total co-financing	**USD 144,965,431**
(3) Grand-Total Project Financing (1)+(2)	**USD 155,204,881**

SIGNATURES		
Signature: print name below	**Agreed by Government**	**Date/Month/Year:**
Signature: print name below	**Agreed by Implementing Partner**	**Date/Month/Year:**
Signature: print name below	**Agreed by UNDP**	**Date/Month/Year:**
Project implication area	**Somali region**	**1 tulu guled worada** **2 gursum warada**

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List of Acronyms and Abbreviations

ADLI	Agriculture Development Led Industrialization
AEZ	Agro-Ecological Zone
AF	Agroforestry
AIS	Alien Invasive Species
ANRS	Afar National Regional State
BD	Biodiversity
BoA	Bureau of Agriculture
BoARD	Bureau of Agriculture and Rural Development
BoCTP	Bureau of Culture, Tourism and Parks
BoEPLU	Bureau of Environmental Protection and Land Use
BoFED	Bureau of Finance and Economic Development
CA	Conservation Agriculture
CBO	Community-Based Organisation
C	Celsius/Centigrade
CC	Climate Change
CCA	Climate Change Adaptation
CCM	Climate Change Mitigation
CDO	Cooperative Department Office
CRGE	Climate Resilient Green Economy Strategy
CRS	Climate Resilience Strategy
CSE	Conservation Strategy of Ethiopia
CSA	Climate Smart Agriculture
CSA	Central Statistics Agency
EBI	Ethiopian Biodiversity Institute
EIA	Environmental Impact Assessment
EPA	Environment Protection Authority
EPACC	Ethiopia's Programme of Adaptation to Climate Change
ESIA	Environmental and Social Impact Assessment
EWCA	Ethiopian Wildlife Conservation Authority
FAO	Food and Agriculture Organization
FDRE	Federal Democratic Republic of Ethiopia
FHH	Female-Headed Household
FSP	Full-sized Project
FYGTP	Five-Year Growth and Transformation Plan
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEFSEC	Global Environment Facility Secretariat
GES	Green Economy Strategy
GHG	Greenhouse Gas
GIS	Geographical Information System
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
ha	Hectare
IRRF	Integrated Results and Resources Framework
IWRM	Integrated Water Resource Management
JFMA	Joint Forest Management Agreement
km	Kilometre
LD	Land Degradation
LPA	Learning and Practice Alliance
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MEF	Ministry of Environment and Forest
m	Metre
masl	Metres above sea level
mm	Millimetre

MHH	Male-Headed Household
MoA	Ministry of Agriculture
MoFED	Ministry of Finance and Economic Development
MPTFO	Multi-Partner Trust Fund Office (for CRGE - UNDP's)
MSP	Medium-Sized Project
MUS	Multiple Use water Services
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Programme (for UNCCD)
NAPA	National Adaptation Plan of Action (for UNFCCC)
NBSAP	National Biodiversity Strategy and Action Plan (for CBD)
NGO	Non-Governmental Organisation
NPC	National Planning Commission
NSC	National Steering Committee
NTFP	Non-timber forest products
OECD	Organisation for Economic Cooperation and Development
PASDEP	Plan for Accelerated Sustainable Development to End Poverty
PER	Public Expenditure Review
PES	Payment for Ecosystem Service(s)
PFM	Participatory Forest Management
PPG	Project Preparation Grant
PIF	Project Identification Form
PIN	Project Inception Note
PIR	GEF Project Implementation Report
PIT	Programme Implementation Team
PM	Project Manager
PMU	Project Management Unit
POPP	Programme and Operation Policies and Procedures
ProDoc	Project Document
PROFOR	World Bank Program on Forests
PSC	Project Steering Committee
PSPC	Pilot Site Project Committee
PSNP	Productive Safety Net Programme
RAPTA	Resilience, Adaptation Pathway and Transformation Assessment
REDD+	Reduced Emission from Deforestation and Degradation
SEEA	System of Environmental and Economic Accounts
SLM	Sustainable Land Management
SNNPR	Southern Nations, Nationalities and Peoples' Region
SRM	Sectoral Reduction Mechanism (of CRGE)
SRS	Somali Regional State
STAP	Scientific Technical Advisory Panel
t	Tonne
TEEB	The Economics of Ecosystems and Biodiversity
TG	Target Group
ToR	Terms of Reference
ToT	Training of Trainers
UN	United Nations
UNCT	UN Country Team
UNDP-GEF	UNDP Global EnvironmentalFinance
UNFCCC	United Nations Framework Convention on Climate Change
UNEP	United Nations Environment Programme
WOFED	Woreda Office of Finance and Economic Development
yr	Year

1 DEVELOPMENT CHALLENGE

Contexts of change and transformation:

This project was designed using the*Resilience, Adaptation Pathways and Transformation Assessment* (RAPTA) approach [2] . Components such asStakeholder Engagement, Theory of Change, System Description and System Assessment were used by the Project Design team to frame theproject's impact pathways and respond to the following questions that the GEF requested allIntegrated Approach Pilot (IAP) child projectsto answer:*(i) Resilience of what? (ii) Resilience to what? (iii) What are the key characteristics/determinants in targeted systems? (iv)How is the project expected to influence key determinants? (v) How will the key determinants be monitored?*

Largely dominated by an agrarian economy and experiencing the second highest population in Africa, Ethiopia faces manydevelopment challenges. Most of the population still relies on rain-fed production systems for food and income security. Agriculture accounts for over 40% of GDP, employs 80% of the labour force and generates some 90% of export earnings,yet most agricultural activity still occurs within small, subsistence-level farming systems.Whilst average plot sizes vary by region, many householdssurvive on less than a hectare each.

Ethiopia suffers from food insecurity with average annual food production growth an estimated 2.4%, lagging behind population growth of 2.8% per annum. Major causes of food insecurity in Ethiopia include environmental degradation, deforestation, soil erosion, recurrent droughts and pressures caused by population growth.Across the country, environmental degradation has led to loss of production capacity, leaving crop cultivation and livestock husbandry struggling to withstand the immediate impacts of climate variability, including recent El-Nino events and associated floods and droughts.

Internal and external stressors:

There are both internal and external stressors (or key determinants) affecting the resilience of food production systems. Addressing this combination of factors is central to the project. External stressors include uncertainties caused by changing climate and impacts on the spatial and temporal pattern of rainfall, temperature increases, human (and livestock) population growth and movement, and changes to production and market conditions. Rainfall is perhaps the single highest stress factor across all six regions (and across the 12 selected woreda[3] implementation sites under this project). Changes to the *belg* (or 'short') rainsinclude later onset and/or lack of rainfall in critical crop-growing and maturing periods. This disrupts production and substantially reduces the availability of fodder for livestock production. Given that some 88% of livestock feed comes from natural grazing and browse, with crop residues accounting for 10%, and industrial by-products such as oilseed cakesupplying the remaining 2%, this can have major impacts on household livelihoods. Where there is substantial reduction in rainfall and grazing is severely affected, distress sales and herd off-take can result, drastically reducing future livelihood security through undermining the asset base of poor households. This is a key focus of government activities such as the Productive Safety Net Programme, which will be a key partner in the implementation of this child project.

Internal stressors include continuing lack of income securityfaced bysections of the rural population. Ethiopia managed to achieve substantial economic growth from 1998 to 2015 with important impacts on poverty;now is below 30% of households in Ethiopia live below the poverty line, whichrepresents significant progress in poverty reduction compared to the preceding decade (World Bank, 2015). At the same time, food insecurityremains a daily, seasonal and annual challenge for millions of smallholder

[2] The RAPTA approach was developed by the *Scientific and Technical Advisory Pane*l (STAP) of the GEF to guide countries on how to integrate resilience in the Food Security Integrated IAPs. It is being tested in this project's design and implementation. See http://www.stapgef.org/the-resilience-adaptation-and-transformation-assessment-framework/

[3]A woreda is a district, or the third-level administrative unit in Ethiopia after regions and zones

farmers, agro-pastoralists and pastoralists. The reasons are complex and include low asset holdings and access to resources, inherent risk and variability in rainfall-driven systems, policy changes and other external factors. Complexlong-term impacts of landscape degradation in combination with gaps in knowledgeon how to respond (or capacity to apply existing knowledge), together create barriers to more sustainable and resilient farming practices. Through breaking down these barriers, resilience and adaptation can be enhanced as climate and market conditions change, and livelihood security can be achieved through more sustainable use ofnatural-resource endowments and greater livelihood diversification.

Many farmers face a complex and vulnerable situation, which can be further exacerbated by shocks such as the recent El-Nino event. The most affected within communities are women and the elderly – who have fewer asset cushions and recourse to alternative livelihoods. Given their often gender-defined roles such asmeeting household demands for water and fuel course – on top of providing labour inputs to agriculture and other reproductive roles – when resource scarcity increases women smallholders will bear the brunt, with significant knock-on impactsat the level of householdhuman security as trade-offs are made between time spent producing nutritious food, managing child care, working in agriculture, and servicing the needs for water and cooking fuel. Trade-offs can be acute, and over a series of 'bad years' can lead to destitution. In this project, we directly target, prioritise and sequence actionsthat can support transitions away from thisundesired and vulnerable state and enable new forms of rural production, including those that engage in emerging local markets and rural-to-urban value chains. These are what we call sustainable "adaptive pathways" that address both internal and external stressors and assist in restoring food and income security in an integrated fashion. The particular focus is on benefitsaccruing to women that can underscore gender equalitywith achievement of results measured through collection of gender-disaggregated data across the project.

Addressing complex human-natural system dimensions:

The project identifies three priority areas that need to be addressed in order to achieve the above: (i) tackling the weakening and vulnerable natural resource base in Ethiopia through measures that strengthen and support the sustainability of natural capital assets – land, water and forests – through restoration, or through reducing on-going resource-related pressures, particularly household demand for natural resources; (ii) enhancing income security and the productiveuse ofnatural capital assets (including by farmers, pastoralists and people using natural capital for manufacturing); and (iii) establishing pathways for alternative (non natural-resourcebased) livelihoods to reduce the potential impacts of further population growth on an already highly demand-stressed resource base and one subject to further shocks due to climate variability and change.

The project will address these complex challenges through an integrated approach that tackles both environmental and socio-economic drivers of food insecurity in tandem. During project design, stakeholder consultations at the project target sites revealed that in many cases, interventions to address food security over the years have been piecemeal and 'project-dependent', leading to benefits that are fairly minor in scope and limited in duration. What we propose is a'whole system' approach that looks at the full dimensionsof food security including food access, availability, sustainability and resilience.

For example, thegrowing market for animal dung-residue 'cakes'(*kubet*) is directly connected to soil productivity loss over timeas valuable organic matter is used as an energy resource rather than returned to the soil. This net loss to the carbon content of soils produces biomass energy for growing urban markets and income for farmers, but the resultant nutrient loss and reduced soil water retention capacity has serious medium to long-term impactson livelihoods, as well as global environmental impacts through GHG production. One key to breaking this cycle lies in managing animals in different ways within landscapes to reduce the consumption of vegetative matter, using their dung for manuring and composting, and using this manure either for sale as organic compost or for own soil condition. This can support better fodder and other crop production and enhance the off-take of dairy products from

household livestock as a result, enabling progressively stronger engagement by farmers in local value chains. This 'triple-win' of income, food security and achievement of GEBs is at the heart of thinking under the Ethiopia child project.

2 STRATEGY (TOC)

Objective

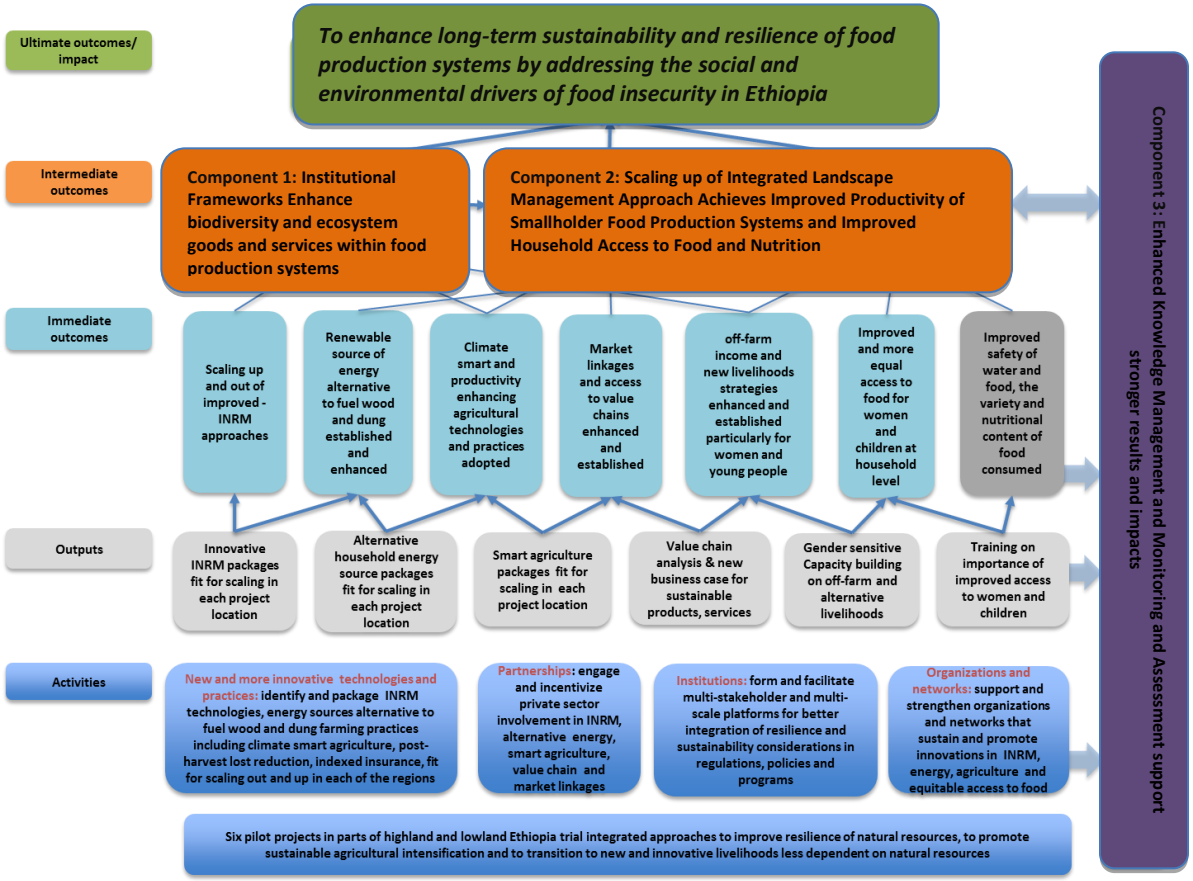
The goal of this project is: To enhance long-term sustainability and resilience of food production systems by addressing the environmental drivers of food insecurity in Ethiopia.The overarching focus is on integrated landscape management (ILM) to achieve food production resilience in landscapes under pressure. ILM combines land management choices and Integrated Natural Resources Management (INRM) with water- and climate-smart agriculture, value chain support and gender responsiveness.

Given the complex and interrelated development challenges described above, fostering sustainability and resilience of food security in Ethiopia will require effective multi-stakeholder platforms to support uptake of integrated approaches, the scaling up of best practices and proven approaches and technologies, and systematic monitoring, assessment, learning and knowledge management (generation, acquisition and sharing of knowledge and experience).

The wider analytical framework of this project distinguishes four interrelated dimensions of resilience, namely agro-ecological, ecological, livelihood and institutional. In addition it recognizes four cross-cutting strategies which are instrumental to building pathways to resilience—diversity and complementarity, gender equality, knowledge and learning, integration and the achievement of synergies.

The project's theory of change (TOC) has three complimentary impact pathways: 1) the first directly addresses the institutional frameworks needed for enhancing biodiversity and ecosystem goods and services within food production systems. It builds the right enabling environments for reducing natural resource degradation, whilst contributing to the productivity and sustainability of the agricultural systems; 2) the second addresses ways of scaling up approaches at a landscape level that deliver more resilient and productive landscapes, including alternative livelihoods that reduce pressures on natural systems; and 3) focuses on ensuring monitoring and assessment, and learning and knowledge management, supports realisation of the project's interventions and effective impact on the behaviours and approaches of a wider constituency of those involved in developing policy and practice in the region and more widely under the other 11 IAP countries.

Fig 1. Theory of Change



Impact pathways

1. Building institutional frameworks for resilient food systems

The first impact pathway focuses on the institutional frameworks that are necessary for restoring and enhancing the resilience of food systems at the project target sites. Land degradation, water loss and deforestation are critical factors addressed. This involves identification of effective ways of institutionalising Integrated Natural Resource Management (INRM)technologies and approaches that are scalable in or to the project location. It also involves identification and adoption of household energy sources that provide alternatives to fuel-wood and dung, including specific approaches that bring benefits to women and young people. These include reducing health impacts of smoke inhalation, reducing individual costs and risks of firewood collection and achievinggreater efficiencies in resource use and therefore reducing pressure on the labour time of women to continually collect biomass fuel from more distant sources. As mentioned above, there are currently significant sources of natural resource degradation and soil fertility loss driving a vegetative cover- and nutrient-depleting feedback cycle and compounding the challenge of achieving genderequality. A key part of this impact pathway is ensuring that the necessary institutional constituencies and synergies are established at different levels through multi-stakeholder platforms and more effective policy engagement.

Underlying assumptions

- There are effective and scalable INRM practices and alternative household energy sources that can provide environmental benefits whilst increasing land productivity;
- There are institutional environments and coalitions through which to achieve consensus and scale up interventions at different levels;
- The project location communities and policy stakeholders will be receptive and adopt INRM and alternative energy source packages, including adoption of gender-responsive approaches.

Evidence

- There exist INRM practices and scaling-up experiences that are effective at delivering environmental benefits and land productivity. Nyssen et al (2007) report that old soil and water conservation stone bunds in Tigray have delivered significant water and soil loss reduction (58 t/ha-1 year-1 and taking account of space occupied by the bunds, more than 50% increase in crop yield).
- An impact assessment report on the Sustainable Land Management Program (SLMP) that has been running since 2009 shows effective scaling in different regions of the country with positive impacts on landscapes.
- A Farmer-Managed Natural Regeneration approach that has registered success in transforming the Sahel (Reij et al 2009) has been adapted and scaled out to different parts of Ethiopia since 2004 (Francis et al 2015).
- Building on existing institutional and policy environments can take these interventions further within shared landscapes in Ethiopia and support wider Integrated Landscape Management (ILM) approaches.

Links

- The importance of scaling-up best practices in INRM is recognized and supported by the Ethiopian Government through its Ethiopian Strategic Investment Framework (ESIF) for Sustainable Land Management (SLM). The ESIF underlines the urgency of reversing the high level of land degradation through the promotion and up-scaling of proven SLM technologies and approaches through multi-sector partnerships in which investments and development efforts of the large number of stakeholders – including bilateral andmultilateral development partners and the Government of Ethiopia (GoE) – are effectively harmonized and coordinated.
- In addition to high-level support at national and state levels, there is also a tradition of cross-community learning from innovative and locally-successful landscape reclamation efforts (UNDP, SwedBio, MELCA, 2015 National Resilience Dialogue).
- Renewable energy development is a core policy position of the federal government of Ethiopia both as a means to sustain economic growth and to meet rapidly growing energy demand. The country has targeted renewable energy development as a main driver of its national Climate Resilience Green Economy strategy

(CRGE) (Guta 2014). INRM was also cited as an important approach in responses given by key stakeholders during quadrant analysis and questionnaire activities undertaken during project preparation in the six regions visited. Improved scaling of alternative energy sources was a crucial component of INRM frequently identified by project stakeholders

2. Scaling up best practices in Integrated Natural Resource Management

The second impact pathway involves adaptation of food production systems to enhance productivity and increase capacity for transformation into non-farm livelihoods in areas where there is serious landscape degradation. Water scarcity, climate variability and change,gender disparitiesand inadequate and non-existent value chains and markets are critical factors under this pathway. The approach involves adoption of climate- and water-smart technologies and practices, index insurance, strengthening existing and establishing new value chains and market linkages, as well as supporting more effective off-farm livelihood strategies. A key additional element involves recognizing the importance of strong gender-responsive programing, particularly around off-farm income-generating activities.

Assumptions

- There are already effective climate- and water-smart agriculture packages that assist with adaptation of agriculture to climate change while mitigating GHG emissions and enhancing food security;
- There are appropriate weather-indexed insurance products that can be made available by the private sector and producers will be willing to adopt and pay an insurance premium to reduce losses from crop failure and livestock deaths due to weather-related risks;
- There is significant scope for value addition and value chain development and market linkages in the site locations;
- There is significant scope for off-farm/non-farm livelihood opportunities in and outside of the project sites,especially for rural youth, women and landless sections of the population;
- Current policy and institutional settings are conducive and provide strategic support for new streams of livelihoods and movementto areas in which to establish these livelihoods;and
- New livelihoods are viable and sustainable and can provide income that enables access to adequate food, with a key focus on women and youth.

Evidence

- Negra et al (2014) describe how Ethiopia, through its implementation of well-coordinated and large-scale programs is among the countries that are starting to effectively implement climate-smart agriculture in order to achieve the 'triple win' of climate change adaptation, mitigation activities and food security. Thiswas expressed as the desired state by the six regions visited duringproject preparation. Indexed insurance for crop and livestock production holds a significant promise for managing risk and vulnerability to covariate shocks such as drought, floods and facilitating development among poor smallholder farmers and pastoralists. However, adoption rates of index insurance products still remain low among smallholders. Recent work by Takahashi et al. (2016) on demand for new Index-Based Livestock Insurance (IBLI) introduced in southern Ethiopia among pastoralists, showed an uptake rate approaching 30% in the initial year of product offer, which exceeds uptake rates in other pilots. The researchers also found price incentives created through discount coupons effectively and substantially increased current period uptake rates without lowering future demand by creating a low price reference point. An experimental study by Norton et al (2014) on demand for weather-index insurance of crops with smallholder farmers in Tigray also showed that participants exhibited clear preferences for insurance contracts with higher frequency pay-outs and for insurance over other risk management options. The preference for higher frequency pay-outs is mirrored in concurrent commercial sales of the insurance product (note that trust in the insurance product provider may have played a part in generating higher demand).
- Indexed insurance has significant potential to enhance resilience and adaptation by smallholder farmers through transferring risk of loss of crop, income and seed and livestock assets among poor smallholders. However, it is important to note that index insurance with high adoption rates will require action research that thoroughly reviews current evidence and works with innovation platforms at project sites including the private sector under Components 1 and 3.This is an area where the regional hub project, in

particular, could support the Ethiopiachild project. For example this project could collaborate with Vital Signs to provide remote sensing data to develop indexed insurance products that are effective and fit the context of the project sites.

- Land scarcity is driving increasing numbers of landless youth in rural communities to intensify utilization, adding pressure on natural resources (Bezu and Holden 2014). Though not to the extent of significantly relieving pressure on natural resources, land scarcity and increasing levels of education are sources of rural youth out-migration to urban centres (Bezu and Holden 2014). Value addition and agro-processing involving rural youth has been identified in the GoE's Agricultural Development Led Industrialization (ADLI) strategy as central to transforming the agricultural sector and creating off-farm income sources and transitioning to non-farm livelihoods (Tadele and Gella 2014).
- So far, formal sector analysis of dynamics in the Ethiopian economy shows that the service sector has grown faster than the agro-processing and manufacturing sectors (IFAD 2014). Though value chain studies (e.g. Woldemichael et al 2016; Giziew et al 2014) indicate several constraints and challenges, they also note significant potential and opportunities for value addition that establishes a variety of national, regional and international value chains for agricultural, pastoral and forestry products in a way that increases productivity, quality, income and promotes environmental protection (e.g. Mekonnen et al 2014; Asegede et al 2015). In addition to the formal sector, the informal and non-farm livelihoods that assist youth (especially young women) can also help alleviate pressure on rural natural resources while providing viable and decent livelihoods. For effective results, both formal and informal sectors have to be explored in order toestablish pathways for livelihood transformation that are less or non-dependent on natural resources and fit the project sites.

Links

- Public-private partnerships (PPP)are essential to increasing the productivity of agriculture and reducing post-harvest losses in a way that leads to greater adaptation to climate and helps mitigate GHGs. In the ToC the PPP is part of the institutional framework, but during stakeholder discussions in the field farmers expressed the need to have PPPs as a separate, core activity at the site level.Climate-smart agriculture (CSA) and livestock value chain development are among key focus areas of Ethiopia's Climate Resilient Green Economy (CRGE) strategy which seeks to facilitate a shift to a low-carbon economy. Much of the strategy is anchored in sustainable intensification of agriculture (FDRE, 2011).
- Transformations to non-farm livelihoods involve new and innovative livelihoods that are less dependent on natural resources. These are geared especially to people with fewer resourcesand will heavily depend on potential in different local contexts and opportunities that may exist elsewhere, for example in small towns.
- Through its Growth and Transformation Plan (GTP) the GoE emphasises the development of industry and expanding infrastructure in anticipation of and to provide support to labour migration out offarming and pastoralism and into jobs in services and manufacturing.All such pathways require creation of enabling institutional environments. Appropriate regulations and incentives, trusted organisations and informal networks have been found to be key determinants for adoption, adaptation and scaling out INRM, as well as best agricultural technologies and practices (Woessen et al 2013; Mekonnen and Gerber 2015).This pathway would work closely with Pathway 1.

3. Understanding impacts and sharing evidence to influence policy and practice

The third pathway focuses on ensuring project stakeholders understand the nature and extent of impacts being achieved as a result of project interventions, that lessons from these interventions are learned and shared in appropriate policy fora and through communities of practice, including those that address gender-responsive approaches, and that new knowledge is disseminated more widely at local, national and, through the wider umbrella Hub Project, at a SSA level across the other11 IAP countries.

Assumptions

- There is sufficient depth and range of available expertise to support knowledge acquisition and sharing on complex, interrelated environment-development issues;

- Effective knowledge acquisition and management can influence other stakeholders through sharing, both in terms of changing practices and shaping policy and policy implementation;
- Sufficiently robust data and evidence can be obtained from the six regions and 12 sites on which to draw conclusions about impacts;
- Greater knowledge and learning can help overcome persistent institutional fragmentation and that this can be sustained within and beyond the project lifespan.

Evidence

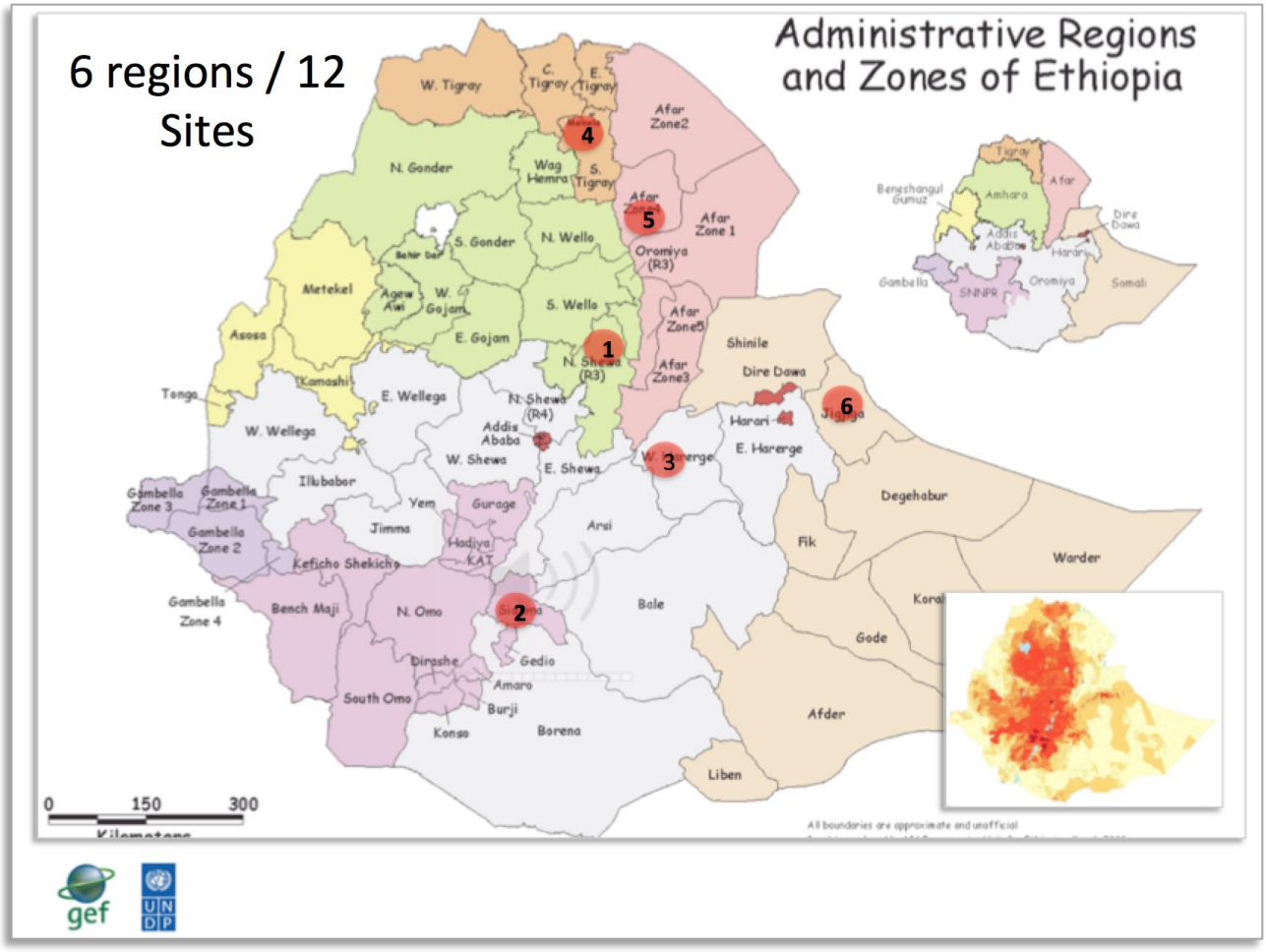
- A range of analyses describes how effective evidence generation and use leads to more robust policy and improves the quality of policy implementation. This includes showing how more effective knowledge management and dissemination can trigger wider changes in farming practice, particularly when associated with shared local-level learning and practice under multi-stakeholder platforms. Examples from Vital Signs[4] landscapes in Tanzania show that when information such as climate dynamics and critical species composition and interactions is available to communities, it can serve as early warning for shocks and disturbances and enable farmers to make better choices about their farming practices. The ways market and economic information are shared among actors is important to ensure livelihood resilience, as access to information can be a limiting factor in improving livelihoods security.
- Evidence generation under this component will focus on: a) understanding change, reflecting on the meaning and interpretation of this change under the project;adaptive management including revisiting and adjusting the theory of change if need be;and b) utilizing the 'learning landscapes' of the 12 woreda sites to enable sharing of lessons on innovation, institutional governance strengthening and identifying appropriate changes of approach or direction, if necessary. This will be complemented by action research and learning guided by local innovation platforms or Learning and Practice Alliances that gather evidence and information on relevant innovations, analyse their fit and assess the challenges and opportunities that exist for scaling up at project-site level.

Links

- Ethiopia's six regions under this project have research and learning institutions through which the project will build links and engagement (see section on Stakeholders, below), particularly in generating primary data and sharing knowledge within development practice communities at local and regional levels. The focus will be on combining knowledge acquisition from traditional practices as well as technical extension systems.

Fig 2. Map of project pilot sites

[4] www.vitalsigns.org



The project has selected 12 districts (woredas) in six regions for project implementation. This relatively large number of sites is necessary for two reasons: A) Ethiopia has a diverse social and physical topography with many different farming systems and local social and ecological environments. In order to achieve success at scale it is necessary to cover a relatively wide selection of environments (based on criteria such as precipitation, topography, soil types and vegetation cover); B) Ethiopia's ethnic-federal systems requires that projects at a national-level are spread between regions to ensure sharing of benefits. The following list provides short summaries of each site chosen in consultation with local authorities during project preparation visits.

1) Menz-Gera-Midir and Angolela-Tera Woredas (North Shewa Zone, Amhara Region):(see Fig.2 (1) above)

Menz-Gera-Midir Woreda - (population 120,469 - 2007 Census / area 372 km^2 or 37,200 hectares), of whom 58,827 are men and 61,642 women. The Woreda lies 300 km from Addis Ababa. The Woreda comprises an altitude ranging between 2,000 and 3,800 metres above sea level (Masl). For administrative purposes, the woreda has one urban and 20 rural kebeles (Zone ARDO Planning Division, 2011). The total area of the Woreda is 116,816 Km^2 or 11,681,600 ha and agro-ecologically it is classified as 3% frost-prone (Wurch), and 95% highland (Dega). The annual rain fall ranges from 800 to 1,600 mm per annum. The population density is 115 people per Km^2.Livelihoodsaremainly dependent on crop production and livestock rearing; crop production is the major economic activity. The principal crops grown in the area include barley, beans, wheat, peas and vetch. Vegetables including carrot, cabbage, beetroot, Swiss chard, and highland fruits include apple varieties. The major constraints to crop production include frost, an erratic rainfall, rugged topography and soil erosion. Livestock rearing is the second major livelihood option. It is a source of food, income, clothing, social prestige, and acts as a coping mechanism during drought and stress; it is also a source of organic fertilizer (compost for the soil). Livestock are an important means of animal traction, transportation for agriculture and for humans. The livestock population of the Woreda is composed of cattle, equines, sheep and goats, as well as chickens; beekeeping is also practised (ARDO, 2011). Other sources of livelihoods in the Woreda include off-farm activities and daily wage

labour (human capital); food aidis provided via public works, safety nets and direct support (social capital). The Woreda is not very accessible to input markets.

Angolela-Tera Woreda -(population 82,349 2007 Census / area 1,005 km^2) or 100,500 hectares of whom 41,849 are men and 40,500 are women. The Woreda lies 120 km from Addis Ababa. In terms of agro ecological classification, a large proportion of the woreda is highland (94.5 %) and midland (5 %) and lowland (0.5 %). The altitude of the Woreda ranges between 1,700 and 3,044 Masl. According to the woreda agriculture and rural development office, the estimated land use data revealed that the Woreda comprises of cultivable land of 24,000 ha (30.5%), grazing land 41,393 ha (51.83%), forest and shrubs 8,640 ha (10.82%), and other non-productive land, homesteads and water bodies of 5,836 ha (7.3%).Due to proximity to markets and suitable agro-ecologies, it is more favourable for cropping. Sheep production and dairying are also important as the Woreda is located along the Debre Birhan-Addis Ababa milk 'corridor'. Except for a few people, agriculture is the major occupation of people living in the Woreda. With regard to the farming system, mixed farming of crop and livestock is common practice. Crop production is carried out in both "meher" and "belg" seasons. Crops such as barely, wheat, sorghum and teff are the major cereals grown and occupy the largest proportion of the cultivated land. Pulses such as horse bean, field peas, lentil, and chickpeas are widely grown in the woreda and they are the second in terms of area coverage next to cereals. Oil crops, such as linseed and niger seed are grown in small quantities in the woreda.Livestock production also contributes to the daily food needs of the households, and serves as a source of cash income and security in times of adversity. It also supports crop production by providing draught power, manure, and transportation services. Cattle, small ruminants, and draught animals are the dominant livestock types kept by the woreda; poultry is kept by some famers due to proximity to markets and suitable agro-ecologies.

All farmers in both Menz-Gera-Midir and Angolela-Tera are smallholders with a subsistence mode of production. However, in Menz-Gera-Midir, the average farm size is smaller and the percentage of landless farmers is higher than in Angolela-Tera. There are two rainy seasons, the main season (meher, June/July to December) and a short season (belg, February to May/June). The belg season has in the past years become unreliable. Irrigation is available to 5% and 23% of households in Menz-Gera-Midir and Angolela-Tera respectively (Gizaw et al., 2012). The relative importance of sheep rearing in Menz-Gera-Midir and improved dairying in Angolela-Tera has been observed. Households also keep goats and chickens in both Menz-Gera-Midir and in Angolela-Tera. The contribution of livestock production is high compared to other farm and off-farm activities (Gizaw et al., 2012). The livestock feeding management in Menz-Gera-Midir is largely based on grazing in communal lands. Dairy cows and oxen are supplemented with crop residues, hay and oats during the dry season. Feed processing is limited to chopping of crop residues. In Angolela-Tera, some farmers stall-feed improved dairy cows and fatten animals using urea-treated straws and mixed rations containing crop residues, wheat bran, dung cake and salt during the dry season (December-June). Overall feed availability and quality is low because communal grazing lands are degraded. Only a few farmers produce cultivated fodder on small pieces of land, crop residue yields are low due to crop failures, and commercial concentrates are unavailable. The major feed resources are naturally occurring feeds either collected (hay, weeds) or used in situ (grazing).

Site 2:. Boricha Woreda (Sidama zone) and Duguna Fango Woreda (Wolaita zone) (SNNP Region). (see Fig.2 (2) above)

Boricha woreda - (population 250,260 2007 Census / area 588 km^2) 58,800 hectares of whom 125,524 are men and 124,736 women is located 311km south of Addis Ababa. Boricha has a poorly-drained catchment and wetland areas and ponds can form that dry out a few weeks after rains. All the rivers in this woreda are seasonal and tributaries of the Bilate River, running from west to east across the woreda. Altitude varies from 1,320 masl to 2,080 masl with some scattered ridges in between. Lower altitude areas are frequently severely degraded. The woreda is mostly covered by the chromic luvisols and eutric vertisols. According to FAO soil classification, the Woreda has four types of soil, namely; chromic luvisols, lithic leptosols, eutric vertisols and humic nitosols. Land use is dominated by smallholder farmers and rain-fed agriculture. The major crops cultivated are maize, haricot bean, coffee, horticultural crops and teff. Limited land is used to produce certain cash crops like chat, spices and eucalyptus (often mixed with farmland, and/or on ridges where they have been planted by local communities in collaboration with NGOs). Similar to much of the country, rainfall fluctuates widely, from 27.82 mm mean minimum in December to mean maximum of 128.58 mm in October. The monthly average temperature varies between 21.93 °C in July and 25.36 °C in February. There are three prominent livelihood zones in Boricha identified by the Regional Bureau of the Ministry of Agriculture (MoA) (DRMFS Directorate): (i) Bilatea Agro-pastoralist; (ii) Sidama Coffee; and (iii) Sidama Maize belt.

Duguna Fango Woreda - (96,480 population / 47,493 men and 48,987 women) is located 300 km south of Addis Ababa, the vegetation and climate are conditioned by an overall elevation of between 1,500 and 1,800 masl. There are two kinds of altitudinal divisions – in relative terms, the highlands (geziyaa) and the lowlands (garaa). In the highlands, there are streams and small rivers. Temperature varies between 24 °C and 30 °C during the day and 16 °C to 20 °C at night, all year round. The year is divided into two seasons: the wet season (balguwa) from June to October, and the dry season (boniya) from October to June, broken in February by a short period of so-called 'little rains' (baddessa). The average rainfall for the entire woreda is 1,350 mm per year. The dry season is characterized by a strong wind which blows from the east. Soils are a heavy red colour which becomes brown and black during the rains and very hard during the dry season. When rains are regular, soils can produce two crops a year. There are no forests, but the vegetation includes pines, acacia, magnolias, fir trees, and sycamores combined with enset. Grass, at the end of the rainy season, can be as high as three meters. Maize, wheat, durra, barley, and teff are cultivated all over the area. Farm sizes are generally small and on average farmers cultivate about 0.5 ha. At the same time family sizes are large (family size is some eight on average). Due to high population density, farmers cultivate smallholdings in which they grow a number of cereal, root crops and pulses. Crop mixtures and combinations include double cropping, inter-cropping, and multi-storey agro-forestry systems. Adult family labour appears to be sufficient to provide for intensive cultivation practices. Land use within individual holdings comprises arable crop fields associated with private grass/wood plots. The latter is used for cut-and-carry feeding of animals as free grazing areas are no longer available. Cattle, sheep and donkeys are the major animal types kept by households.

Site 3: Doba and Chiro Woredas (West Hararghe Zone, Oromiya Region) (see Fig.2 (3) above).

Doba Woreda - (population 157,287 2007 Census / area 729km^2) or 72,900 hectares according to the census in 2007, the total population is: 133,939, of whom 68,512 were men and 65,427 were women. It is one of the 16 woredas in West Hararghe zone of the Oromiya Region and is located about 383 km east of Addis Ababa. The woreda shares boundaries with Tulo Woreda in the West, Chiro Woreda in the south, the Somali Region to the north, and East Hararghe Zone to the east. Doba has 41 kebeles (localities) in three agro-ecological zones: dega 3.8%, weyna dega 41.6% and kola 54.6%. The topographic feature of the area is characterized by hills, mountains, valleys and gorges. Around 41% of the land mass is steep slope or hilly and the remaining 59 % is gentle slope with poor vegetation cover. Altitude ranges from 1,149 to 2,733 masl. The woreda has low vegetation cover and bare lands. When it rains there can be devastating downstream floods. The average temperature ranges from 21 °C to 28 °C. The annualrainfall ranges from 650-750 mm. The cultivated land area is 267km^2, forest and shrubs 243km^2, grazing land 59km^2, and other lands 159km^2). The area is dominatedby clay loam and silt soils. About 97% of the population lives in rural areas and the rest in urban areas. The economy is based mainly on substance agriculture. The farming system is characterized by mixed farming. Average farm size is 0.63 ha. Farmers mainly use their land to produce cereal crops, chat, coffee, vegetables and fruits. Sorghum and maize inter-cropping with haricot beans is the dominant crop combination. Agriculture is dependent on rainfall, which is increasingly erratic and short in duration resulting in recurrent moisture stress.

Chiro Woreda - is found 325 km east of Addis Ababa (population 412,938 / area 710km^2) or 71,000 hectares. 169,912, of whom 87,003 were men and 82,909 were women; Some 37,296 or 9.03% of its population live in urban areas. The altitude ranges from 1,501 to 2,500 masl containing 10% weyna dega, 70% dega and 20% kola. The annual average temperature ranges from 27.5°C to 38.5°C. The annual rainfall across lowlands and highlands ranges from 600 to 1,000 mm. Similar to Doba, topographically, Chiro has undulating topography and mountainous characteristics with low vegetation cover and sparsely vegetated landscapes. During the rains there can be devastating downstream floods. Drought, shortage of water, soil erosion, flooding, animal forage scarcity, and lack of income diversity are the main threats to food security and sustainability. Many gullies are created in the watershed due to high soil erosion in the area; floodwater leaves the watershed through gullies and ephemeral rivers without retention and reuse through different water harvesting check dams, ponds and intensive biophysical soil and water conservation technologies.

Site 4). Raya Azebo Woreda (Southern zone) and Tanqua Abergele Woreda (Central Zone) (Tigray Region) (see Fig.2 (4) above)

Raya-Azebo Woreda - is located in the south-eastern part of Tigray (population 135,870, of whom 67,687 are men and 68,183 women; / area 176km^2). The Woreda covers an area of about 176,210 ha, which comprises about 60% of the Raya

Valley, which is part of the Ethiopian rift system (RVADP, 1998). Raya-Azebo is accessible by a number of roads—the Maichew-Alamata asphalt road, Mekoni-Maichew, Mekoni-Alamata and Mekoni-Chercher-Alamata all-weather roads and other roads. It is bordered by the Maichew Mountains to the north, the Chercher Mountains to the east, the Central Ethiopian plateau in the west and the Chegwara Ridge in the south. The Woreda is characterised by a bimodal type of rainfall pattern with light rains during the February to April period and heavy rains from July–September.

The mean annual rainfall is about 724 mm with mean daily maximum and minimum temperatures of 18.3°C and 13.93°C, respectively for the western highlands and 23.44°C and 19.64°C, respectively in the valley. Administratively, the Woreda is subdivided into 18 kebeles at an altitude ranging from 930 to 2,300 masl. About 90% the Woreda is described as dega and 10% as kola. The vegetation in the area includes remnants of trees, shrubs and grasses. The area is continually being degraded due to increasing population growth and the continued need to cultivate crops. Sorghum, teff and maize are the major crops grown in the Woreda. Mixed crop-livestock farming is the dominant farming system. The main livestock are cattle, sheep, goats and camel. Pasture is available in communal grazing lands. Crop residue (mainly the stalk of maize and sorghum and straw from teff and barley) and chopped cactus are used to feed cattle whenever there is a severe shortage of feed during the dry season. Based on traditional classification, the main soil types are: Walka (clay), Ede (alluvial) and Hutsa (sandy). The land covered in bush serves as the main grazing area whenever the arable lands are covered in crops. However, once the crops have been harvested, the animals are allowed to graze on this land. Farmers also harvest grass from a large enclosure area to feed animals. The area used for grazing land has increasingly been brought into crop production by landless farmers.

Tanqua Abergele Woreda - has a total population of 93,185, of whom 47,512 are men and 45,673 women; 7,035 or 7.55% are urban inhabitants. The total number of farm households is estimated at 20,211 and the average landholding per household ranges from 0.75 to 2 ha.With an area of 2,407.88 km^2 or 240,788 hectares, Abergele has a population density of 38.70, which is lessthan the Zone average of 56.29 persons per square kilometer. It is one of the 10 woredas in the central zone of Tigray located 120 km west of Mekelle.It borders Kola Temben in the North, Samre-Sahrti in the southeast, Amhara region in the south and southwest, and Dogua Temben in the Northeast. Rugged and hilly mountains dominate the topography. Elevation varies from about 1,300 to 3,000 masl. The Woreda is categorized as a hot to warm sub-moist lowland (SM1-4) sub-agro ecological zone. The altitude ranges from 1300-1500 masl, with mean annual rainfall ranging from 400 to 600 mm and rainfall patterns characterized as low, erratic and unpredictable. The mean annual temperature ranges from 28-42°C. There are four seasons in the Woreda: Meher from September 25-November 25, Bega from November 25-March 25, Tsedey from March 25- June 25 and Kiremt from June 25 –September 25.The major crops grown in the Woreda include: sorghum, maize, cowpea, groundnut and sesame. Crops are grown mainly for their grains and to make use of crop residues for animal feed. The crop residues are used as animal feed and for house construction. As yet, there is no irrigation scheme in the Woreda.There are a total of 264,596 goats, 78,245 sheep, 81,649 cattle, 15,732 equines, 104,496 poultry and 11,220 beehives. The dominant soil types are vertisols (50% of land area), clay (25%) and silt loam (20%). The total land area is about 144,564 ha (1,445.64 km^2), of which 29,466 ha is cultivable land, 15,381.7 ha is enclosed and the remaining 99,716.3 ha is uncultivated (includes bare lands, marginal lands, rocky, roads and very steep and unproductive land) (WTAOoARD, 2010).Land tenure in this woreda is distributed amongst 84.81% owning their land, and 14.9% renting.

Site 5). Abala woreda (Zone 3) and Amibara woreda (Zone 1) (Afar Region)(see Fig.2 (5) above).

Abala woreda - (population 37,963 / area 1,188.72 km^2) or 118,872 ha. The Woreda is located in Zone 3 of the Afar Region. Abala is located at the base of the eastern escarpment of the Ethiopian highlands, and bordered to the south by Megale, to the west by the Tigray Region, to the north by Berhale, to the northeast by Afdera, and to the east by Erebti. The major town is Abala. The elevation is 1,482 masl. Abala is an important trading center in the area for goats. While 10,301 or 27.13% are urban inhabitants, a further 5,552 or 14.62% are pastoralists. A total of 6,703 households were counted in this woreda, which results in an average of 5.7 persons to a household, and 6,855 housing units.

Amibara woreda - Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this woreda has a total population of 63,378, of whom 35,374 are men and 28,004 women; with an area of 2,007.05 km^2 or 200,705 hectares, Amibara has a population density of 31.58. The Woreda is located in Zone 1 of the Afar Region, bordered to the south by Awash Fentale, to the west by the Awash River which separates it from Dulecha, to the north-west by Administrative Zone 5, to the north by Gewane, to the east by the Somali Region, and to the southeast by Oromiya. Towns in Amibara include Awash Arba, Awash Sheleko, Melka Sedi and Melka Worer. The notable landmarks

in this woreda include the fissure vent Hertali (900 masl). While 28,137 or 44.40% are urban inhabitants, a further 6,555 or 10.34% are pastoralists. A total of 13,729 households were counted in this woreda, which results in an average of 4.6 persons to a household, and 14,773 housing units.A sample enumeration performed by the CSA in 2001 interviewed 9,979 farmers in this woreda, who held an average of 0.2 hectares of land.

The invasive species Prosopis juliflora was introduced to the Afar Region in 1988. Although the original intent was to combat erosion, the species has come to dominate some areas in Amibara, endangering 11 species of trees, six shrubs, and six grasses, all of which are useful to the local pastoralists as well as to the native wildlife. This weed has also expanded to irrigation schemes (cotton is an important cash crop). In response to this threat, FARM-Africa has helped local inhabitants to organize themselves to eradicate Prosopis from the Region building three pod-crushing mills in Amibara and Gewane Woredas.Livestock population of Amibara Woreda is composed of camels, cattle, goats, sheep and donkeys; 39,995, 103,959, 122,526, 48,043 and 3,888, respectively. Transhuman pastoralism is the major production system in the Woredas where cattle, camel, goats and sheep are the dominant animals reared. Livestock were kept primarily for their products (milk, milk products and meat) and income (Abule et al., 2005). In a few pockets, pastoralists also grew crops with supplementary irrigation from permanent rivers. Some people are also engaged with other social tasks (Tibabu, 1997). The main grazing area of the southern Afar is Alladege rangeland.Rainfall has a bimodal distribution July-August (main rainy season) and February-April (short rainy season). The mean annual precipitation is usually below 600mm (Abdurahaman Ame, 2002). May/June is the driest season of the year locally called Gagay or spring, which is unsuitable for browsing since bushes dry up except Prosopis.

Site 6: Gursum and Tuliguled woredas (Fafan Zone formerly Jigjiga Zone) (Somali Region) (see Fig.2 (6) above).

Gursum Woreda - (population 27,510 / area **(not available)**) of whom 14,815 are men and 12,695 women**).** While 2,970 or 10.8% are urban inhabitants, a further 2,028 or 7.37% are pastoralists. The Woreda is located in Fafan Zone, bordered to the south by Babille, to the west by the Oromiya Region, to the north by Ajersagora, to the east by Jijiga, and to the southeast by Kebri Beyah. Information is not available on the towns of this woreda.

Tuliguled Woreda–(has atotal population of 176,000 people and an area of 24,906 hectares of agricultural land.) Around 75% of the inhabitants of the Woreda are sedentary farmers while the remaining are engaged in livestock rearing and other trading activities.Lies in Fafan Zone**,** previously known as Jijiga Zone, As well as Jijiga, other towns and cities in this zone include Qarbibayax, Dhurwaale Awbere, Derwonaji, Tuli Gulled and Hart Sheik. Fafan is bordered to the south by Jarar, to the southwest by Nogob, to the west by the Oromia Region, to the north by Siti, and to the east by Somalia. According to a May 24, 2004 World Bank memorandum, the average rural household has 1.3 ha of land (compared to the national average of 1.01 ha of land and an average of 2.25 for pastoral regions). Some 28.2% of the population is in non-farm related jobs, compared to the national average of 25% and a regional average of 28%. About 21% of all eligible children are enrolled in primary school, and 9% in secondary schools. About 74% of the woreda is exposed to malaria, and none to Tsetse fly. The area is severely affected by deforestation due to charcoal production.

3 RESULTS AND PARTNERSHIPS

3.1 Expected results

This project contributes to LD Objective 3 (Reduce pressures on natural resources by managing competing land uses in broader landscapes), Program 4 (Scaling-up sustainable land management through the Landscape Approach). This objective and program seek a range of outcomes increased investments in SLM and support mechanisms for SLM in wider landscapes as well as the adoption by local communities of integrated landscape management practices.

Component 1: Institutional frameworks for enhancedbiodiversity and ecosystem goods andserviceswithinfoodproductionsystems

This component will strengthen existing policy and institutional arrangements allowing stakeholders at national and landscape levels to work together towards an approach to INRM that fosters sustainability and resilience for food security. This will be achieved by building capacity across scales and sectors to understand key actions and how to sequence them to achieve greater impact. Focus will be on integrating sustainability and resilience issues into the work of the *Rural*

Economic Development and Food Security Sector Working Group. This is the Government donor coordination platform for agriculture, natural resource management and food security, responsible for ensuring that these issues are mainstreamed into sector-level implementation by coordinating and harmonizing efforts in support of farmers. The project will also work with the *Agricultural Water Management Platform* to support mainstreaming of water-smart agricultural approaches into wider watershed development at landscape level, including support to scaling up small-scale irrigation. The project will also work with the *National Network on Gender Equality* in the Agricultural Sector supported by the Agricultural Transformation Agency (ATA).

Activities under this component willinclude strengthening the capacity of extension workers to engage effectively with communities on watershed management that fosters sustainable and resilient food security, andbuilding cooperatives in support of more efficient value chains, including helping farmers to gain better access to markets and negotiate better prices for products. Institutional development will focus on improving the development and management of small-scale irrigation as part of wider water-smart agriculture approaches within watersheds, andstrengthen existing policy and legal frameworks that facilitate decentralized and participatory development.

At a sub national level, multi-stakeholder platforms will be established atkebele, woreda and zonal levels. The platforms will support the consolidation of decision-making across policy and planning on energy resources, food security, agricultural development, forestry, domestic water supply and water resources management, helping to establish integrated woreda-level decision making and mainstreaming this within policy and planning processes. The key focus will be on establishing alogic of integrated landscape management policy and practice that enables decision makers and communities to value landscape restoration within wider value chain development processes. For example, it will build on the challenge of understanding and managing value chains involved in energy production and use, and crop and livestock product value chains, seeking ways of enhancing the positive benefits of reducing biomass energy consumption.

An additionalkey focus of this component will be to build institutional resilience at different scales – from household up to woreda levels – using established mechanisms of outreach and extension, but also introducing new innovations in the form of Learning and Practice Alliances (LPAs). LPAs work from kebele to woreda and zonal levels, providing a platform for sharing experience and enablingthe documentation of action research(see Component 3) in different decision making environments. LPAs will build on established practice in Ethiopia (including innovation platforms,learning platforms and Learning and Practice Alliances) and through engaging diverse sectors and organizations to help diffuse innovation and experience of what works at different levels.

Activities supported under this component will also focus on supporting policies aimed at reducing progressively the use of animal dung as a form of fuel and building material across landscapes in order to increase soil carbon content over time and increase soil fertility and water retention capacity.This will be combined with a wider focus on the livestock-landscape relationship and, in particular, the key restorative capacity of manuring within degraded ecosystems. Linked to this will be successful engagement by a growing number of households in value chains and markets for livestock products.LPAs will lead diagnostic assessmentsthatspecify strategic interventions in each landscape designed to leverage existing or emergingbest practice and innovations and to capture opportunities for rapid adoption and scaling up and out. The project will also ensure that lessons learnt are widely disseminated and reproduced at national and local levels. Achievement under the project will provide a model which other countries in the region can learn from to ensure effective mainstreaming of biodiversity conservation and ecosystem service provision.

Outcome 1.1 Multi-stakeholder and multi-scale platforms in support of integrated natural resources management in agricultural landscapes in place: This will be achieved through the following outputs:

- *Output 1.1.1:Functioning multi-stakeholder platforms in place in the project sites and related levels of local government.*This will be achieved by convening key stakeholders at national and local/landscape scale includingWater UsersAssociations (WUAs) and local land committees to develop cross-sector responses to address food insecurity. This involvescooperation, planning and action across federal government sector ministries and agencies, regional government and woreda administrations as well as convening beyond government, and engaging with civil society, religious groups, the private sector, local communities, academic and research institutions, international and national NGOs and development partners. The convening of suchmulti-stakeholder platforms with partners is consistent with the learning component of RAPTA which encourages monitoring, assessment and knowledge management to move beyond minimum

compliance, and towards learning and adaptive management of the project and interventions through continuous learning and adjustment (see also Component 3).

Indicative Activities

- Convening key stakeholders at national and local/landscape scale level
- Employing continuous learning and adaptive management of the project and interventions

- *Output 1.1.2: At least one gender-responsive decision-support tool and participatory process applied:*The tool will identify intervention pathways that unlock the barriers that currently prevent women smallholder farmers frombenefiting from: (i) roof-water harvesting for household domestic and agricultural use (including vegetable production and livestock consumption); (ii) small-scale irrigation/water-smart agriculture at household level using pumps and gravity-fed groundwater and surface diversion for fruits, vegetables and other high values crops; (iii) on-farm soil moisture strengthening for crop production including crop selection and type, zero/minimum tillage and high ridge development; (iv) soil fertility and water-retention improvements through composting and green manuring; and (v) physical and biological soil and water conservation including afforestation/re-afforestation, land closure, terracing and bench terracing, multipurpose bundling and household seedlings.

  Indicative Activities

  - Identification of intervention pathways that unlock the barriers that currently prevent women smallholder farmers from benefiting

Outcome 1.2 Policies and incentives in place at national and local level to support smallholder agriculture and food value-chains:This will be achieved through the following outputs:

- *Output 1.2.1:Value chain approaches integrated with sustainable production systems, including reduction of post-harvest losses and a focus on livestock, grazing and dung utilization:*The concept of value chains involves value addition from production through to final consumption of product, during which different processes and actors are engaged at different points. The processes include production, storage and post-harvest processing at farm- and local-level; processing, grading and packing at industry-level (national level);and transporting and marketing to consumers. Several market actors participate and interact in value chains forming a hierarchy of producers, local collectors (e.g., local coffee collectives, dairy companies), traders, middlemen/agents, transport providers, manufacturers and supporting institutions such as government organizations, NGOs, financial institutionsand commodity exchange agencies. An absence of a sufficient and functioning infrastructure in the post-harvest/production chain (including key rural-urban transport provision) results in products beinglost and damaged before reaching consumers, and therefore value being lost. Improving the efficiency of agricultural markets, reducing transaction costs, and improving market information transparency is therefore a prerequisite for broader agricultural transformation (ATA 2015/16 Annual Report).The underlying assumption is that reducing losses in the post-harvest chain will increasefood security, thereby contributing to more sustainable livelihoods. Agricultural transformation also requires transparent output markets that provide signals to the farmers, allowing them to make informed decisions on what to produce and at what quality standards, as well as where and when to sell their outputs.This project will apply a holistic and integrated approach involving engagement with and cooperation between different stakeholders tounlock the constraints along value chains leading to more efficiency for both producers and consumers. This output will integrate value chains with production systems at project sites, with a specific (though not exclusive) focus on dairy marketing and the links between zero grazing, livestock fattening and biomass energy consumption by households.

  Indicative Activities

  - Unlock the constraints in value chains leading to more efficiency for both producers and consumers
  - Integrate value chains with production systems at project sites

- *Output 1.2.2:Selected value-chains strengthened in farming (including agro- biodiversity),horticultural crops, livestock and poultry:*The value-chain approach starts from the premise that food insecurity is foremost a symptom of poverty. Establishing effective value chains that enable increased fodder production in landscapes as part of landscape restoration, that generate value through fattening and dairy production and that reduce biomass depletion within landscapes – and specifically organic matter within soils – will generate a range of income and non-income benefits for households and communities. Scaled up, these benefits can help transform livelihoods as well as generate substantial industrial development and service industry expansion in transport, marketing, provision of inputs and small-scale manufacturing. Over time this will have important benefits for wider economic development in landscapes and support increased off-farm income-earning opportunities.The project will support the development ofthreevalue chains *(horticultural crops/livestock/poultry)*by strengthening: (i) production;(ii) aggregation;(iii) processing;and (iv)distribution(wholesale and retail). It will alsoimprove the enabling environment and strengthen the socio-cultural, organizational, institutional and infrastructural elements. Sustainability will be mainstreamed through a shift to institutional mechanisms that establish more equitable distribution of benefits and reduce negative impacts on non-renewable resources. The project will focus strongly (though not exclusively) on fodder, zero-grazing livestock fattening and dairy production in relation to reduced energy biomass usage within landscapes, selected horticultural crops and where feasible, poultry.Support to livestock value chains will include small-stock (i.e. goats and sheep) to ensure that women also participate and benefit from this area of support.

  As noted by ATA (2015/16 Annual Report), Ethiopian agricultural markets are characterized by inefficient and often extended marketing chains between producers and consumers, coupled with limited market infrastructure and services for farmers. Developing inclusive markets that benefit all, across the agricultural value chain will therefore require a critical understanding of the environment in which farmers produce their crops and livestock, the constraints they face in terms of markets, infrastructure, access to resources such as finance, and their overall ability to function and lobby as a collective (e.g. cooperatives). This output will therefore support the process required for a selected number of value chains to develop beyond the subsistence level, and to evolve in a manner that also benefits smallholder farmers.

  The process will involve support to a participatory supply chain diagnosis, planning and implementation to analyse the constraints and opportunities in the development of local supply to an off-taker, using an approach proposed by the African Agribusiness Supplier Development Progamme (AASDP)[5], development by UNDP, which identifies specific steps that need to be put in place to support farmers. This support will be provided for commodities that are already identified and farmers are currently producing, with a view to improving the benefits to farmers and ensuring that both supply and demand sides of the supply chain are improved. As outlined in the ASSDP Toolkit, the phases involved in agribusiness supplier development include:

  - *Supply Chain Diagnostics* – The objective of this stage is to assess the supply chain of each identified focal commodity and look at the constraints along that chain and what has created barriers for the smallholder farmers of the commodity from engaging in commercial activities and supplying to the off-takers.
  - *Supply Chain Development Planning*–following the diagnosis, strategies will then need to be developed and translated into practical supply chain implementation plans, backed by partnership agreements between stakeholders.
  - *Supply Chain Development Implementation*–an important aspect of this is the selectionof strategies and business models that will empower small suppliers in the supply chain, including the following:
    - Upgrading as a chain actor: the farmers become specialists with a clear market orientation;
    - Adding value through vertical integration: the farmers move into joint processing and marketing in order to add value;

[5]See UNDP Regional Service Center for Africa, 2013/14, African Agribusiness Supplier Development Progamme (AASDP)Toolkit: Growing inclusive agri-food value chains benefitting African farmers and SMEs

- Developing chain partnerships: the farmers build long-term alliances with buyers that are centred on shared interests and mutual growth; and
- Developing ownership over the chain: the farmers try to build direct linkages with consumer markets

Through support under this output, smallholder farmers and producers, will be empowered and capacitated to sustain the new value addition activities and partnerships beyond the life of the project. The sustainability of the supply chain will depend on continued support from other stakeholders, such as the Ministry of Agriculture and othersupport structure to get all stakeholders in the value chain, especially farmers, to a point where they can independently sustain the partnerships. To implement the work on support to the development/improvement of value chains, the project will draw on the in-house experience and technical expertise of the AFIM Private Sector Development Team, based in Addis Ababa, at the UNDP Regional Service Centre for Africa. AFIM is already part of the Food Security IAP, through the specific technical support that UNDP will deliver through the IFAD-led Regional Hub Project.

Indicative Activities

- Support the development of three value chains *(horticultural crops/livestock/poultry)* by strengthening production, aggregation, processing and distribution (wholesale and retail)
- Empower and capacitate the smallholder farmers to sustain the new value addition activities and partnerships

Component 2: Scaling up the Integrated Landscape Management approach to achieveimproved productivityof smallholder food production systems and innovative transformations to non-farmlivelihoods

More than half of irrigation in Ethiopia is classified as 'traditional'.Under the Agricultural Growth Programme (AGP), theGoE has committed to increasingtotal area under irrigation. While studies haveshown that improved technologies, including pumps to lift groundwater, could benefit around 1-2 million households, and small water reservoirs could benefit some 200,000-900,000 households, the right decisions on irrigation require consideration of a range of factors including soil types, input and product markets, human resource capacity and long-term health and environmental impacts. Achievingthe rightcombination as part of integrated landscape management is sometimes called 'water-smart agriculture' (WaSA)[6] and forms a key component of climate-smart agriculture. The advantages of WaSA are that the right choices can derive multiple benefits, including allowing farmers to grow high-value dry-season crops for local markets whilst increasing longer-term drought resilience and improving soil fertility. Combining broader WaSA planning (IWMI, 2015) and MUS design (Faal, et al, 2008) will involve mapping areas where there is potential for different technologies, developing a database in each zone, facilitating information-sharing and learning-based approaches and developing a pool of skilled labour for implementation.

The key will be tofocus on scaling up approaches that have been shown to work already in the woredas across six regions, both in increasingavailability and improving access to food. This is a key element in supporting an incremental approach, i.e. taking existing approaches, and providing innovations in their design, use and uptake through the multi-stakeholder institutional frameworks established under Component 1.This combining of more careful landscape management with increasing income from non-natural capital based livelihoods can support greater long-term food security and the achievement of GEBs. For example, a pilot study on irrigation in Oromiya showed that farmers could gain considerable benefit from on-farm ponds, including higher yields and greater household incomes. The GEF/UNDP-financed project *"Coping with Drought and Climate Change"* in Kaludemonstrated household income and asset building, as well as improving the nutrition content of the householddiet through vegetable and fruit consumption and through income earned. "An average farmer made in the range of 10,000-20,000 Ethiopian Birr (ETB) per year from vegetable and fruit production through farm ponds and irrigation systems" (UNDP Project Report Drought and Climate Change Project, 2013; CGIAR, 2014).

A key element in the approach involves providing incentives for the private sector to invest in ILM, building on efforts underway under the *G8 Alliance for Food security and Nutrition* to remove barriers for private sector participation. Specifically this will entailidentifying opportunities to fund demand-driven projects that demonstrate value addition for increased private sector investment in landscapes, focusing on specific value chains including livestock production and

[6] https://wle.cgiar.org/cgspace/resource/10568-64962

dairying. Last but not least, given the extensive weather risks faced by rural smallholders in Ethiopia, this component will engage private sector stakeholders tosupport smallholdersin gaining access to rainfall index insurance. Some of the existing barriers around index insurance that the project will unlock include appropriate design, effective outreach and education, and risk-layering and distribution channels—including linking insurance with financial productssuch as credit facilities and microfinance for loan provision for input supplies.

Outcome 2.1 Increased land area and agro-ecosystems under Integrated Land Managementand supporting significant biodiversity and the goods and services this provides:

ILM is crucial to arresting degradation and rehabilitating watersheds, but requires collaboration and partnerships at all levels – land and natural resource users, technical experts and policy-makers, entrepreneurs and community leaders.Joint planning and identificationof measures, effective training and capacity development to ensure effective implementation and wider and more supportive policy and regulatory environmentsare key prerequisites for success. During the stakeholder consultations, farmers expressed the need for: (i) Rehabilitation of degraded areas; (ii) Increasing forest cover; (iii)Creating conducive environments for sustainable economic and social development; (iv) Practicing climate- and water-smart agriculture; (iv) Improving crop and livestock production; and (v) Diversifying agriculture.This will require a joint understanding of drivers and causes of land degradation, co-development of measures to arrest and then mitigate degradation and incentives for actor-stakeholders from the farm-level upwards to implement measures and scale them up to a landscape level. This will be achieved through the following outputs:

- *Output 2.1.1:240,000farm households in 12 pilot sites trained in improved soil and water management*: 2,000 households in each woreda within a shared watershed will be supported in soil and water management techniques. These households will then share lessons and facilitate wider uptake of ILM within the whole woreda and across other watersheds, supporting scaling up amongst a further 8,000 households. In total 10,000 ha of land will be under ILM in degraded watersheds in each woreda, leading to a total of 120,000 ha under improved ILM. It is anticipated that wider dissemination of lesson-learning and practice through multi-stakeholder platforms could lead to scalingup by a factor of 10, to at least one million ha of land with improved soil and water management by the end of the project.

Indicative activities

- Support & training in soil and water management techniques
- Facilitate wider uptake of ILM and scaling up

- *Output 2.1.2:120,000ha under diversified food production:*The diversification of food production aims to generate cash income through value chain development and market access,improve nutritional levels and increase genetic biodiversity. Activities under this output will support an increase in production of nutrient-dense foods (vegetables, fruits, legumes and animal-source foods), encourage more integrated farming systems that adopt zero-grazing approaches and strengthen the knowledge base of different food types and their nutritional value, as well asestablish better access to microfinance.Activitieswill combine ILM, WaSA and otherapproaches with a strong focus on alternative livelihood options, including beekeeping to make households more resilient todrought and other food production shocks. Equally important will be combiningmodernization of extension services with ‘champion’ farmer approaches, farmer field schools and innovation in the use of radio and other media to disseminate experience and results between and beyond communities. Choices taken at a kebele level will be determined by relevant authorities in conjunction with communities and be based on existing successful practices. This follows initial identification undertaken as part of the RAPTA design process.

Indicative activities

- Support an increase in production of nutrient-dense foods (vegetables, fruits, legumes and animal-source foods)
- Encourage more integrated farming systems
- Establish alternative livelihood options and better access to microfinance

- Modernization of extension services with 'champion' farmer approaches, farmer field schools and innovation

- *Output 2.1.3a:10,000 ha of agro-pastoral systems under integrated management*: The agro-pastoral and pastoral production systems are predominantly confined to the semi-arid and arid zones in Ethiopia. The main approach in these areas is livestock production, based on grazing natural forage. However, with increasing population pressure, most high-potential range areas have been taken up for crop production and irrigation, and the agro-pastoral and pastoral production systems have become increasingly marginalized in more arid areas where forage production is limited by acute shortagesin precipitation, e.g. the project areas of Abala and Amibara (Afar Region), and Tuliguled and Gursum (Somali Region).These systems are becoming unsustainable, and land degradation through overgrazing is damaging environments and ecosystems, putting pastoral and agro-pastorallivelihoods at risk. Integrated Land Management activities planned under this output offer the most feasible option forstabilizing livestock production and enhancing a continuous supply of livestock products. This will be achieved through restoring the environmental functions and services provided by healthy ecosystems (including watershed protection, forage production, irrigation of pasture, water for livestock, maintenance of soil fertility and organic content, micro-climate amelioration, bio-diversity preservation, and improved breeds).

Indicative activities

- Restoring the environmental functions and services
- Maintenance of soil fertility and organic content
- Biodiversity preservation

- *Output 2.1.3b:240,000 farm households with increased access to food including through off-farm activities*: This output will increasefood availability and food access through improved farming systems,encouraging stronger entrepreneurship, and more established market systems that can improve food utilization through distribution and better care practices, such as improved processing, preservation and storage, and through promoting off-farm income-earning activities.

Indicative activities

- Improvement of farming systems
- Encouraging stronger entrepreneurship
- Improving processing, preservation and storage
- Promoting off-farm income-earning activities

Outcome 2.2: Increase in investment flows to integrated natural resources management:

Agricultural production systems dependonnatural resources – land, water, biodiversity, forests, pasture and wildlife. Farm activities can also have major impactson the quality and availability of these resources, well beyond the boundaries of production systems (for example, downstream pollution, soil erosion, sedimentation and flooding). Although natural resources are critical to agricultural production, farm households also frequently depend on them to meet other needs, such as fuel, construction materials, and supplemental foods. Rural livelihoods are therefore intricately linked to the condition of natural resources.

Natural Resource Management (NRM) investments are generally focused on conservation and sustainable use of resources, with institutional strategies emphasizing local management, equitable access, and provision of alternative livelihood options. The investment should embrace: (i) Increasing productivity and efficiency in use of resources (agricultural production, timber, realizing recreational value); (ii) Development of environmental services and markets (watershed protection, restoring natural landscape aesthetics, and carbon sequestration); (iii) Investments in natural resource conservation and environmental education (possible future uses); and (iv) Conservation of protected areas (biodiversity, religion and culture).

- *Output 2.2.1:US$11minvestment leveraged bybilateral and multilateral organizations and the private sector*: This output will support increased investment flows to ILMby incentivizing (particularly the private sector) to invest in natural resources management building on efforts underway by the G8 Alliance for Food security and Nutrition to remove barriers for private sector participation. Specifically the project will look for opportunities to fund demand-driven projects that demonstrate value addition for increased private sector investment, e.g. in dairy production and area enclosures linked to productive livelihoods, including bee-keeping, as well as high-yielding forage plants (for cut and carry to feed lots) and fruit orchards.Project activitieswill establish a direct link between sellers and buyers of produce and water, land, forest, agriculture and other environmental services. It will create enablingconditions for the private sector to contribute more comprehensively and sustainably toresource utilization through good practice includingunder market-based Payment for Ecosystem Services (PES) schemes.

Indicative activities

- Incentivizing the private sector to invest in natural resources management (dairy production and area enclosures linked to productive livelihoods)
- Establish a direct link between sellers and buyers of produce and environmental services

- *Output 2.2.2:10 innovative funding mechanisms/incentive schemes in place in the project sites–includingrainfallindex insurance:*Seed producers have little incentive to develop self-pollinating improved seeds, and prefer hybrids that users cannot regenerate. At the same time, farmers are often credit-constrained and risk-averse, unable or unwilling to pay the full discounted value of self-pollinating improved seeds. Pull mechanisms could provide incentives to private companies to develop new types of more environmentally-friendly fertilizers, and help farmers improve the management of existing fertilizers. Pull mechanisms will be designed to reward better post-harvest management, and/or to develop new technologies for drying and storage. Malnutrition remains widespread, with market failures due to lack of competition and poor information, despite the fact that solutions are available to address the problem. In addition, food price volatility generates significant human development losses. Activities under this output will include mechanisms that foster the use of risk insurance and improve the dissemination of information on food stocks. In addition, livestock management presents opportunities for results-based pull mechanisms, for example the use of artificial insemination. This output builds on experience from the GEF Funded '*Promoting Autonomous Adaptation'*project where community members and smallholder farmers were provided with high-yielding, early-maturing and drought-resistant crop seeds, and assistance in irrigation from rainwater harvesting, as well assupport for degraded watershed rehabilitation. Similar programmes under the project willidentifyinnovative funding mechanisms and apply them at the 12 pilot sites based on an in-depth analysis of: (i) Key global and/or national initiatives; (ii) Funding partnerships and emerging funds including private initiatives that could establish opportunities for investments in ILM at scale; and (iii) Possible sources including compensation for environmental services, PES on domestic water supply and irrigation, and payments for carbon sequestration and charcoal production.

Indicative activities

- Analysis of key global and/or national initiatives
- Assessment of funding partnerships and emerging funds
- Identify possible sources including compensation for environmental services
- Promote use of rainfall index insurance, including linking insurance with credit facilities and microfinance for loan provision for input supplies

Component 3: Knowledge Management, Learning, Monitoring and Assessment

In addition to the above intervention areas and institutional approaches, a strategic shift to knowledge-based transformation of smallholder agriculture is vital. This entails the creation of effective learning environments in the 12 pilot sites and zones/regions in which they are situated – and between these sites and higher levels.Sustainable

management of the resource-base, climate change mitigation and adaptation, and improved value chain engagement and support all require advanced levels of knowledge and experience-sharing. Enhancing agricultural knowledge and facilitating its uptake and productive application is therefore crucial. This requires enhancing capacities at different levels—individual, organizational and system—for learning and innovation, including adoption of learning-by-doing (action research) approaches. This stems from awareness that not enough is known about the functioning of production systems and how to introduce change on a sustainable basis, including interventions that support wider gender empowermentand transformational shifts to new livelihoods. A better understanding of systems through the use of action researchcan assist in identifying relevant improvements and ways to achieve them.

This component focuses on achieving a system of evidence-based Monitoring and Assessment, Knowledge Management and Learning within which local stakeholders will be key actors. Activities under this component will focus on monitoring and assessment of whether institutional frameworks, integrated approaches and initiatives for transformation to new livelihoods have a positive impact on resilient food systems and the generation of GEBs. This will include examining changes in provision and use of ecosystem services, new and strengthened livelihoods strategies, value chain development and sharing of benefits and costs; as well as, more generally, understanding trade-offs and synergies among environmental, agricultural and livelihood outcomes. The approach will use a set of standardized tools that can be applied across scales, from local to landscape/woreda and zonal/regional. Support will entail establishing integrated baselines, capacity building of key institutions in charge of monitoring and learning (including support to multi-stakeholder platforms), support to the development of tools and systems for monitoring GEBs, such as carbon benefits and GHG emission reductions, as well monitoring of resilience, agricultural productivity and socio-economic benefits and gender-responsivetransformation.Guided by needs at each project site, action research will be established to gather and generate evidence and facilitate innovationsto achieve moreresilient agro-ecosystems, including climate-adapted food production systems and pathways to support new, off-farm livelihoods activities.

Outcome 3.1: Capacity and institutions in place to monitor and assess resilience, food security and GEBs:

This outcome will be achieved through effective monitoring. A first step will be to determine available M&A experience at the national and site level, identify gaps between the project's M&A needs and available personnel, and strengthen capacity where needed. The Regional Hub project has already been approached to provide this support. A monitoring and assessment program will be put in place using the Resilience Atlas tool and the Vital Signs framework to conduct on-going monitoring of food security and GEBs, including land cover, soil organic carbon, vegetation structure and composition, crop and livestock productivity, above ground carbon stocks, land degradation types, severity and causes, effectiveness of ILM and INRM measures, and impacts on ecosystems and livelihoods.

- *Output 3.1.1:Multi-scale monitoring of ecosystem services and global environmental benefits established at landscape level*:This output will support relevant woreda, zonal and regional institutions to establish a system of GEBs monitoring at landscape level within project sites. This will involve local academic and research institutions in collaboration with a sample of selected farmers and pastoralists at each site. A baseline set of values will be determined during the inception phase against which progress will be measured on an annual basis across sites. These values will be recorded digitally and geo-referenced to enable remote-sensing support and ground-truthing of data. An M&A plan will be put in place which will summarise methods of data collection, including how collection will take place, frequency of collection, by whom, what and where, including reporting templates (and approaches that will use methods of digital data collection, where necessary, and cloud data storage). Technologies, such as satellite imagery, geographic information systems, and big data sources, will facilitate more efficient and reliable collection of data on land cover, water usage and quality, biodiversity, and other measures of resource inventory and quality needed for sound landscape management.

Indicative activities

- Involve local academic and research institutions & selected farmers/pastoralists at each site
- Determine a baseline set of values & measure progress on annual basis
- Put M&A plan in place

- *Output 3.1.2:Framework for monitoring resilience established at national and landscape levels*: Activities under this output include data integration across the six regionsusing the Resilience Atlas

(http://www.resilienceatlas.org) and Vital Signs data collection and monitoring programmes, both of which are Conservation International initiatives designed to facilitate informed decision-making for agricultural production, ecosystem management and human well-being. The project will develop a project page on the Resilience Atlas to store baseline data, and will add new layers to the Atlas as the project progresses. Through participatory monitoring and assessment approaches, the project team and extension officers will work closely with farmers and other land users to map their geographies and better understand them in terms of the stressors and shocks those geographies are exposed to, and therefore be better informed about their own vulnerabilities and what livelihood strategies (e.g. crops to grow and when) can be devised and implemented, and how their assets can be utilised to increase the resilience of both livelihoods and ecosystems.

The technical experts from CI will conduct training and capacity building to the project team, the government extension officers and community members on the use of the tools for mapping vulnerability and resilience at community and landscape levels. Each community, through the support of the trained extension officers, will conduct this resilience assessment monitoring exercise atleast twice during the life of the project, at mid-term and at the end of the project. The baseline assessment and mapping exercise will be conducted during the inception phase of the project as part of Output 3.1.2 and 3.1.5 (Vital Signs monitoring landscapes established in each of the six regions). The project will support the integration of the mapping tools into woreda and kebele-level monitoring systems and ensure that the capacity of local institutions and communities to utilise them, is built, to ensure that these tools are applied and utilised beyond the life of the project. The project will ensure that the tools are simplified for easier accessibility and utilisation by members of the community.

The project will draw on the expertise of CI in implementing this output, and ensure the direct linkages between the child project's activities under Component 3 - Knowledge Management, Learning, Monitoring and Assessment, with those of the IFAD-led Regional Hub Project, especially its work under Outcome 3.1, as described under section A.2 Child Project, of the CEO ER.

Indicative activities

- Integration of data across the six regions using the Resilience Atlas and Vital Signs data collection and monitoring programmes
- Development of a project page on the Resilience Atlas to store baseline data
- Add new layers to the Atlas as the project progresses
- Map farmers & other land user's geographies &understand stressors& shocks of those geographies
- Conduct training and capacity building to the project team, extension officers & community members on the use of the tools for mapping vulnerability & resilience at community and landscape levels

- *Output 3.1.3:Key program socio-economic and gender indicators mainstreamed*: Social and economic inequalities between men and women undermine food security and hold back economic growth. Gender equalitywill be essential to successful project implementation and outcomes. Equality in access to resources, goods, services and decision-making in rural areas has to be formulated in response to evidence that gender inequality exacerbates food insecurity, malnutrition and poverty. This output will mainstream gender-responsive and socio-economic indicators into sector planning, including training national policy analysts in the collection and use of sex-disaggregated data, and development of gender-responsive socio-economic indicators.

Indicative activities

- Develop gender-responsive socio-economic indicators
- Mainstream gender-responsive and socio-economic indicators into sector planning
- Train national policy analysts in the collection and use of sex-disaggregated data

- *Output 3.1.4:Landscape-national level data integration tool established:*The Resilience Atlas will be used as a data integration and analytical tool to support construction of M&A datasets from local-to-nationalscale. This will provide a multi-scale platform for integration and sharing of both project-scale and global data, and will provide forcapacity building of project personnel, government, NGO and private sector actors in

assessing and monitoring the resilience of food systems, livelihoods security and achievement of GEBs at project, national and regional scales. This tool will also support detailed kebele and community-level site selection during project inception, and will allow the project to monitor and assess whether project activities are achieving desired impacts on food security and GEBs. The project will also use the Resilience Atlas as a learning tool, by creating one data-driven story for each of the six regions that highlights successes and lessons learned from the project with respect to interventions promoting resilience of food security and the achievement of GEBs.

Indicative activities

- Use of Resilience Atlas as a data integration and analytical tool to support construction of M&A datasets from local-to-national scale

- *Output 3.1.5: Vital Signs monitoring landscapes established in each of the six regions:* The project will establish one Vital Signs Landscape in each of the six regions, and, following standardized Vital Signs protocols, conduct baseline surveys, including Vital Signs household surveys to evaluate food security, conducted in collaboration with the Ethiopian Ministry of Agriculture and Natural Resource and the World Bank Living Standards Measurement Survey. This will ensure quality and standards using Vital Signs local landscape diagnostics (including land cover, soil organic carbon, vegetation structure and composition, crop and livestock productivity, above-ground carbon stocks, land degradation types, severity and causes).

Indicative activities

- Establish one Vital Signs Landscape in each of the six regions
- Following standardized Vital Signs protocols, conduct baseline surveys, including Vital Signs household surveys to evaluate food security

- *Output 3.1.6: On-going monitoring of food security and environmental benefits:*The project will use the Vital Signs framework and protocols for on-going monitoring of food security and GEBs including land cover, soil organic carbon, vegetation structure and composition, crop and livestock productivity, above ground carbon stocks, land degradation types, severity and causes, effectiveness of ILM measures and impacts on ecosystems and livelihoods. On-going monitoring will allow assessment of impact within each project site through comparison of outcomes before and after project inception.

Indicative activities

- Application of the Vital Signs framework and protocols for on-going monitoring of food security and GEBs
- Assessment of impact within each project site through comparison of outcomes before and after project inception

- *Output 3.1.7:Action research and a learning framework in place for scaling up innovation*: An action research and learning program will be established to provide evidence and support for local innovation and flexibility in order to support theadoption of approaches. Research needs expressed by local innovation platforms and LPAs will direct the content of the action research in different regions. There are several small-scale innovationsaround institutions, integrated NRM approaches, and water-smart agricultural technologies that are happening in Ethiopia and the wider Horn of Africa. The primary task for action research and learning will be to gather information on innovations relevant to the project sites and to provide evidence and opportunities for scaling out and up. Due to the limited time of the project preparation phase, detailed activities for this output will be identified in the inception phase. Support forthis output will be provided by the Regional Hub and other partners such as CSIRO and STAP.

Indicative activities

- Establish an action research and learning program to provide evidence and support for local innovation and flexibility in order to support the adoption of approaches
- Gather information on innovations relevant to the project sites and provide evidence and opportunities for scaling out and up

- Solicit assistance from Regional Hub, CSIRO and STAP

3.2 Partnerships

The project will build partnerships at local, regional and national levels in order to coordinate and establish synergies across sector line ministries, with non-governmental and private sector actors. Partnerships at the community level will be key to ensuring successful implementation. The GEF-funded project on 'Promoting Autonomous Adaptation at the Community level' (UNDP PIMS 4107, GEF ID 4222)demonstratedeffective ways to support local communities and administrations at the lowest level of government in order to design and implement diversified climate change adaptation actions aimed at reducing vulnerability and building resilience. The project will also partner closely with the on-going GEF funded project on 'Strengthening Climate Information and Early Warning Systems for climate resilient development and adaptation to climate change' (UNDP PIMS 5095, GEF ID 4992). This project is designed to increase adaptive capacity of local communities in responding to the impacts of climate change and variability, mainly by strengthening Climate Information and Early Warning Systems and improving farmers' decision-making.

The project will closely work with 'Mainstreaming Incentives for Biodiversity Conservation in the Climate Resilient Green Economy Strategy project' (UNDP PIMS 4644, GEF ID5440)in promotingan enabling environment for PES, in particular. This will help in establishing synergies with key partners and similar projects at zonal and woreda level (where there is site integration). Where there is no integration, study visitsand exchanges among policy makers and farmerswill be supported to encourage cross-learning.

To establish synergies and capitalize on lessons learned at regional and zonal level, the project will consult with recent and on-going programmes including (i) the Disaster Risk Reduction & Livelihoods Recovery Programme that builds national and local capacity for disaster risk reduction and livelihoods recovery; (ii) The GOE's Food Security Programme—which addresses persistent food insecurity through a systematic approach to strengthening the capacity of households to generate income and increase asset holdings (The Household Asset Building Programme (HABP) includes a demand-driven extension and support component and improved access to financial services); and (iii) The Productive Safety Net Programme(PSNP) designed tosupport chronically food-insecure households for six months of the year for up to five years, so that these households are able to build resilience to safeguard against shocks including drought and/or rises in food prices that cause food emergencies. In addition, the project will partner with initiatives of the CGIAR system on learning and knowledgemanagement in collaboration with regional academic and research institutions in the six respective regions.

Last but not least, this project is one of 12 countries in the larger GEF Food security IAP. Through the Regional Hub Project, partnerships will be established among the 12 countries with many opportunities for cross learning and sharing best practice. A deliberate effort will be made for cross-country visits especially between those countries in East Africa and the Horn of Africa (Uganda, Kenya, Tanzania and Burundi) that share common challenges.

This project builds on extensive investments already ongoing in Ethiopia through government and bilateral donor support. The main programmes that form the baseline are outlined below:

a. **Climate-Resilient Green Economy:** The CRGE initiative outlines the vision, strategy, financing, and institutional arrangements Ethiopia will pursue to attain the triple goals of economic growth, net-zero emission, and climate resilience. The CRGE vision draws upon the GTP-I's ambitious objective for Ethiopia to be a middle-income country by 2025. It highlights the need to adjust institutions, incentives, and investment priorities so that they can improve the national (along with regional and local) capacity for climate change mitigation and adaptation, disaster management, and sustainable land management. This includes initiatives to promote reforestation, enhance biodiversity and ecosystem services, improve water and air quality, improve efficiency of energy consumption, and lower emissions. Furthermore, the CRGE highlights the potential for Ethiopia to benefit from global initiatives that reward 'good' environmental policies and practices such as sustainable forest management that can be financed through sector investments and through carbon finance payments via the programme for Reducing Emissions from Deforestation and Forest Degradation (REDD+), and other global programs. There is also potential to access financing from bilateral agreements with foreign governments and NGOs. The CRGE aims to increase economic growth, while at the same time reducing greenhouse gas (GHG) emissions and increasing climate resilience. The main goal is to increase per-capita GDP by 475%, from US$ 380 to more than US$ 1,800 by 2030, while at the same time reducing GHG emissions on a per capita basis by 35% from 1.8t to 1.1t CO2 equivalent.

b. **Sustainable Land Management (SLM) Phase II:** The objective of the Second Phase SLM is to reduce land degradation and improve land productivity in selected watersheds in targeted regions in Ethiopia. There are four components to the project, the first component being integrated watershed and landscape management. The objective of this component is to support scaling up and adoption of appropriate sustainable land and water management technologies and practices by smallholder farmers and communities in the selected watersheds and woredas. The second component is institutional strengthening, capacity development and knowledge generation and management. The objective of this component is to complement on-the-ground activities implemented under component one by strengthening and enhancing capacity at the institutional level, and building relevant skills and knowledge of key stakeholders, including government agencies, research organizations and academia involved in the sustainable management of natural resources, as well as the private sector, community leaders and smallholder farmers. The third component is rural land administration. The objective of this component is to enhance the tenure security of smallholder farmers in the project area in order to increase their motivation to adopt sustainable land and water management practices on communal and individual land. The fourth component is project management.

c. **Productive Safety Net Programme (PSNP**): The Productive Safety Net Programme (PSNP) in Ethiopia aims at enabling the rural poor facing chronic food insecurity to resist shocks, create assets and become food self-sufficient. PSNP is designed to support chronically food-insecure households for six months of the year for up to five years, so that these households are able to build resilience to safeguard against shocks including drought and/or rises in food prices that cause food emergencies.

d. **Growth and Transformation Plan–II (GTP-II):** As a vehicle towards the realization of Ethiopia's vision of becoming a lower middle income country by 2025, the GTP-II is built on sectoral policies, strategies and programmes, lessons drawn from the implementation of the first GTP, and the post-2015 sustainable development goals (SDGs). It has also taken into account global and regional economic situations with a direct or indirect bearing on the Ethiopian economy. GTP-II aims to achieve an annual average real GDP growth rate of 11% within a stable macroeconomic environment while at the same time pursuing aggressive measures towards rapid industrialization and structural transformation. In order to achieve its objectives, GTP-II set out the following strategic pillars: a) Sustaining rapid, broad-based and equitable economic growth and development witnessed during the last decade including GTP-I; b) Increasing productive capacity and efficiency to reach the economy's productive possibility frontier through rapidly improving quality, productivity and competitiveness of productive sectors (agriculture and manufacturing industries); c) Enhancing the transformation of the domestic private sector to enable the sector to become a more capable development force; d) Building the capacity of the domestic construction industry, and bridging critical infrastructure gaps with a particular focus on ensuring quality provision of infrastructure services; e) Proactively managing the on-going rapid urbanization to unlock potential for sustained rapid growth and structural transformation of the economy; f) Accelerate human development and technological capacity building and ensure its sustainability; g) Continue to build democratic and developmental good governance through enhancing implementation capacity of public institutions and actively engaging citizens; h) Promote women and youth empowerment, ensure their effective participation in the development and democratization process and enable them to equitably benefit from the outcomes of development; and i) Building a climate resilient green economy.

e. **Disaster Risk Reduction and Livelihoods Recovery Programme (DRR/LR):** The overall goal of the program is to enhance institutional capacities for disaster risk reduction and ensure effective policy, program and planning from federal to community levels in the country. More specifically, the outcome is enhanced institutional capacity to lead cost-effective, systematic and sustainable actions towards the protection of lives, livelihoods and property of vulnerable populations through a reduction in the risks and impacts of disasters. The DRR/LR is a multi-donor and multi-year program and it has been implemented since 2010 in the most-hazard prone regions of the country. At Regional level, the program is working in Afar, Gambela, Oromia, and Somali regions. At Federal level, strategic policy support has been provided to the Disaster Risk Management and Food Security Sector (DRMFSS) with the support of multiple donors (including Switzerland, Japan, and African Union) as well as UNDP core resources.

f. **Household Asset Programme (HABP):** The objective of the project is to provide the technical support to the Ministry of Agriculture Extension Directorate and Federal Rural Cooperative Case Teams in implementing the household asset-building initiative. The Household Asset Building Program (HABP) was one of four component of the Government of Ethiopia's Food Security Programme. The Programme includes a demand-driven extension and support component and improved access to financial services.

g. **Mainstreaming Incentives for Biodiversity Conservation in the CRGE:** This project supports revision of the CRGE to ensure two key aspects: first, that it adequately recognises the importance of conservation and sustainable use of biodiversity to achieve more sustainable paths of development; and, second, that it clarifies what the government currently spends on the environment (coding the budget and also undertaking a public environment expenditure review) to encourage higher spending. This will mainstream biodiversity conservation and protection of vital ecosystem services. It also pilots a programme of payments for ecosystem services in sites selected as being of high biodiversity value and at risk of degradation, compensating land users for protecting and enhancing their community lands to ensure long-term provision of ecosystem services upon which the wider population of Ethiopia depends. This will bring global environmental benefits. Land users will also be trained to increase crop yields on their arable lands by adopting a range of biodiversity-friendly approaches. In particular, the project link will help in establishing synergies with key partners and similar projects at zonal and woreda level (where there is site integration). Where there is no integration, study visits and exchanges among policy makers and farmers will be supported to encourage cross-learning.

h. **Promoting Autonomous Adaptation at the Community level:** This project has worked on effective ways to support local communities and administrations at the lowest level of government to design and implement diversified climate change adaptation actions aimed at reducing vulnerability and building resilience. The project will build, in particular, on providing support to local communities and administrations at the lowest level of government to design and implement diversified climate change adaptation actions aimed at reducing vulnerability and building resilience.

i. **Strengthening Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to Climate Change:** This project is designed to increase adaptive capacity of local communities in responding to the impacts of climate change and variability, mainly by strengthening Climate Information and Early Warning Systems and improving farmers' decision-making. The aim is to provide the capacity to develop: (i) an early warning system for severe weather; (ii) real-time weather and hydrological monitoring; (iii) weather forecasting capabilities (Numerical Weather Prediction); (iv) agro-meteorological information and services (including integrated crop and pest management); (v) applications related to building and management of infrastructure; (vi) land, air and maritime transport management; (vii) integrated water resources management; (viii) coastal zone and land management; and (ix) planning and policy making processes.

j. **Climate Change and Environmental Sustainability:** The Climate Change and Environmental Sustainability Project supports national capacities for climate change adaptation and resilience against climate change impacts. It enables capacity to better manage severe weather related disasters, food security and agricultural production, scarce and dwindling water resources and socioeconomic development processes.

k. **Horn of Africa Initiative (HoAI) – sponsored by IGAD:** This initiative originated from the European Union (EU) regional political partnership for a peace and security strategy for the Horn of Africa. The implementation of the strategy was launched jointly by the seven governments in the Horn region (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda) and EU. The focus of the strategy subsequently widened and the initiative became a regional political partnership for peace, security and development in the Horn of Africa.

Co-Finance Baseline Description based on projects that the IAP will engage with a national, regional and local levels

No.	Programme	Baselines activities as co-finance to the project	In-kind value proposed (USD)
1	Climate Resilient Green Economy Strategy (CRGE)	Fostering economic development and growth, ensuring abatement and avoidance of future GHG emissions & improving resilience to climate change	*150,000,000 (for 20 years) – Detailed information not available (NA)
2	Sustainable Land Management (SLM) Phase II	It has four components: integrated watershed and landscape management, institutional strengthening, capacity development and knowledge generation and management, rural land administration, and project management	85,000,000
3	Productive Safety Net Programme (PSNP)	Supports households to build up their resilience to safeguard against shocks including drought or rises in food prices that cause food emergencies requiring financial assistance	£2.216 billion between 2015 and 2020
4	Growth and Transformation Plan – II (GTP-II)	Focuses on ensuring rapid, sustainable & broad-based growth through enhancing productivity of agriculture and manufacturing, improving quality of production and stimulating competition in the economy	USD 100 billion between
5	Disaster Risk Reduction & Livelihoods Recovery Programme	Deals with Strengthening Capacities for Ethiopia's Disaster Risk Management System	17,700,000
6	Household Asset Building Programme-HABP	Includes a demand driven extension and support component and improved access to financial services	16,040,232
7	Mainstreaming Incentives to Conserve Biodiversity in the CRGE	Provides farming communities with incentives (policies, capacity, markets, PES and knowledge) to conserve biodiversity	3,863,000
8	Promoting Autonomous Adaptation at the Community level	Supports local communities and administrations at the lowest level of government to design and implement	300,000

		adaptation actions	
9	Strengthening Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to CC	Aims to increase adaptive capacity to respond to the impacts of climate change, including variability	4,900,000
10	Climate Change and Environmental Sustainability	Supports national capacities for climate change adaptation and resilience against climate change impacts	2,000,000
11	Horn of Africa Initiative (HoAI) – sponsored by IGAD	An ambitious program of investments to expand transportation, energy, and water resources, with initial funding from the EU	**Information not available (NA)
TOTAL			**$144,465,431**

*-Not included in the sum total **-Information not available/therefore not accounted in the sum total

3.3 Stakeholder engagement

Stakeholders were identified at two levels: During project preparation, key stakeholders were identified and consulted at different levels: a) atanational-level workshop in March 2016 in Addis Ababa (which was complemented by a meeting between the consultants and the State Minister of Environment, including the GEF Focal Person within the Ministry of Forest, Environment and Climate Chang); and b) during site visits to six regions by the project design team during which consultations took place with regional and zonal officials and, to the extent possible, members of local farming communities (see annexes). The findings from the site visits were included in the field/baseline reportwhich is also annexed.

The key outcome of the Addis Ababa stakeholder consultation was twofold: a) first, a stronger understanding and appreciation of the RAPTA method in designing the project, including the use of innovative tools and processes to identify appropriate interventions; and b) the design of a generic 'Theory of Change' for the child project, which was combined with analysis from the site visits to generate the final ToC used in the ProDoc (the Addis Ababa meeting report is also annexed). The second level involved six visits to zones and regions where the project activities will be implemented. In each location the team convened stakeholders and applied RAPTA tools to assess particular adaptation pathways under the project. These were identified by stakeholders then reflected in final project design. At the same time, during these visits, a process of stakeholder identification of two woredas in each region took place. The output of these visits was a completed quadrant analysis, identification of intervention options and agreed woreda sites.

Stakeholders will be key to the governance structure of the project. National-level project governance is composed of representatives of different government ministries (MEFCC, MoA, MoL, MoW), and their regional counterparts, and UNDP Ethiopia country representatives. The-local level project governance will have relevant local government council representatives and bureaux experts, community based organisations including representatives of farmers, women and youth associations, relevant private research institutes, private sector representatives and locally-operating NGOs.

Each of these stakeholder-partners has a role to play in identifying innovative and integrated solutions fit for respective sites and will support creation of an institutional environment that supports scaling up and mobilizes households to take action. While steering the implementation of the project is a key role of these national and local project structures, they will also support well-coordinated and integrated approaches to stakeholder participation, replacing conventional silos and managing conflicts that may arise among partners, as well as participating in local- and national-level learning and adaptive management of the project through dedicated monitoring, assessment, and knowledge management.

Stakeholder category	Details of stake in work
Ministry of Environment Forest and Climate Change	The MEFCC will be the National Implementing Partner for this project. It will provide support through a national project manager who will oversee implementation quality and delivery against the project plan. The project will work closely with MEFCC staff to deliver on all components, with a particular emphasis on Components 1 & 2.

(MEFCC)	
Community members and groups of resource users and managers at local levels	The local communities in 12 site woredas are the critical managers and users of resources – including ecosystem services and farm/livestock system inputs. They are also the resource managers, users and the identified potential sellers of ecosystem services (including men and women) under the pilot programme. In existing or new project-specific groups (under cooperatives or other CBOs) they will be programme participants. Working closely with local partner institutions under multi-stakeholder platforms and Learning and Practice Alliances (LPAs), they will implement changes in land management practices and establish – with support – viable value-chain related livelihoods activities. They will be the direct beneficiaries of the project. An audited 50% plus of direct beneficiaries will be women stakeholders.
NGOs, associations and other national and international agencies	National and international NGOs will be involved in supporting community engagement, in establishing multi-stakeholder platforms and in strengthening existing CBOs actively engaged in the project. They will support through technical advice, training and capacity development and learning and knowledge management at farm/household level, particularly in the sample sites selected for monitoring. The precise composition of these stakeholders will be identified through project implementation units during the inception period.
Local universities in respective zone/regions related to the 12 pilot areas	Haramaya University (Oromiya), Debre-Markos/Bahi Dar Universities (Amhara), Arba Minch/Hawassa Universities (SNNP), Jigjiga University (Somali), Semara University (Afar) and Mekele University (Tigray) are key stakeholders in development of knowledge management and monitoring and assessment. They are already effectively embedded in working with local communities. As key stakeholders they will be implementers, providing technical support and advice, including training, and also play key roles in knowledge acquisition and learning-by-doing approaches. This will include during further baseline data collection in the inception period. MoUs will be confirmed during this period.
Federal-, regional-, zonal- and woreda-level stakeholders	ILM is an integrated approach. The main group of stakeholders under the project will be different sector institutions, involving technical and professional staff from *inter alia* agriculture, forestry, water, natural resources and environment. Both the private sector and civil society are key stakeholders, often engaged directly with farmers. At federal level, the Ministry of Agriculture, Ministry of Water and Energy, and the Ministry of Environment and Forestry connect policy on livelihoods to wider natural resources management, including activities that generate greater biomass conservation. Key private sector institutions relevant to the project will be identified during the three-month inception period. The six regional states and associated, zones, woredas and kebeles will be key to implementation, supporting uptake and mainstreaming of approaches and assisting hosting and convening of multi-stakeholder platforms.
BoA, BoWE and BoEPLU of Oromia, Amhara, SNNP, Tigray, Afar and Somali Regional States	Regional bureaus are key stakeholders and implementers for the pilot interventions. Roles include catalysing involvement by local communities, monitoring and assessing impacts and results and supporting learning by doing approaches through Learning and Practice Alliances and other platforms. They will also target institutions for training and capacity development in order to support their oversight and quality control of the work.
Zonal, Woreda Agricultural, Water and Energy and Environment Protection and Land Use Offices	Working closely with other implementation partners, these are the key stakeholders in community-level processes. They will convene pilot site committees through which to oversee and implement activities, particularly under Component 2. This will require close engagement with existing kebele-level watershed committees, Environmental Clubs, Farmers Clubs, CBOs, Youth and Women's Cooperatives and other local-level associations and networks. Detailed TORs will be agreed during the Inception Period.

3.4 Genderequality and women's empowerment

A Gender Assessment carried out during the project preparation phase showed that women often suffer a 'double burden' in many of the rural environments in which project sites are located. They carry out both productive and reproductive roles in tandem, which involves shouldering a large part of the rural labour burden, ensuring the welfare of children, undertaking farm work and meeting household demand for energy sources and water. In particular, the analysis highlighted the trade-offs involved in their own development when responsible for accessing food, energy and water resources, and ensuring household food and nutrition security. Improved agricultural practices that incorporate integrated approaches must, therefore, be gender-responsive and factor in impacts on women's time and energy expenditure give their multiple roles in both systems of cultivation and livestock husbandry. At the same time, more widely, they need to be brought in as agents of change within resource decision-making environments. The analysis undertaken revealed a prevailing lack of inclusion in important decision making processes and substantial barriers in the way of women's ownership of key natural resource assets, including land. *(Details of the Gender assessment are in Annex 11.12).*

The project therefore takes a Gender-Responsive approach at each stage and at each level in which it works. At the core of this approach is a strong focus on the development of women as leaders and decision makers, including within the Project Implementation team. In particular, women need support in becoming agents of decision making over livelihoods options and choices. During the stakeholder consultations on gender carried out during project site visits, there was a strong consensus that women in rural communities would benefit disproportionately from greater livelihoods diversification, including in non-farm activities. For this reason the project has been designed to improve the lives of women and support gender empowerment by enhancing their role in mediating demand for food, energy and water resources at a household level and in decisions made over supplying livelihood needs for household survival. This includes establishing a clearer valuation of women's time and the impact on this time of reducing landscape degradation and enhancing household capacity to withstand climate and other shocks, the impacts of which are disproportionately felt by women and children. From the outset indicators will be established to ensure accomplishment of gender empowerment, including establishing a cohort of women key informants in the project sites who will be interviewed over the course of the project, establishing change within their lives and the impact of this change on wider development at household and community levels. The project will also identify women leaders and provide guidance and support to their development in these roles within all 12 project sites. Leadership will be promoted within the project staff team to set a strong example at all levels. Overall the project is committed to a minimum of 50% of all beneficiaries being women, with indicators of their benefit focusing on access to natural resources, stake and agency in decision making on integrated approaches at a farm household and community level, decision making over their own lives, including capacity to establish greater livelihoods diversification. The project logic argues that this is an essential element in ensuring the achievement of the wider goals and objectives of integrated approaches to agricultural development.

Both women and men involved in the process will be equally committed and able to engage through interactive learning and sharing. The participatory empowerment tool will assess gender-specific elements in watershed development in relation to food security, identify intervention pathways between value chain support and food security and environmental impacts, and focus on methods and tools that will support women smallholder farmers given their key multiple responsibilities of matching household demand and supply for food, energy and water resources through use of their labour power. Social and economic inequalities between men and women undermine food security and hold back economic growth and advances in agriculture. Gender equality will be essential to successful project implementation and outcomes. Equality in access to resources, goods, services and decision-making in rural areas has to be formulated in response to evidence that gender inequality exacerbates food insecurity, malnutrition and poverty.

Introduction: About 83 per cent of Ethiopians live in rural areas. Most households are dependent on agriculture and subsistent farming (World Bank 2014). Women contribute significantly to this sector in many ways, from engaging in both livestock and crop production for subsistence and commercial use and in other key roles such as ensuring energy and food needs are met (UN WOMEN 2014). Given their heavy engagement in farming and natural resource management, agriculture's vulnerability to climate change, including the effects of increased rainfall variability, they may bear a disproportionately negative burden, including greater potential for food, water and energy insecurity.

There are no simple pathways to impact, however. The nature of women's relationship to natural resources and the wider environment in rural areas is complex. It is mediated by the context to their labour provision, the capacity and role in decision making and management (including access to key knowledge), and the cultural and social structuration of their responsibility for meeting household demand for food, water and energy resources. Because of this predicament their socio-economic status (including their own personal food and nutrition security, and access to fodder, fuel for cooking and

water) is generally more adversely affected than men when there are conditions of progressive environmental degradation, such as are found in many areas of the 12 selected project sites. Most critically, it is likely that the poorest in particular are hit hardest and fastest, as their livelihoods tend to be even more reliant on direct harvesting of resources from the natural environment (Denton 2002; Baxter 1981). Therefore the negative effects of environmental change can serve to reinforce gender inequalities, both reducing women's income and increasing their workloads (and therefore their own expenditure of energy) as they search for increasingly scarce sources of water and fuel-wood/other biomass energy. These greater inequalities of impact can also increase the recovery time for women, in particular, following natural disasters such as floods and droughts (Lambrou and Piana, 2006). During the analysis – in particular during focus group discussions– a range of secondary impacts on the social and human security of women and girls were also noted. These included increased personal insecurity involved in having to walk further from home and carrying heavy loads that can expose women and girls to health risks and gender-based violence.

Government policies and efforts towards women's empowerment and gender equality: The Constitution of Ethiopia adopted in 1995 assures women equal rights to men in every sphere and emphasizes affirmative action to remedy the past inequalities suffered by women. It also reiterates the rights of women to own and administer property as well as access reproductive health services. Additionally, revisions to the family law align it with the constitutional rights of women. A Joint Land Certification Program has had a positive impact on various dimensions of women's livelihood and gender relations through seeking to strengthen women's land ownership (UN WOMEN: 2014). The government has also enacted policies and laws that promote gender equality and women's empowerment and it is this availability of gender-inclusive policies and programmes at all levels on which the project will build. As an example, in the development and planning of projects, gender-responsive approaches are taken to ensure that men and women equally participate and benefit. Watershed interventions, for instance, will consider the additional work burden of women, requiring that they participate for a shorter time (3-4 hours a day), compared to men's contribution of up to 6 hours. Similar gender-responsive programming will be built on under the Ethiopia IAP. A Women's and Children's Affairs Office (WCAO) in each region is responsible for ensuring such gender-responsive planning takes place and will be an important constituent of stakeholder engagement in the project, including through supporting monitoring and evaluation work undertaken and in promoting opportunities under the project, including training in alternative livelihoods and in wider training and support. The following section provides detailed analysis based on key informant interviews and focus group discussions held during site visits.

Roles and responsibilities:

Household work – In the six regions visited women are in all segments of society and responsible for the majority of the household-related tasks including cooking, child care, collecting water and fuel wood and others activities. Women participate in all agriculture work except ploughing with oxen,and (most) livestock husbandry (though they do keep small stock and poultry production). In SNNPR and West Hararghe, women are engaged in backyard cultivation of crops such as potatoes, *chat*, onions, salad vegetables, and, in the rainy season, animal fattening, petty trade (including charcoal, dairy and poultry products) as well as selling fuel wood to support their livelihoods. Since free-gazing is banned in almost all areas in Amhara, West Hararghe and SNNPR, women often also cut and carry fodder to feed livestock, while their husbands are responsible for marketing and selling, though women may be responsible for some small-stock, including goats. In the dry season women may travel considerable distances to collect fodder. According to Tucker et al. (2014) shortage of feed for livestock is a major issue forcing people (often children) to spend up to 4-6 hours travelling with livestock to find pasture. Even in cases where improved fodder varieties are planted in backyards, homesteads and communal lands, cutting fodder and feeding livestock can create an additional burden for women, because of disproportionate division of labour. In the Afar and Somali regions (both pastoral and agro-pastoral communities), men and women share livestock husbandry work. During temporary migration women are responsible for the care of goats and sheep (in addition to their children), while men take camels and cattle with them, along with materials needed to construct houses. In agro-pastoral communities, women also support their husbands in farm activities, in addition to livestock husbandry and domestic work.

Community work – NRM interventions usually target households of landless youth and women to diversify their income and livelihoods while testing different income-generating activities that are integrated with NRM interventions. In order to implement effective projects, development mitigation efforts and gender empowerment must be addressed equally and in a coordinated fashion. It has been common practice to ensure that women also participate actively with men in community works undertaken under programmes such as: SLM, MERET and PSNP. Women beneficiaries of these

programmes are mostly low, however, varying from 29% in Tigray to 50% in West Hararghe. In Afar and Somali regions, participation of women in community works is generally low. In Afar, women reportedly usually do not participate, while in Somali, although opportunity exists they are frequently too busy with other domestic work to participate and are therefore not as likely to benefit as men. According to the MoA (2010) and UN WOMEN (2014) some of the reasons for the low participation of women in ILM as members and leaders, include their 'double work burden' (household and productive work), prevailing patriarchal culture and attitudes towards women in public, low levels of education, lower self-esteem, lack of experience, and lack of available labour resources. The result of low participation of women in such projects leads to loss of valuable views, insights, perspectives, knowledge and concerns without which project planning, design and implementation may be far less effective. Given the particular sensitivity of women's time availability and NRM, interventions that fail to consider gender may in fact reinforce gender inequalities through increasing the burden women shoulder. Under the IAP each intervention area will undertake a gender-sensitivity analysis as part of the design process in the inception phase.

Access to resources: Access to environmental resources such as land, water and fuel for cooking is a crucial variable in the economic status of individuals, families and communities. In many regions of Ethiopia, the commons are key elements in wider ecosystem service provision, providing a major source of water, fuel, fodder, medicinal plants, and a variety of forest products. Access to these resources and benefits from them varies greatly among men and women of different socio-economic status. This is to a great extent structured by the structure of social and gender relations and institutions at a community level, with important implications for land and environmental stewardship and efforts towards food security and poverty alleviation under more integrated approaches to agricultural development.

Land - Gender scholars and research indicate that strengthening women's land rights, along with other inputs for farming, is essential for better development outcomes. In recognition of this, land policies in Ethiopia are focusing on securing rights of individuals within the household. The GoE has afforded legal protection for a woman's right to equality with men and equal protection before the law (Jackson 2003; MoA 2010; Warner et al. 2015). In line with this, land registration and certification is taking place in all regions visited, including in Afar and Somali agro-pastoral areas. The new Family Law also gives inheritance rights to daughters as well as to sons; however fragmentation of holdings remains an issue of concern and women's land rights are still a contested area in the courts (UN WOMEN 2014). Though the law provides equal rights for men and women, issues in relation to land rights, including inequalities, persist. These include limited knowledge about land rights by women (reported in Tigray), registering land in the name of the husband or elder son leaving the wife excluded (North Shewa, SNNPR), keeping the land title in the name of the husband's family, to avoid ownership of land by the wife (West Hararghe), and smaller land holding sizes (below 0.5 ha) causing a problem of division between spouses on divorce. In such cases, women are often the losers, as they have reduced access to and control over resources (and wealth) and, therefore, lower bargaining power. During the field visits, there were also reports of cheating on vulnerable groups such as elderly people and orphans (i.e. men claiming their land, after supporting them for some time in agricultural production, e.g. in Amhara). Polygamy is also reported as one of the chief reasons for gender disparities in the land rights of women and children. Overall, enforcement of the law in relation to land rights was reported as weak.

The land certificate program, which legally requires the issuance of land ownership certificates in the name of the husband and his spouse, has been a major step forward in raising women's social and economic status. Nevertheless, studies indicate that though land certificate programmes increase tenure security, they do not directly translate into increased productivity for women, unless issues of labour and other resource and structural constraints are also addressed. For example women rent out their entire land to relatives if they have no access to adult male labour, which may lead to ineffective command over their tenants and cultivation of their plots, with less effort and poorer yields resulting from their rented plots. Lower levels of input use and reduced access to extension advice are also emphasized as further causes for the lower productivity of women's farms[7].

Water - The challenge of lack of access to water is more severe for women and girls, who are largely responsible for household water provision. The problem is worse for rural poor women, as their households are often farthest away from water sources. Travelling further to collect water has high opportunity costs, including reducing the time women have for other domestic and productive work and increasing the burden on their health. For example, from focus group discussions in Somali region, the biggest challenge emerging for the community is shortage of water and grazing, with women

[7]Key informant stakeholder interviews, Amhara Region, May 2016.

frequently travelling three to four hours in search of water and fuel wood, according to stakeholders consulted. The problem is especially severe in dryland areas where there are no *birkads (water collection cisterns)*. Women, as water managers and users often have a unique and valuable perspective on the efficient selection of sources for different uses and on how to transport, store, and draw water. Their participation in design and introduction of water technology innovations is very important, as the design of technologies – particularly for irrigating and livestock watering – can substantially determine future time and labor requirements. Water sources such as the local woreda water systems are often unreliable. Women may travel long distances only to end up with no water and/or when there is water available women queue for hours due to severe demand at source from surrounding communities and households. Most adults in the regions visited complain that their time was wasted spending long hours in search of water. Most farming land in the region that lies bare is because of lack of labour to cultivate. There are possible correlations between the two factors.

Energy –The quality of women's and men's life is affected by the availability of energy and distance to a source of energy (predominantly) for cooking in households. The distance to sources of energy for cooking specifically impacts women's life quality, since women are usually responsible for collecting firewood (UN Women, 2014). Long-distance travel in search of fuel-wood and water has an opportunity cost for girls and women including participation in education, skills development, community governance, and income-generating activities (World Bank 2012; Baxter 1981). Study findings also indicate that the collection of biomass fuel degrades natural resources and can lead to further impoverishment for women, including limiting environmental management choices available to them. According to the World Bank (2012), biomass fuel (firewood, charcoal, branches, leaves, twigs, crop residue, and dung) constitutes more than nine-tenths of the energy consumed in Ethiopia. Similarly, in the study sites, as verified through stakeholder consultation, the main source of energy for cooking in the area is biomass, including cow dung called 'kubet' (in Amhara, Tigray, SNNPR), and fuel wood from the surrounding areas in all regions. Though cutting trees is banned in the country, the practice still persists, because of lack of alternate energy sources. Women and girls therefore bear disproportionate risks in terms of undertaking (sometimes illegal) time-consuming and laborious tasks and suffer indoor air pollution, which is the second largest environmental risk factor leading to illnesses and death after unsafe water and sanitation. Women also travel long distances in search of fuel wood if they cannot find it in nearby areas, causing higher school dropout rates for young girls, increased health risks, and vulnerability to sexual violence.

In recognition of the problem, according to UN WOMEN (2014), the Alternative Energy Directorate of the Water, Irrigation and EnergyMinistry, is undertaking activities to improve access to alternative sources of energy. Under the Climate Resilient Green Economy (CRGE) Strategy, there are similar efforts. The activity is aimed at contributing towards enhancing women's access to more innovative forms of energy use, such as improved cooking stoves and biogas generation. In addition to provision of stoves, the ministry specifically encourages participation of women in the production of such technologies thereby contributing to their incomes and improving their lives and livelihoods at the same time. During project preparation, key informants described women's groups in SNNPR, Tigray and West Hararghe that are engaged in the production and sale of energy-efficient stoves. These initiatives need to be scaled up and scaled out, in order to further reduce demand for biomass fuels and to help reduce pressures on forest resources as well as on women's labour time.

Income – According to key informants and focus group discussions, all women in MHHs, with the exception of the Somali region, have no control over cash from sale of farm produce, livestock and cow dung. For example, women farmers in Asa Bahir Kebele (where discussions took place in Amhara Region) claimed that their husbands only share some 5% of income from sale of produce and cattle. However, in Tigray, it was reported that women have control over income from sale of sheep and goats, if they take a loan for their production from development programmes such as REST and Dedebit. These women (except in Afar) only have control over sale of poultry and dairy products, petty trade, sale of horticultural produce, fuel wood, pottery (in Tigray) and some other products. In Somali region, it was reported that men and women have equal control over their income.

In many cases the challenges involved cover issues of income diversification. Evidence from Tigray shows that the groups most unemployed comprise women and youth. In Tigray (and SNNPR) during stakeholder consultations women described how they can be provided with credit for animal fattening and beekeeping, which is one of the more successful interventions in empowering women through increasing their income levels and financial autonomy. This provides an opportunity to sell honey and fruits such as avocados and mango. The challenge for engaging youth, however, is that the returns are usually long-term and income streams take time to establish.

Participation of women in development projects (as members and leaders): Participation of women in leadership at all levels from kebele to cabinet is relatively low when compared with men, except in Somali region where there is almost equal participation. For example, in the land administration and use committee, in SNNPR, two of the leaders should be women, but in practice women's participation is low. This is reportedly due to lack of time and the idea (shared by both men and women, it was stated) that men make better decisions. Respondents also stated that although representation of women in leadership positions is increasing much needs to be done to improve their capacity to influence decisions taken. Women in MHHs usually do not participate in meetings, when compared with female-headed households, leaving them with limited access to information and networks. Some of the reasons for this include not being 'empowered' (by men) to make decisions, requiring permission from their husbands (cited in Amhara consultations), and thinking that their needs and views are addressed through their husbands (in all regions), as well as their relative timidity in public, due, in part, to patriarchal pressures.

In SNNPR, it was reported that the quality of women's work is superior to that of men, and contributes to long-term sustainability, including improvements in access to water, fuel wood and fodder. The overall implication of a 'triple work burden' on women is that they will have limited time for self-development activities, networking, and social engagements. Quality of household life could be impaired and levels of social capital – key for many productive and reproductive activities – could be reduced. For example, in West Hararghe, it was reported that women's productive and community work is so demanding that it leaves little time for domestic work, especially food preparation, considered a cause of malnutrition in the area.

To enhance participation of women, one strategy the government has devised is the so-called 'one-to-five' development grouping. Five women come together to discuss their issues and challenges, and there is also a 'women's development army' comprising 25-30 women (formed from the one-to-five groups), through which women share information, learn from each other and jointly address their problems. It is considered an effective way to reach out rural women, and to provide them access to networks and sources of information. In addition to the 'one-to-five' groups, there are women's associations, women's development groups and youth groups, where women are participating actively. These work towards addressing issues of women and youth including ensuring men and women benefit equally in economic, social and political affairs. Participation of women in these networks and associations provides them an opportunity to exercise leadership and public speaking. However, the 'one-to-five' grouping is not working in Afar and Somali regions where more local and informal channels are used to approach women. In the four regions where 'one-to-five' is a working mechanism, the project will build on these networks as a means to engage with and develop support to rural women at a grassroots level. In both Somali and Afar the project will work through different channels, including informal and formal cultural and religious associations.

Other key gender issues:

Polygamy – is a common practice in all regions, except Amhara. According to EDHS (2011), 5% of men aged 15-49 have two or more wives. One of the regions where the highest proportion of men has more than one wife was Somali, at 14 per cent. This practice causes problems for the land and property rights of women and children. To avoid complications that could arise in inheritance of land, communities use different strategies. For example, in SNNPR, the husband will only have a secondary right; his children will inherit the land he owned jointly with their mothers, but not from any other wives. In West Hararghe and Afar, only the first wife is entitled to jointly own the land, but not subsequent wives. The land rights of the other wives in Afar are dependent on agreement among the wives and the husband. In Somali, the husband shares the land with all his wives.

Reproductive rights: The national fertility rate in Ethiopia is high (about 4.1 children per woman) UN WOMEN (2014). There are low rates of contraceptive use by men and women. Some of the reasons include: i) Husbands consider use of contraceptives as likely to lead to infidelity (Amhara); ii) in West Hararghe, PSNP supports a household depending on the size of the household, therefore the larger the family gets the more assistance it receives, so having more children is considered a means of getting more aid; iii) in Afar and Somali regions, fear of divorce (i.e. if a women does not give birth frequently couples may end up separating); and, more generally, there is a lack of awareness about the purpose of contraceptives and fear of side effects. With regard to reproductive decision making in most cases (across all regions) couples decide jointly. However, in areas such as Amhara and West Hararghe, there are cases where women use contraceptives without letting their husbands know, for fear of resistance by their husbands. This indicates that the sense of empowerment and the power dynamics within households have a direct impact of women's ability to use and negotiate

the use of contraceptives. Some of the gender-related social problems include domestic violence (Amhara) reflecting patriarchal attitudes that prevail towards women, early marriage (Somali), and female genital mutilation (in Afar and Somali).

Ways Forward:

Potential interventions – Awareness-building on gender for both men and women is critical, in order to enable mutual understanding and to contribute jointly to achieving greater gender equality and women's empowerment. This will be woven into the development of the different components, including during an initial gender workshop to be held in the inception phase. This will build gender awareness training into the project and establish key modalities for gender-responsive programming under the different components. A particular focus will be on ways of establishing women as leaders in environmental protection and sustainability, building on growing awareness that more effective management can benefit women through: i) provision of opportunities for livelihood diversification (i.e. watershed approaches that stimulate economic activities including honey and egg production); ii) improved household nutrition security – as diversification of livelihoods can lead to improved and more diversified/higher nutritional-value diets; and iii) reductions in time and energy expended on water and fuel collection, with 'benefits' in terms of other productive and social activities.

Access to credit for women to support alternative livelihood activities such as goats and sheep rearing for sale and improved seeds for fruit and vegetable cultivation can also bolster household income and, specifically, that portion over which women have (or can gain) control. Providing women's groups working on dairy processing with access to credit, including for machines to make butter and other milk products, increases value-added income and employment opportunities (including for others as cottage industry expands). This also has the potential to increase nutrition security through increasing proteins and other nutrients in household diets. These are approaches that came out of the analysis conducted during project preparation and have been programmed into component 2.

Gender Action Plan (to be detailed during the early inception period)	
Project Outputs	***Suggested gender mainstreaming actions***
Output 1.1.1 Functioning multi-stakeholder platforms in place in the project sites	In each project site a rapid gender analysis will precede design, identification and establishment of multi-stakeholder platforms; the objective will be to identify ways of enhancing women's agency within and surrounding decision making and to ensure that gender-responsive measures are taken, with a focus on decision making power and realities of women's lives as key natural resource developers and managers at household and community level (as well as within wider market systems, and in government decision making). Gender-specific tools on functioning of multi-stakeholder platforms will be used to review and monitor functioning. The project will focus specifically on women as key developers of new markets within value chains given their already superior role as sellers of local produce and knowledgeable market actors.
Output 1.1.2 At least one gender-responsive decision-support tool and participatory process applied	Based on the above analysis and in consultation with national and international gender consultants and other analyses undertaken of existing tools elsewhere, piloting of the tool will take place at an early stage during project development (i.e. the tool itself will be prioritized as an early project output so that it can inform subsequent stages of the work). A key purpose (and outcome) of the tool will be to ensure that men are sufficiently engaged in its development and use at all levels and that it helps unpack the complex power issues embedded in gender inequalities, such that the purpose – economic, social and environmental – of its development is clear to all (in short, that unless women are empowered as decision makers then the wider social and economic development environment is severely impaired and this will bear on the success of the whole project including the engendering of substantial change in the way production- and ecosystems interrelate).

Output 1.2.1 Value chain approaches integrated with sustainable production systems, including reduction of post-harvest losses	In identifying and supporting value chain approaches, the above tool, accompanying analyses and wider consultation will focus on harnessing women's power within markets to support greater value added and incentive structures. These will support the co-production of economic value and GEBs. Areas for consideration might include reducing kubet production, increasing fuel-efficient stove use, and supporting dairying as one package in specific contexts. The key entry point will be women's productive/reproductive time and finding ways of providing incentives for changes in behaviour based on savings in time and encouragement to shifting from 'extractive resource use' (i.e. collection alone), to productive resource use (e.g. harnessing resources to produce specialist products).
Output 1.2.2 Selected value-chains strengthened	Ditto above, the focus will be in the first instance on women as rural producers and already-established marketers of produce (far in excess of men in almost all contexts). This will go beyond 'mainstreaming' gender and focus on empowerment through actively enhancing economic roles for women (and young people as a category) within new and emerging value chains, particularly where there is strong rural-urban linkage.
Output 2.1.1 120,000 ha with improved soil and water management	In all cases and sites, the entry point will be mainstreaming women as leaders and decision makers (alongside men) in soil and water conservation actions. However, this will be in the context of more detailed understanding of the intra-household economies in such contexts including trade-offs in use of their time, their views on what works best at a local level in terms of SWC practice, their existing experience of such approaches and their suggestions for ways of enhancing sustainable SWC measures (which is the major challenge, particularly under 3-5 year project cycles).
Output 2.1.2 120,000 ha under diversified production	Where there are production-related outputs such as this, gender mainstreaming will start with a gender study of existing practices based on a template to be developed by the project for rapid appraisal –linked closely to application of the tool (see 1.1.2 above). A specific focus will be placed on ensuring inclusion of female-headed households in the activities undertaken in the 12 pilot sites.
Output 2.1.3a 10,000 ha of agro-pastoral systems under integrated land management; Output 2.1.3b 240,000 farm HHs with increased access to food	In common with the above, selection of communities and households for development of activities will involve use of both gender screening and the decision support tool described above. Analysis of the beneficiaries from this work will include a specific focus on female beneficiaries in order to ensure that the minimum target of 50% is reached across the project as a whole.
Output 2.2.1 US$11m investment by bilateral and multilateral organizations and the private sector	The challenge and opportunity here is to build into the work of the project a wider approach to influencing the work and investments of others through sharing the 'gender equality and women's empowerment narrative' that the project is developing and building this into research, learning and knowledge management and sharing. The ideational environment in which choices on investments are made is as important as the actual financing involved. Women are regularly excluded from key decision-making environments. Hence early engagement in debates and policy influencing opportunities will be sought in year one to enhance women's awareness-raising role and capacity, particularly on natural resources management, food security and the achievement of GEBs (given rural women's centrality to the water-food-energy nexus and decision making around demand and supply).
Output 2.2.2 10 innovative funding mechanisms/ schemes in place – including rainfall index insurance	With specific reference to rainfall index insurance, the mainstreaming of women's involvement will entail ensuring that women householders (whether heads of household or not (women in male-headed households are frequently excluded from key decision-making as well)) are part of information provision and access, particularly during community consultations and in terms of the approaches taken by public-private initiatives, including describing the costs and benefits involved.
Output 3.1.1 Multi-scale monitoring of ecosystem services and global environmental benefits established at landscape level	The role of gender in monitoring across the project will be the subject of an initial scoping paper produced in the inception phase and will be developed as part of the decision-support tool to better understand gender and environmental change within shared landscapes under pressure. Women as 'monitors' within wider community contexts will be explored at the 12 sites,

	whilst being mindful of time and labor constraints and the costs and benefits of being involved.
Output 3.1.2 Framework for monitoring of resilience established at national and landscape level	Gender equality as a critical factor in resilience (because of its centrality to development and transformation within landscapes under pressure) will be mainstreamed into thinking on monitoring resilience at the outset of the work and will become a central focus of the project approach.
Output 3.1.3 Key Program socio-economic and gender indicators mainstreamed	This builds on all of the above, but also requires that gender equality as a development pathways (and adaption pathway to transformation) is accorded resources and staffing from the start to ensure effective delivery of results, including under this indicator. The project will appoint a gender expert to ensure mainstreaming through the project lifespan and at all levels. Their role will be to specifically challenge analysis and practice, to interpret and articulate to project staff and beyond the significanceof gender equality within the project, and to speak with audiences at all levels (including internationally) on the gender work of the project, including supporting and overseeing monitoring and evaluation.
Output 3.1.4 Landscape-national level data integration tool established	Mainstreaming of gender within this tool will be a key output of the work undertaken in 3.1.3 (and in the development of the Gender DST)
Output 3.1.5 Vital Signs monitoring landscapes established in each of the six regions	Working closely with Vital Signs tools and methodologies, staff and processes described above, gender will be mainstreamed within the monitoring work, including support to gender-responsive'mapping' under the Resilience Atlas.
Output 3.1.6 On-going monitoring of food security and global environmental benefits using Vital Signs monitoring framework	Ditto above, the project will work with Vital Signs on mainstreaming gender into the mapping work and (where feasible) to include women's empowerment as an indicator within monitoring work (particularly in terms of its impact on the long-term sustainability of landscape transformations and transformations in the resilience of communities and production systems in the face of climate and other shocks).

Promoting water harvesting technology specifically for domestic use and backyard cultivation could be improved by constructing cheap and sustainable water harvesting systems supporting 'water-smart agriculture' and allowing women to invest more of their time in income-earning tasks through reducing time and energy spent on collecting water. More available and accessible water would also improve completion of domestic household tasks including cooking, cleaning the house, washing clothes, and crop cultivation.

Agro-processing, is a way to improve the economic status of the women and strengthen value chains. For example, cassava is available in West Hararghe. If women could be provided with machines that process cassava, this would support increased incomes and generate demand for cassava cultivation. This could be linked to more targeted and effective extension services, including providing support to water-smart agriculture (combining better soil management with techniques of rainwater harvesting and small-scale irrigation). This should include strengthening the participation of women in water management for crop and livestock production. Supporting women's engagement in agro-processing as a way to add value along value chains is an important part of component 2.

The project will work with other existing women's organizations, NGOs, networks and cooperatives, particularly those working on NRM and agriculture, to make this a reality. To ensure successful disaggregated understanding of impact across-the-board collection of gender-responsive and sex-disaggregated data will take place in order to ensure that differential impacts are understood and results fed back into policy, practice and budgeting. The project will hire a dedicated gender specialist to oversee the Inception Gender Workshop and thereafter ensure sustainability and equality of gender-responsive approaches. The gender specialist will take charge of periodically reviewing progress in the use of gender-sensitive monitoring and assessment indicators. To ensure strong implementation, a gender strategy document will be produced during the inception period, taking a hybrid approach which combines targeted programs and gender mainstreaming, with monitoring and learning on gender-responsiveness approaches under multi-stakeholder platforms.

4 FEASIBILITY

Ethiopia's natural resources are unique and hold huge potential global benefits for the country, the region and wider international community. For example, in EWCA-managed protected areas, the economic value of biodiversity is as high as US$112 million, the value of medicinal plants could be as high as US$13.2 million and carbon stored above and below ground an estimated US$938 million per annum (EWCA, 2012). From important genetic biodiversity to landscapes that trap and distribute water resources by way of radiating rivers flowing from highlands into the lowlands of neighbouring countries, Ethiopia provides critical ecosystem services to millions of people and thousands of communities beyond its borders. Managing and supporting landscapes in an integrated manner within these key systems is therefore both of immediate national and longer-term international interest. This means that the basket of benefits accruing from success in project implementation will spill over into wider 'transnational public goods', a key consideration in assessing cost efficiency and effectiveness.

The premise of the project is based on cost efficiency through achieving synergies that extend across landscape management, food security and value chain development and sustainability. Mainstreaming ILM into the agriculture sector through market mechanisms and proposed best practices represents a more cost effective (and potentially scalable approach) than mainstreaming through planning and regulation. In mainstreaming ILM through markets and economic production systems (assuming rational choice approaches) the project will bring together ecosystem sustainability, increased food security and financial benefits for local communities. This will encourage and support sharing of knowledge and experience through multi-stakeholder platforms with farming communities outside immediate project sites, encouraging farmers to use their own resources to replicate practices and achieve scaling up beyond immediate GEF funds. Increased food security will, ultimately, reduce costs to the global community in terms of food aid and humanitarian assistance.

The natural resources including cultivated crops and wild varieties in some of the project sites contain a great deal of genetic diversity necessary for survival. This allows for genetic traits to pass back and forth from wild to cropped varieties, further facilitating a rich genetic diversity and the possible adaptation of new varieties as well as the maintenance of existing genetic diversity (e.g. of coffee and *teff*). ILM is therefore invaluable at a wider public good level, supporting international efforts at achieving global food security in light of an anticipated global population of some 9 billion by 2050. The opportunity cost of losing this diversity before full potential utilization has not been explored and is difficult to calculate, but could be extremely high.

The health care needs of 70% of the global population are still catered for by drugs drawn from plants, the number of which could be as high as 1,000 species. Ethiopian practitioners of traditional medicine use mostly plant products and to a lesser extent animal products. It is not possible to predict, but it can be expected, that some of these plant species will in future be found to be of commercial value in combating diseases – potentially generating shared benefits for the communities in which these species grow.

Coupling activities of the UNDP GEF-project with the larger umbrella of government involvement in the CRGE will reduce costs in relation to farmer organization and engagement and lead to stronger investment and higher returns. GEF investments will support targeted capacity building and training at both the national and local levels. This two-pronged approach is cost-effective, given that behavioural shifts that are beneficial to people and ecosystems at a local level will need to be complemented by actions at the policy level that secure an enabling environment driving forward and scaling up future sustainable development. Furthermore, the use of market-based mechanisms will provide incentives for, and facilitate the adoption of, mainstreaming practices and involvement by the private sector. Where feasible this scaling up will work alongside other initiatives such as the UNDP-supported African Facility for Inclusive Markets in order to build links to the private sector, focusing in particular on key value chains such as fruit and vegetable production and dairy production for growing urban areas.

In total the intervention will cost US$11 million (GEF Trust Fund). It is considered highly cost effective given the huge value of enhancing food security and ecosystem services in the 12 sites. Information on the project will be made widely available to encourage farming communities outside the project area to become involved in scaling-up after the project has ended.

Project risks

Description	Type	Impact & Probability	Mitigation Measures	Owner	Status
The Integrated Approach is relatively new; there is a challenge of limited capacity to implement locally – this could affect how quickly the project is implemented	Environmental Financial Operational Organizational	P = 3 I = 3	Training will be provided to several staff in each region. Win-win benefits of ILM and wider ecosystem services will be a priority in awareness raising and training at all levels to ensure political will is developed to support this work. The project's activities will include extensive engagement with local communities to identify opportunities relating to community needs and local knowledge – this will include ensuring that project activities avoid elite capture at a local level and end up benefitting those most able to access the project and influence outcomes	MEFCC, Project Office, Regional Bureaus, Woreda offices, Project site office & committee	Reducing
Climate Change could affect the project activities on the ground	Environmental	P = 3 I = 3	The project will closely exchange information with National Meteorological Agency, Disaster Reduction & Food Security Commission, & Ministry of Agriculture; and adopt best practices from on-going and past projects on Climate Change adaptation such as Coping with Drought and the Disaster Risk and Livelihood Recovery Programme; including alternative livelihood	MEFCC, NMA, Project Office	Increasing
Poor coordination between key institutions implementing the project at the local level – and also between regional and national authorities	Operational Organizational	P = 2 I = 2	The project has put in place a well-designed coordination mechanism during the project PPG. In particular, the project will adopt what has been pursued by CRGE & GTP where sectors diverge to work together on common goals. Regular communication channels and/or formal agreements (e.g. Memoranda of Understanding) will enhance cooperation between participating authorities	Project Board, MEFCC, Regional Bureaus	Reducing
Drought may be so severe	Environmental	P = 3	The project will mitigate	DPFS, MoA,	Increasing

Project risks					
Description	Type	Impact & Probability	Mitigation Measures	Owner	Status
that it threatens crop and livestock survival thus curtailing the basis for development of value chains appropriate for food security	Financial Operational	I = 3	this risk by implementing ILM activities, including water conservation measures, watershed management & measures to strengthen pro-active and coordinated responses, as well as by initiating multi-stakeholder, community-based capacity-building initiatives	MoLF, MEFCC, Regional Bureaus	
Little interest of the private sector to engage in ILM production system &inadequate market development	Financial Operational	P = 4 I = 4	Engagement of private sector is a precondition to the success of the project, and although the project has to address the issue, the risk is still valid purely because of the difficult nature of private sector engagement. There is growing local and international demand for (e.g. organic vegetable and dairy) products grown under sustainable systems. The project will provide evidence-based information on the potential profitability of trading in organic and certified products.	Project Board, MEFCC, Regional Bureaus	Reducing
Inadequate involvement of beneficiaries in project design stages leads to a mismatch between proposed actions and the acceptable norms and socio-economic set up of the targeted population with possible local-level grievances	Operational	P = 2 I = 1	The project will resolve the mismatch at two levels: (i) During the inception workshop upon launching the project implementation where regional, zonal & woreda representatives are participating; and (ii) When arranging implementation of the project activities at pilot site level. Thus, key lessons shall be learnt and utilized from local government, civil society, and non-governmental organisations already working in the pilot sites, which will enable the avoidance of project imposition – rather, activities will be part of a demand-led approach. Where there are local implementation challenges,	Project Board, MEFCC, Regional Bureaus	No change

Project risks					
Description	Type	Impact & Probability	Mitigation Measures	Owner	Status
			a system of engaging through stakeholder platforms in problem-solving will be encouraged. If there are irreconcilable issues, these will be referred to the Project Management Unit.		
12 project sites will lead to thin on-the-ground implementation and dispersal of project impact	Operational	P = 3 I = 2	Ethiopia is a hugely diverse country and in seeking to achieve anything at a national scale from local implementation requires multiple-site usage. The net impact of multiple sites will be stronger than, say 3-4, through effective networking between sites under the multi-stakeholder platforms and through Component 3, in particular.	MEFCC, Project Office, Regional Bureaus, Woreda offices, Project site office & committee	Reducing
Coverage of cost for infrastructures and irrigation schemes is decisive for the sustainability of small scale irrigation investments	Financial	P = 3 I = 2	The project is premised on the beliefthat increased access to financial services and improvement of management skills for the entrepreneurs will contribute to the sustainability of investments for smallholder farming businesses (government is already committed so there is an existing baseline).	Project Board, MEFCC, Regional Bureaus, private sector	Reducing
Lack of a coherent incentive framework to curtail habitat loss and degradation with very short term planning horizons	Environmental Financial	P = 4 I = 4	The project is designed to address local circumstances, meshing interventions to improve governance over farming systems with market based approaches, ensuring that biodiversity/ habitat management needs are factored into each economic sector. The project strongly supports Fostering Markets for Ecosystem Goods and Services, through the provision of an increased supply of biodiversity friendly products and services and their marketing, the development of strengthened supply chain	MEFCC, Project Board, Regional Bureaus, cooperatives	Increasing

Project risks					
Description	Type	Impact & Probability	Mitigation Measures	Owner	Status
			management systems, the establishment of appropriate economic incentives including payment for ecosystem services and private sector engagement. The project will also contribute to Strengthening the Policy and Regulatory Framework, as regulatory and fiscal reform, improvements in land use planning, targeted capacity building, improved information flows and the development of partnerships will complement the market-based work and is necessary to give it needed leverage.		

4.1 Social and Environmental Safeguards

This project directly considers both environmental and social safeguards. They are built into the project's analytical framework. The project deals with ILM and aims to enhance food security and environmental resilience; it can therefore be assumed to have minimal environmental impacts. Promoting environmental conservation is central to the focus on natural resources and their capacity to support food security. Additionally,the project will strengthen conservation and environmental management at community levels andstrengthenpoverty alleviation approaches through helping to sustainhousehold livelihoods in the 12 pilot sites. Regarding social safeguards, the proposed project addresses rural communities by supportingmultiple livelihood opportunities for the most marginalised (frompoor households (including female-headed), to more marginalised women, children and youth). The monitoring and assessment (M&A) process will include indicators that will capture negative relationships, should they occur.

Gender equality and women's empowerment cross-cut the work and will place a priorityonunderstandingand addressing inequalities in access to, management of and benefit from natural resourcesand decision-makingprocesses within shared landscapes. In this way, the project focuses on positive contributions to the environment and society in each of the sixregions and 12 project sites. The analytical framework guides stakeholders in the landscape in selecting viable interventions and implementing sustainable solutions.

4.2 Sustainability and Scaling Up

Social sustainability: The farming communities in the project pilot sites already have a sense of social cohesion. There are social organizational structures and some have existing governance systems, including cooperatives and community-based organisations with natural resources management systems for community lands, particularly in forests and adjacent farmlands. The capacity and strength of these community-based management and governance systems will be enhanced and sustained through capacity building for members under the project –where they do not exist, the project will catalyse their establishment.

The rural communities will be supported in their conservation and development efforts through provision of socio-economic services such as irrigation support and incentives for participation in order to promote successfully the planned-

for ILM activities. The project also encourages communities to formulate local management plans and by-laws or other regulations that can guide and govern the actions of members towards greater natural resource conservation (e.g. promotion of soil manuring and reduction in the burning of biomass fuels made from animal dung),hence enabling synergies between climate resilience and social cohesion.

Economic sustainability: Enhanced appreciation of the economic benefits of ILM and conserving vital ecosystem services through the project's awareness-raising and education activities will contribute significantly to the sustainability of project activities. Value addition, product diversification and marketing will provide the much-needed incentives for natural resource conservation. Promotion of local products through creating demand amongst consumers (e.g. for dairy products) will be one way of adding value to agricultural products, leading to renewed interest in new ways of generating income.An important element of the external support for ILM is capacity-building of individual farmers to improve their efficiency and skills in improving livelihoods through the uptake of friendly agricultural practices. Training and exposure visits will help farmers try new farming and value addition methods and reduce crop failure and loss. Learning-by-doing and other training approaches, reinforced where possible with study visits, will help encourage farmers to try new farming methods.

Environmental and agricultural sustainability: The project aims to halt land degradation and loss of natural resources in the six pilot sites, which will result in natural regeneration in some areas. In all the communities, awareness raising and education on the benefits accruing from ecosystem services and the economic benefits of ILM will sustain these resources. Education will also include environmentally-friendly agricultural practices that enhance ecosystem services, and resilience of cropping systems in areas outside the pilot sites.The cornerstone for long-term sustainability of activities is that all participants and stakeholders are fully engaged and that inter-sectoral and inter-ministerial linkages are strongly established.

Replication Strategy: The principal approach (largely based in Component 1)is that institutional frameworks for enabling ILM for food security are mainstreamed into national policies, notably the CRGE – and also that ILM for ecosystem services protection is considered more prominently in planning processes.The project will set up a comprehensive and consultative M&A system that will be used to draw lessons on processes, impacts and sustainability issues. These lessons will be documented and shared widely through technical papers and scientific products and via a range of media dissemination approaches. ILM will also be promoted at relevant international meetings and technical events. This component will also build the capacity of GoE, particularly MEFCC across the six regions, enabling replication of the strategy in other parts of the country.

Scaling-up the integrated approach (Component 2) will be replicated to enhance on-the-ground integrated land management practices. ILM will become an integral development tool, and be recognised as such in policy and development planning from national to local levels. The project will include sharing of lessons learned on benefits that communities have gained and that have contributed to their well-being and food security. This will be viadifferent media and study visits, enabling other communities to learn from siteexperiences and will encourage replication in other areas. In addition, a wide range of people at all levels (including community members and officers from the different sectors of government at woreda, zonal, regional and federal levels) will gain better understanding of ILM and its importance in protecting ecosystem services.

The project will undertake collaborative fieldresearch (including action research) on the delivery of ILM and ecosystem services in relation to food security. Activities will be implemented both at national level on the development of incentive systems for ILM and at the level of the 12 selected sites. Lessons learned at the field level will inform the development of the national strategy and will help build the national strategy through national dialogue and by involving communities. This will contribute additional opportunities for learning and scaling up. Taken together as a suite of initiatives, the project will be able to deliver significant improvements in the long-term provision of ecosystem services and the achievement of food security.

Knowledge management (principally under Component 3) will produce useful guidelines and manuals on the value of ILM and on maintaining ecosystem services to help achieve food security, including the uptake and use of climate- and water-smart agricultural techniques. Catalysing the realization of benefits from national and local actions will take place through public awareness and participation, and creating platforms for partnerships to deal with ILM, food security,

ecosystem resilience, information management and other issues involved at national level and in the12 sites. Experience-sharing visits to other IAP countries will be arranged to enhance regional learning.

5 PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): SDGs 1, 2, 5, 6, 8, 10, 11, 12, 13, 15					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: *By 2020 key Government institutions at federal and regional levels including cities are better able to plan, implement and monitor priority climate change mitigation and adaptation actions and sustainable resource management.*					
This project will be linked to the following output of the UNDP Strategic Plan: **Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.**					
	Objective and Outcome Indicators **(All indicators will be sex-disaggregated to the extent possible)**	**Baseline[8]**	**Mid-term Target[9]** **(Of which proportion women/FHH)**	**End of Project Target** **(Of which proportion women/FHH)**	**Assumptions[10]**
Project Objective: **To enhance long-term sustainability and resilience of the food production systems by addressing the environmental drivers of food insecurity in Ethiopia**	*Indicator 1:* Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or sub-national level, disaggregated by partnership type	The Sustainable Land Management Program (1 example), funded by GIZ and implemented by the Min of Agriculture	The number of partnership mechanisms at a national level increases to two under the Ethiopia project (Integrated Land Management)	The continuance of the ILM program through institutional sustainability and engagement in national and regional, sub-regional institutions (the SLM Program will have closed by 2017)	The ILM partnership provides sufficient coherence and common purpose to drive more effective planning, implementation and monitoring of climate change mitigation and adaptation actions and sustainable resource management

[8] Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

[9] Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

[10] Risks must be outlined in the Feasibility section of this project document.

	Indicator 2: Number of jobs and livelihoods created through management of natural resources, ecosystem services, chemicals and waste, disaggregated by sex, and rural and urban	The current number of jobs and livelihoods created under the project in six target sites is approximately 80% of the total population given the estimates of numbers employed in agriculture	The mid-term target would be for livelihoods of 50% of the total number of beneficiaries to be based on better management of natural resources through reducing stress on ecosystem services; 30% of the total based on additional non-farm livelihoods that are not dependent on natural resource thereby reducing pressures	The end-term target would be for livelihoods of 100% of the total to be based on better management of natural resources through reducing stress on ecosystem services; 60% of the total based on non-farm livelihoods that are not dependent on natural resources thereby reducing pressures	Wider socio-economic and environmental changes do not serve to affect capacities of communities and those working with them to transform their livelihoods, including better management of natural resource systems
	Indicator 3: Number of direct project beneficiaries. 1,440,000 people (12 woredas; 20,000 households in each woreda (on averagesix people in each HH)) [including gender disaggregated data – at least 50% of total beneficiaries will be women]	10% of existing beneficiaries currently engaged in integrated landscape management	50% (720,000) (120,000 HHs)	100% (1,440,000) (240,000 HHs) (target of 50% of beneficiaries being women)	No major conflict disrupting rural production systems in target sites No major persistent rainfall anomaly between years leading to upward trend in destitution
Outcome[11] 1.1 **Multi-stakeholder and multi-scale platforms in support of integrated natural resources management in agricultural landscapes in place**	*Indicator 4:* Number of multi-stakeholder and multi-scale platforms in place to support integration of natural resources management in food production practices *[including gender dis-aggregated data on participation]*	Agricultural water management platform and one other at national level	At least 12 functioning (convening and decision-making) multi-stakeholder platforms in place in the project sites; plus one at national-level [including gender dis-aggregated data on participation]	At least 12 functioning (convening and decision-making) multi-stakeholder platforms in place in the project sites; plus one at national-level [including gender dis-aggregated data on participation]	Willingness and capacity of institutions under the project to engage in collaboration through multi-stakeholder platforms Wider food insecurity, drought and natural disaster conditions do not preclude active institutional engagement in this component of the project
Outcome 1.2:	*Indicator 5:* Number of gender-responsive- & age-sensitive	None	At least one gender/age-sensitive decision-support tool and participatory	Two gender-responsive/age-sensitive decision-support tools	Capacity and willingness of institutions at all levels to engage in development of

[11]Outcomes are short to medium term results that the project makes a contribution towards, and that are designed to help achieve the longer term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

Policies and incentives in place at national and local levels to support smallholder agriculture and sustainable food value-chains	decision-support tools and participatory processes for INRM in food production practices in place		process applied that leads to more gender equitable outcomes	and participatory processes applied that lead to more gender-responsive outcomes	gender-responsive and age-sensitive DSTs and support participatory processes Continued focus on gender equality as a key condition for sustainable development
	Indicator 6: Number of policies and incentives in place at national and local level to support sustainable smallholder food value chains	None	Policy implementation supports one value chain approach (e.g. zero grazing / dairying) integrated with sustainable production system approaches, including reduction of post-harvest losses [including gender-responsive and sex disaggregated data on participation in value chain]	Policy implementation supports two value chain approaches (e.g. dairying and horticulture) integrated with sustainable production system approaches, including reduction of post-harvest losses [including gender dis-aggregated data on participation in value chain]	Continued policy focus on climate change and sustainable development outcomes Market systems in Ethiopia's different focus regions continue to develop and support farmer engagement in value chains Smallholder farming remains viable
	Indicator 7: Number of smallholder farmers (60% of whom should be women) benefiting from sustainable food value-chains	None	One selected value-chain strengthened	Two selected value chains strengthened	Market conditions continue to favour farmer engagement in value chains
Outcome 2.1: Increased land area and agro-ecosystems under Integrated Land Management and supporting significant biodiversity and the goods and services this provides **Outcome 2.2: Increase in investment flows to INRM**	*Indicator 8:* Extent in ha of land area and agro-ecosystems under Integrated Land Management *[included gender disaggregated data on land ownership / engagement in diversification / MHH and FHH requiring food assistance]*	c. 10,000 ha under ILM in 12 site woredas that also enhances biodiversity Baseline to be confirmed at inception	60,000 ha with improved soil and water management that also enhances biodiversity Target to be confirmed at inception phase	120,000 ha with improved soil and water management that also enhances biodiversity Target to be confirmed at inception phase	Sufficient interest amongst communities and local authorities to expand ILM activities and interest in maintaining biodiversity Major disasters do not preclude a focus on ILM by communities and local authorities
		c.10,000 ha under diversified production in 12 site woredas; c.5,000 ha under ILM in agro-pastoral systems Baseline to be confirmed during inception phase	60,000 ha under diversified production 30,000 ha of agro-pastoral systems under integrated land management Target to be confirmed at inception phase	120,000 ha under diversified production 60,000 ha of agro-pastoral systems under integrated management Target to be confirmed at inception phase	Suitable options for diversification are identifiable and sustainable Agro-pastoralist communities are willing and able to engage in ILM activities
		c. 30,000 households in 12	120,000 households with	240,000 households with	Local authorities and other

		site woredas currently requiring food security assistance Baseline to be confirmed at inception phase	increased access to food through enhanced production and livelihoods diversification including off-farm activities (i.e. number of households no longer requiring food aid assistance increases) Target to be confirmed at inception phase	increased access to food through enhanced production and livelihoods diversification (i.e. number of households no longer requiring food aid assistance increases) Target to be confirmed at inception phase	sources of information available to count numbers of households and willingness to share this information
	Indicator 9: Amount of financial resources ($) invested in Integrated and Sustainable Land Management at woreda/ landscape level	Less than US$0.5m current level of investment in ILM in 12 target woredas	US$5.5m investment leveraged by bilateral and multilateral organizations and the private sector	US$11m investment leveraged by bilateral and multilateral organizations and the private sector	Government and global policy environment continues to prioritize landscape management as an approach to achieving GEBs and food security
		Two innovative funding mechanisms in place at local or national level, including payment for alternative energy use to reduce carbon loss within vulnerable environments	Five innovative funding mechanisms / incentive schemes in place at local or national level	10 innovative funding mechanisms / incentive schemes in place at local or national level	Ethiopia remains a priority for investment in GEBs generation in SSA

Outcome 3 **Capacity and institutions in place to monitor and assess resilience, food security and GEBs (Global Environmental Benefits)**	*Indicator 10:*Improved score (%) in capacity of institutions to monitor ecosystem resilience and GEBs [as measured by UNDP Capacity Scorecard]	Less than 30% score in capacity of institutions to monitor ecosystem resilience, food security and GEBs (tbc at inception phase)	30% capacity score	50% capacity score	Willingness to participate in training and capacity building initiatives for monitoring. Technical and data systems sufficient to support robust monitoring
	*Indicator 11:*Number of gender-responsive systems/ initiatives in place to monitor multi-scale ecosystem resilience, food security and GEBs at national and landscape levels sites	No gender-responsive system/initiative in place to monitor multi-scale ecosystem resilience, food security and GEBs in project/program implementation in the 12 sites	At least one gender-responsive multi-scale monitoring of ecosystem services, food security and GEBs system/initiative established at national and landscape levels	At least two gender-responsivesystems/initiative in place to monitor multi-scale ecosystem resilience, food security and GEBs established at national and landscape levels	

6 MONITORING AND ASSESSMENT (M&A) PLAN

6.1 M&A, oversight and monitoring responsibilities

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. Supported by Component 3 - Knowledge Management and M&A, the project monitoring and assessment plan will also facilitate learning and ensure knowledge is shared and widely disseminated to support the scaling up and replication of project results.

Project-level monitoring and assessment will be undertaken in compliance with UNDP requirements as outlined in the **UNDP POPP and UNDP Evaluation Policy**. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&A requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&A requirements (as outlined below) will be undertaken in accordance with the **GEF M&E policy** and other relevant GEF policies[12]. The UNDP Country Office will provide technical support on development of the TORs and other related matters requiring assistance.

In addition to these mandatory UNDP and GEF M&E requirements, other M&A activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&A activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.[13]

Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff members maintain a high level of transparency, responsibility and accountability in M&A and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans based on the multi-year work plans included in Annex A; these will include annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&A requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy) occur on a regular basis.

Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to

[12] See https://www.thegef.org/gef/policies_guidelines

[13] See https://www.thegef.org/gef/gef_agencies

highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&A activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will retain all M&A records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: The UNDP-GEF Regional Technical Advisors will provide additional M&A and implementation quality assurance and troubleshooting support and the UNDP-GEF Directorate as needed.

Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[14]

6.2 Additional GEF monitoring and reporting requirements

Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;

b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;

[14] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

c) Review the results framework and finalize the indicators, means of verification and monitoring plan;

d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&A budget; identify national/regional institutes to be involved in project-level M&A; discuss the role of the GEF OFP in M&A;

e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;

f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and

g) Plan and schedule Project Board meetings and finalize the first year annual work plan.

The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. 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 the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results: GEF-6 Food Security IAP - Tracking Tool for Child Projects. The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted as Annex D to this project document – will be updated by the Project Manager/Team (not the evaluation consultants hired to undertake the MTR or the TE) and shared with the mid-term review consultants and terminal evaluation consultants before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the *UNDP Evaluation Resource Center (ERC).* As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publically available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

8.3 Mandatory GEF M&A Requirements and M&ABudget

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[15] (US$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 12,000	*USD 5,000*	Within two months of project document signature
Inception Report	Project Manager	None	None	Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager Implementing partner and other relevant stakeholders	Per year: USD 10,000 (5x10,000=50,000)	*USD 100,000*	Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	None	*Per year: USD 4000 (5x4000= 20,000)*	Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager Implementing partner	*USD 100,000*	*USD 100,000*	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	*None*	*USD 10,000*	On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	*None for time of project manager, and UNDP CO*	*None*	*Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.*
Project Board meetings	Project Board UNDP Country Office Project Manager	*USD 15,000*	*USD 5,000*	At minimum annually
Supervision missions	UNDP Country Office	None[16]	*USD 7,000*	Annually
Oversight missions	UNDP-GEF team	None16	*USD 5,000*	Troubleshooting as needed
Knowledge management as outlined in Outcome 4 (*1% of GEF grant)*	*Project Manager*	*USD 100,000*	*USD 50,000*	*On-going*
GEF Secretariat learning mission's/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None	*None*	To be determined.
Mid-term GEF Tracking Tool to be updated	*Project Manager Implementing Partner*	*USD 5,000*	*USD 3,000*	*Before mid-term review mission takes place.*
Independent Mid-term Review (MTR) and management response	*UNDP Country Office and Project team and UNDP-GEF team*	*USD 50,000 (for both international and National consultants)*	*USD 24,000*	*Between 2nd and 3rd PIR.*
Terminal GEF Tracking Tool to be updated	*Project Manager Implementing Partner*	USD 5,000	*USD 3,000*	Before terminal evaluation mission takes place

[15] Excluding project team staff time and UNDP staff time and travel expenses.

[16] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[15] (US$)		Time frame
		GEF grant	Co-financing	
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 60,000 (for both international and national consultants)	*USD 10,000*	At least three months before operational closure
Translation of MTR and TE reports into English	*UNDP Country Office*	*None*	*None*	*As required. GEF will only accept reports in English.*
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses *3-5% of GEF grant NOT total budget*		*USD 397,000*	*USD 342,000*	

7 PROJECT IMPLEMENTATION

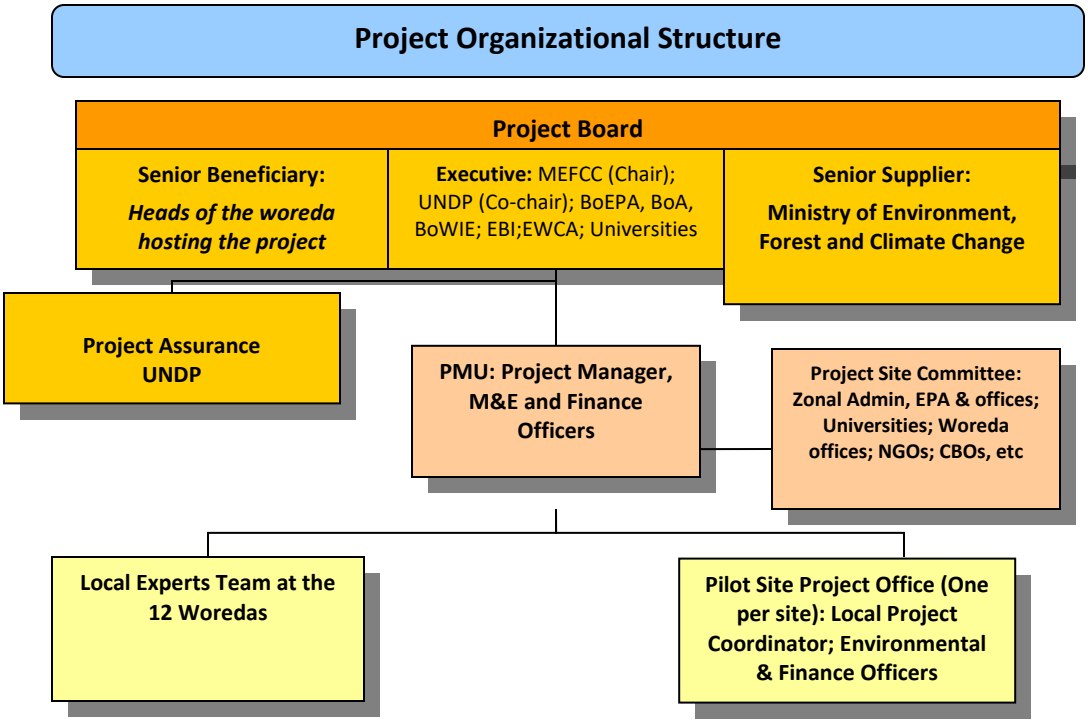
Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's National Implementation Modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Ethiopia, and the Country Programme.

The Implementing Partner for this project is Ministry of Environment, Forest and Climate Change of the GoE. The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP and GEF resources.

UNDP will be responsible for project assurance, ensuring that the project is implemented in accordance with the rules and procedures for managing UNDP projects. In particular as a member of the Project Board, UNDP will promote and maintain focus on the expected project outputs; arbitrate on, and ensure resolution of, any donor priority or resource conflicts; contribute opinions on Project Board decisions on whether to implement recommendations on proposed changes; ensure that any standards defined for the project are met and used to good effect; and monitor any risks in the implementation aspects of the project.

The project organisation structure is as follows[17]:

[17] See TORs in annex.



The Project Board is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager. The terms of reference for the Project Board are contained in Annex.

The Project Manager will run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The Project Manager function will end when the final project terminal evaluation report and corresponding management response, and other documentation required by the GEF and UNDP, has been completed and submitted to UNDP (including operational closure of the project).

The project assurance roll will be provided by the UNDP Country Office specifically through the Environment Programme Officer/*GEF programme specialist.* Additional quality assurance will be provided by the UNDP Regional Technical Advisor as needed.

Governance role for project target groups: Heads of the Woredas hosting pilot sites and the beneficiary communities in each target region will nominate a competent individual or a CBO representative to represent them on the Project Board. As representatives of beneficiaries, they will prioritise and contribute beneficiaries' opinions on Project Board decisions.

The project site committee at each site will consist of representatives of all the project's local stakeholder institutions and beneficiaries. Site committees will be responsible for catalysing and maintaining linkage between sectors (environment, wildlife, forestry, planning, land water, agriculture, etc.). The site

committees shall be responsible for guiding and coordinating the delivery of site activities. They will meet at least once every quarter to review work plans, review progress, discuss implementation barriers, agree on ways of addressing barriers, forge linkages, harmonize activities, exchange information and experiences, and provide guidance for implementation. Members of site committee will include Zonal and Woreda administrators, EPA, AO, CBOs and NGOs, local university and community members (men and women including elders and the youth). The Local Coordinator will support the operations of the site committee by running day-to-day affairs of the project, ensuring development of joint work plans, receive funds, deliver activities according to work plans, prepare reports and account for the funds in a timely manner. Thus, project activities at the pilot site level will be integrated into the existing structures, in particular to the woreda and kebele extension systems, CBOs and local NGOs (for sustainability). And, as implementation progresses and capacities increase, it is expected that village associations and local organisations as well as woreda councils will take on an increasingly responsible role in decision making, with the support of the kebele and woreda technical institutions.

UNDP Direct Project Services as requested by Government: UNDP has been requested by the government to provide direct project services for this project, relating to procurement of goods and services for establishing the Project Management Unit. These services, and their cost, have been outlined in the Letter of Agreement (see annex 11.10) to be signed between government and UNDP, prior to the signing of the PRODOC between UNDP and government.

Agreement on intellectual property rights and use of logo on the project's deliverables: In order to accord proper acknowledgement to the GEF for providing funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[18] and the GEF policy on public involvement.[19]

8 FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is USD 155,204,881. This is financed through a GEF grant of USD 10,239,450,USD 500,000 in cash co-financing to be administered by UNDP and USD 144,465,431 in parallel co-financing. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Parallel co-financing: The actual realization of project co-financing will be monitored annually through the PIR process, during the *mid-term review* and terminal evaluation processes and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Co-financing source	Co-financing type	Co-financing amount	Planned Activities/ Outputs	Risks	Risk Mitigation Measures
GoE (MEFCC)	In kind	144,465,431[20]	All	Co-financing proves difficult to realise due to competition with activities	Close coherence between key policy objectives of government and commitment of co-

[18] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[19] See https://www.thegef.org/gef/policies_guidelines
[20] The co-financing from government is outlined in letter of co-financing.

					financing is maintained.
UNDP	In Cash	500,000	All	None	N-A

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF: a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more; b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Refund to Donor: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP.[21] On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Financial completion: The project will be financially closed when the following conditions have been met:a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project;d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision). The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

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

9 TOTAL BUDGET AND WORK PLAN

Atlas Award No.	00097070	**Atlas Project No.**	100923
Atlas Proposal or Award Title:	Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Ethiopia		
Atlas Business Unit	ETH10		
Atlas Primary Output Project Title	Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Ethiopia		
UNDP-GEF PIMS No.	5559		
Implementing Partner	UNDP Ethiopia		

GEF Component/Atlas Activity	Atlas Implementing (Agent)	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
COMPONENT/ OUTCOME 1: Institutional Frameworks Enhance biodiversity and ecosystem goods and services within food production systems	**MFECC**	**62000**	**GEF**	71200	International Consultants	60,000	60,000	60,000	50,000	50,000	**280,000**	*1*
				71300	Local Consultants	50,000	50,000	50,000	50,000	50,000	**250,000**	*2*
				72100	Contractual Services-Companies	40,000	50,000	50,000	50,000	40,000	**230,000**	*3*
				72800	Information Technology Equip	10,000	20,000	20,917	15,000	15,000	**80,917**	*4*
				72500	Supplies	25,000	25,000	25,000	25,000	25,000	**125,000**	*5*
				71600	Travel	50,000	30,000	30,000	30,000	30,000	**170,000**	*6*
				75700	Training, Workshops and Confer	70,000	70,000	70,000	60,000	70,000	**340,000**	*7*
					sub-total GEF	**305,000**	**305,000**	**305,917**	**280,000**	**280,000**	**1,475,917**	
					Total Component 1	**305,000**	**305,000**	**305,917**	**280,000**	**280,000**	**1,475,917**	
COMPONENT/ OUTCOME 2: Scaling up of Integrated Landscape Management Approach Achieves Improved Productivity of Smallholder Food Production Systems and Improved Household Access to Food and Nutrition	**MFECC**	**62000**	**GEF**	71200	International Consultants	90,000	120,000	120,000	100,000	70,000	**500,000**	*8*
				71300	Local Consultants	70,000	80,000	250,000	250,000	70,000	**720,000**	*9*
				72100	Contractual Services-Companies	170,000	200,000	180,000	196,088	150,000	**896,088**	*10*
				72200	Equipment and Furniture	600,000	770,000	750,000	800,000	720,000	**3,640,000**	*11*
				71600	Travel	100,000	100,000	100,000	100,000	100,380	**500,380**	*12*
				74200	Audio Visual&Print Prod Costs	20,000	45,000	60,000	67,615	50,000	**242,615**	*13*
				75700	Training, Workshops and Confer	175,000	225,000	225,000	200,000	200,000	**1,025,000**	*14*
					sub-total GEF	**1,225,000**	**1,540,000**	**1,685,000**	**1,713,703**	**1,360,380**	**7,524,083**	
					Total Component 2	**1,225,000**	**1,540,000**	**1,685,000**	**1,713,703**	**1,360,380**	**7,524,083**	

GEF Component/Atlas Activity	Atlas Implementing (Agent)	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
COMPONENT/ OUTCOME 3:Enhanced Knowledge Management and Monitoring and Assessment support stronger results and impacts	**MFECC**	**62000**	**GEF**	71200	International Consultants	15,000	18,000	18,000	18,000	15,000	**84,000**	*15*
				71300	Local Consultants	10,000	15,000	15,000	15,000	10,000	**65,000**	*16*
				72100	Contractual Services-Companies	15,000	20,000	20,000	20,000	10,000	**85,000**	*17*
				72300	Materials & Goods	20,000	10,000	10,000	10,000	10,000	**60,000**	*18*
				72800	Information Technology Equip	30,000	18,000	18,000	18,000	18,000	**102,000**	*19*
				72400	Communic & Audio Visual Equip	10,000	10,000	10,000	10,000	10,000	**50,000**	*20*
				75700	Training, Workshops and Confer	50,000	68,000	74,858	68,000	45,000	**305,858**	*21*
					sub-total GEF	**150,000**	**159,000**	**165,858**	**159,000**	**118,000**	**751,858**	
					Total Component 3	**150,000**	**159,000**	**165,858**	**159,000**	**118,000**	**751,858**	
Project Management Unit	**MFECC**	**62000**	**GEF**	71200	International Consultants	-		30,000		30,000	**60,000**	*22*
				71300	Local Consultants		8,402	20,000	8,402	20,000	**56,804**	*23*
				72500	Supplies	45,000	45,000	36,000	37,000	45,000	**208,000**	*24*
				74500	Miscellaneous	500	1,000	1,000	1,000	719	**4,219**	*25*
				72200	Equipment and Furniture	70,000					**70,000**	*26*
				74596	Direct Project Cost	1,573	1,840	1,840	975	341	**6,569**	*27*
				75700	Training, Workshops and Confer	12,000	12500	12500	12500	12500	**62,000**	*28*
				74100	Professional Services	4,000	4,000	4,000	4,000	4,000	**20,000**	*29*
					Sub-total GEF	**133,073**	**72,742**	**105,340**	**63,877**	**112,560**	**487,592**	
		4000	**UNDP**	71400	Contractual Services - Individ	63,000	60,000	60,000	61,000	61,000	**305,000**	*30*
				72200	Equipment and Furniture	100,000					**100,000**	*31*
				75700	Training, Workshops and Confer	15,000	25,000	25,000	25,000	25,000	**125,000**	*32*
					Sub Total UNDP budget	**178,000**	**80,000**	**81,000**	**81,000**	**80,000**	**500,000**	
					Total PMC	**311,073**	**152,742**	**186,340**	**144,877**	**192,560**	**987,592**	
					Total GEF	**1,813,073**	**2,076,742**	**2,262,115**	**2,216,580**	**1,870,940**	**10,239,450**	
					Total UNDP	**178,000**	**80,000**	**81,000**	**81,000**	**80,000**	**500,000**	
					PROJECT TOTAL	**1,991,073**	**2,156,742**	**2,343,115**	**2,297,580**	**1,950,940**	**10,739,450**	

Summary of funds:

	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
GEFTF	1,813,073	2,076,742	2,262,115	2,216,580	1,870,940	10,239,450
UNDP	178,000	80,000	81,000	81,000	80,000	500,000
Total	1,991,073	2,156,742	2,343,115	2,297,580	1,950,940	10,739,450

Budget notes:

Component 1

1. International consultants: These will be individuals hired to help establish and sustain effective multi-stakeholder platforms, advising on participation, set up and governance based on experience elsewhere in the region. It is anticipated that two will be hired per year for short-term assignments in support of the project team. Approximately 20-30 days per assignment.
2. Local consultants: Local consultants will work in support of the establishing supportive institutional and policy environments and the development of a gender decision support tool. They will also support work on establishing/supporting value chains in specific commodity areas. It is anticipated that there will be some 200 days per year for work across the six regions. We anticipate at least one local consultancy per year on gender and data disaggregation. Local consultants will also fill the legal advisory position.
3. Contractual services: cost of service providers/companies to undertake market studies and the policy environment. This also will enable the creation of linkages with the private sector (e.g. in dairy production) and other stakeholders and beneficiaries (e.g. in understanding markets and establishing the right policies and stakeholder markets).
4. Information technology: the cost will cover the purchase of information technology equipment including computers to support the six-region site teams this will be kept to a minimum to ensure cost-effectiveness.
5. Supplies: the cost will cover small offices supplies, stationary items and basic materials for each site at woreda level, but likely to be cost-sharing with other programs.
6. Travel: Thecost will cover local travel expenses specific to the setup of the multi-stakeholder platforms and value chain approaches.
7. Training and workshops: to cost will cover different trainings and workshops that will focus on establishing effective value chain development and will bring together participants from the six regions.

Component 2

8. International consultants: the cost of contracting consultants that will support the development of integrated land management practice in the project sites. At least two consultancies per year are envisaged with consultant bringing together participants from the six regions.
9. Local consultants:the cost of Local consultants that will provide intensive support to local authorities and implementers, working closely with communities. Their services will be particularly important in years 3 and 4 when project activities ramp up.

10. Contractual services: the cost for contracting consulting firms/research institutes that will support practical development of watershed and ecosystem services (including PES and other systems). The focus will be on engaging private sector in establishing alternative livelihoods, supporting diversification of energy sources and building strong market linkages.
11. Equipment and support for diversified livelihoods: The bulk of this budget line (by far the largest) is to be spent on direct support to beneficiaries in the 12 woreda implementation sites. This ensures tangible inputs (e.g. seed varieties, livestock varieties, farming implements, etc.) to their lives and livelihoods in terms of value chain development, farming, pastoralism and watershed protection and development.;
12. Travel: the costs will cover the travel expenses both within and between sites under Component 2 and across the 60 months of the project. This will include site visits, sharing, learning visits and implementation of best practice.
13. Printing and publication cost: as part of the Scaling up of Integrated Landscape Management Approach preparing, printing and, dissemination of, learning best practices.
14. Training and workshops: The cost will cover for meetings thatwill focus intensively on delivering the scaling up required at site (woreda), watershed and kebele levels. In common with the wider trend in the budget these costs rise in years three and four.

Component 3

15. International consultants: The cost will cover for hiring international consultants to makein-depth consultancy focused on supporting action research approaches in the six focus regions/12 sites per year. The idea will be to anchor the knowledge and research focus in the wider challenge of effectively monitoring impacts, both on resilience in production systems and in landscapes.
16. Local consultants: The cost will cover hiring of Local consultants (6 per year) will assist Vital Signs and local teams in establishing monitoring and assessment mechanisms.
17. Contractual services: These costs will cover technical services required in supporting effective remote sensing monitoring and ground-truthing, as well as other data services required.
18. Materials and goods: the cost will cover basic costs of some goods (e.g. GPS machines, GIS maps) required for M&A across the year for the central services.
19. Information technology: The costs will cover information technology related equipment's required for effective monitoring and to enable effective action research and knowledge management at a central and site level.
20. Communication costs: the costs will cover internet connection for the project office if possible the 12 sites and other related costs.
21. Training and workshops: These costs will cover the meetings related to knowledge and learning, bringing together stakeholders from the 12 sites, researchers and practitioners to assess progress and interpret results of research. This will include liaison with the Umbrella Programme and regional 'hub', Project related meetings such as board/steering committee meetings etc
22. International consultants – to cover the cost of international consultants who will conduct the mid-term and terminal evaluation
23. Local consultants – to cover the cost of local consultants who will cover the mid-term and terminal evaluation, and who will also support the preparation of both MTR and TE tracking tools
24. Supplies – the cost will cover fuel, lubricants, office supplies, etc for the purpose of Project Management Team
25. Miscellaneous – to cover miscellaneous expenses incurred by the Project Management Team
26. Equipment and Furniture: The cost is for purchase of vehicles (two cars) for the project management unit and 6 motorbikes for project sites.
27. Direct Project Cost: this is to cover the services that will be rendered by UNDP CO – detail service attached

28. Training and Workshops: this will cover part of the inception workshop cost, Project board meetings, etc
29. Professional fee – the cost will cover annual Audit fee
30. Contractual Services – individual – the cost will cover salaries of PMU staff
31. Equipment and Furniture: The cost is for purchase of vehicles (two cars) in year one to be used in the remote regions that would require vehicle transportationand additional 6 motorbikes for project sites; this will be funded from TRAC(Co-financing amount).
32. Training and Workshops – the cost will cover part of inception workshop, oversight missions and other experience sharing workshops, trainings for the Project team and other relevant stakeholders, etc

10 LEGAL CONTEXT

This document together with the CPAP signed by the Government and UNDP which is incorporated herein by reference, constitute together a Project Document as referred to in the Standard Basic Assistance Agreement (SBAA); as such all provisions of the CPAP apply to this document. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner", as such term is defined and used in the CPAP and this document.

Consistent with the Article III of the Standard Basic Assistance Agreement (SBAA), the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document.

The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.This provision must be included in all sub contracts or sub-agreements entered into under/further to this Project Document".

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

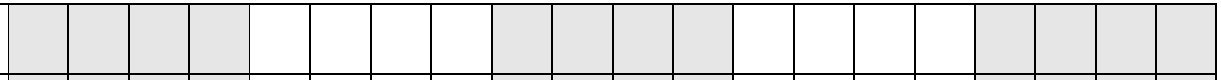
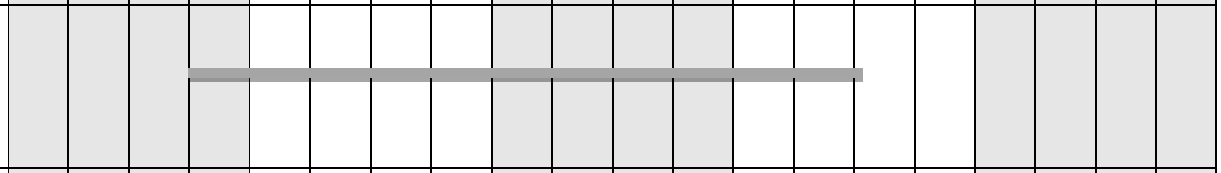
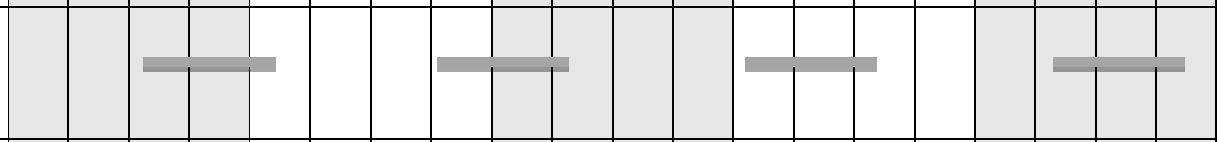
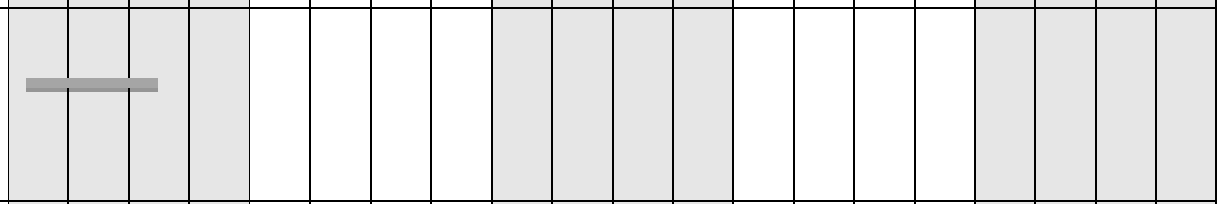
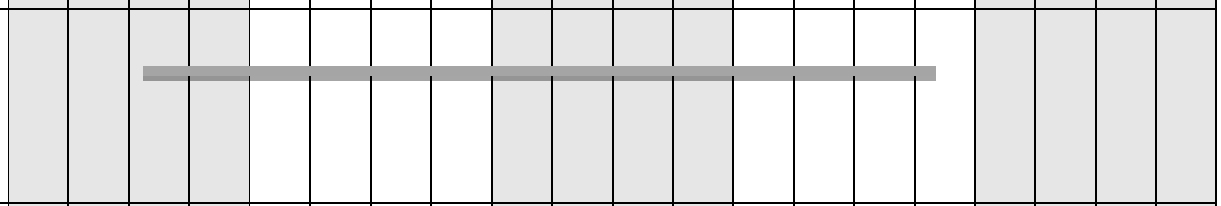
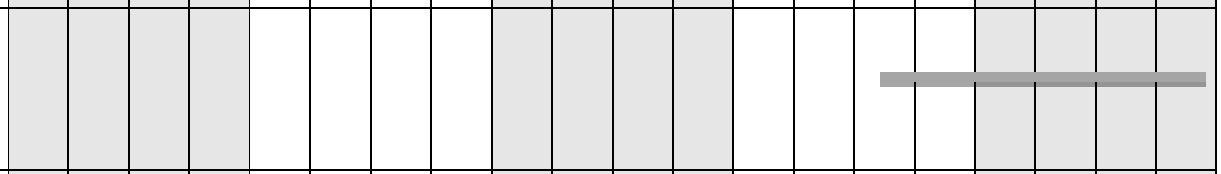
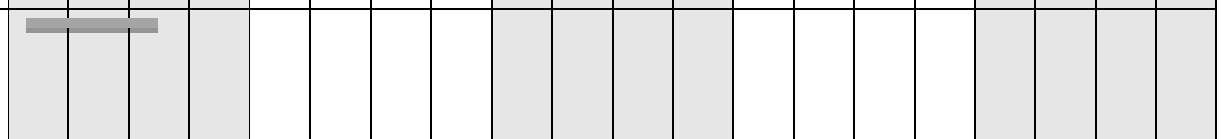
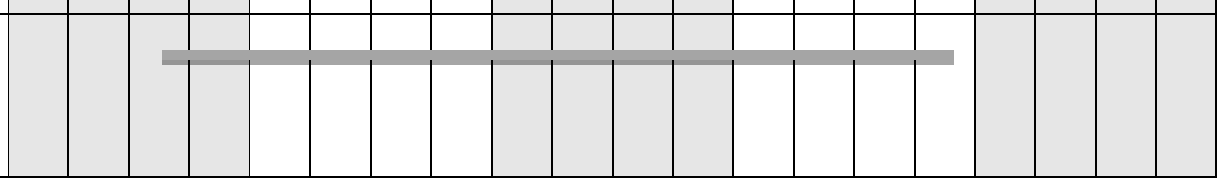
11 MANDATORY ANNEXES

11.1 Multi Year Work Plan:

Components	Outputs	Activities	Task leaders	Year 1				Year 2				Year 3				Year 4				Year 5			
				Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Component 1 Institutional Frameworks for Enhancing biodiversity and ecosystem goods and services within food production systems																							
Outcome 1.1Multi-stakeholder and multi-scale platforms in support of integrated natural resources management in agricultural landscapes in place	*Output 1.1.1Functioning multi-stakeholder platforms in place in the project sites*	i. Inception: Identification of stakeholders in each woreda	EPA / BoA / BoWE																				
		ii. Establishment of platforms in woreads and at zonal level in agreement with key institutions (common purpose, agendas, workplans)	EPA / BoA / BoWE																				
		iii. Convening platform meetings at zonal level	Zonal offices																				
		iv. Sharing experience at zonal level and in national meeting at project midpoint	LWRC																				
	Output 1.1.2 At least one gender-sensitive	i.Inception period Gender Plan completed including	WAB																				

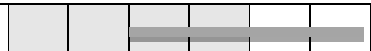
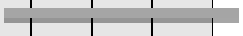
	decision-support tool and participatory process applied	approach paper in each zone		
		ii. Gender teams established with project partners to strengthen women's engagement in landscape restoration		
		Iii. Development of gender tool to analyze HH-level +/- of integrated landscape development	WAB, EPA	
		iv. Application of tool in 12 woredas in six regions	WAB, EPA, partners	
		v. Reflection and feedback feeds into KM and M&E		
<u>Outcome 1.2</u>Policies and incentives in place at national and local level to support smallholder agriculture and food value-chains	*<u>Output 1.2.1</u>Value chain approaches integrated with sustainable production systems, including reduction of post-harvest losses*	i. Watershed management and development programs supported in critically degraded areas in 12 woredas to strengthen natural resource base	Bureaus and local NGOs	
		ii. Water-Smart production systems		

		developed in critical watersheds in 12 woredas to support higher productivity and income security		
		iii. Non-farm economic development approaches established in 12 woredas to reduce pressure on natural capital	Bureaus and local NGOs	
		iv. Programmes to prevent animal dung energy supply and restore organic matter to soils undertaken in 10 woredas	Bureaus and local NGOs	
	Output 1.2.2 Selected value-chains strengthened	v. Value chain identification undertaken with specific reference to gender-equal approaches and intensive zero-grazing and dairying	Bureaus, local NGOs and private sector	
Component 2 Scaling up of Integrated Landscape Management approaches achieves improved productivity of smallholder food production systems and innovative transformations to non-farm livelihoods				
Outcome 2.1Increased land area and agro-	*Output 2.1.1 120,000 ha with improved soil and water*	i. Selection of site-specific watersheds and kebeles for	Bureaus, NGOs, local orgs	

ecosystems under Integrated Land Management	*management*	interventions		
		ii. Agreement on and implementation of approaches	Bureaus, NGOs, local orgs, comms	
		iii. M&A plus learning activities	Bureaus, NGOs, unis and comms	
	<u>Output 2.1.2</u> 120,000 ha under diversified production	i. Identification of options for diversification (including dairying)	Bureaus, NGOs, private sector and comms	
		ii. Introduction of training and capacity building activities in specific sites	Bureaus, NGOs, private sector and comms	
		iii. M&E and learning under LPAs	As above with regional unis	
	<u>Output 2.1.3a</u> 10,000 ha of agro-pastoral systems under integrated land management; <u>Output 2.1.3b</u> 240,000 farm HHs with	i. Identification of options for ILM in pastoral areas	Bureaus, NGOs, and comms	
		ii. Introduction of training and capacity building activities in specific sites	Bureaus, NGOs, and comms	

	increased access to food including through off-farm activities	iii. M&E and learning under LPAs	As above with regional unis	
<u>Outcome 2.2</u>Increase in investment flows to integrated natural resources management	*<u>Output 2.2.1</u> US$11m investment by bilateral and multilateral organizations and the private sector*	*i. Identification of potential investors and investment vehicles*	Ministries, Bureaus, GEF team	
		ii. Negotiations and proposal developments to investors	Ministries, Bureaus, GEF team	
	<u>Output 2.2.2</u> 10 innovative funding mechanisms/ schemes in place – including rainfall index insurance	iii. Establishment and functioning of funding mechanisms	Ministries, private sector, Bureaus, GEF team	
<u>Component 3</u> Knowledge Management and Monitoring and Assessment				
<u>Outcome 3.1</u>Capacity and institutions in place to incorporate resilience into project implementation, and for monitoring of food security and GEBs	*<u>Output 3.1.1</u>Multi-scale monitoring of ecosystem services and global environmental benefits established at landscape level*	i. Identification of existing monitoring systems and development of additional system monitoring approaches	Bureaus, Unis	
		ii. Implementation of systems and regular	Bureau, Unis	

		monitoring		
	<u>Output 3.1.2</u> Framework for monitoring of resilience established at national and landscape level	i. Identification of resilience actors and framework design process	Ministries, Unis	
		ii. Implementation of framework	Bureaus, Zones, Ministries	
	<u>Output 3.1.3</u> Key Program socio-economic and gender indicators mainstreamed	i. Gender responsive indicators and process agreed with all stakeholders during inception	GEF team, Uni	
		ii. Implementation of gender-responsive and women's empowerment approach	GEF team, Bureaus, Uni	
	<u>Output 3.1.4</u> Landscape-national level data integration tool established	i. Establishment of KM and Learning system	GEF team, unis	
		ii. Implementation of KM and Learning system	GEF team, unis	
	<u>Output 3.15</u>Vital Signs monitoring landscapes	i. Project support team established	GEF team, VS, partners	

	established in each of the six regions	ii. Monitoring systems set up and tested	GEF team, partners	
	<u>Output 3.1.6</u> On-going monitoring of food security and environmental benefits using Vital Signs monitoring framework	i. Identification of partners and system set up	GEF team, VS, local partners	
		ii. Ongoing monitoring and reporting on annual basis	GEF team, VS, local partners	

11.2Monitoring Plan

Monitoring Plan	Indicators	1 Description 2	Data source/Collection Methods 3	Frequency 4	Responsible for data collection	Means of verification	Assumptions and Risks 5
Project Objective: To enhance long-term sustainability and resilience of the food production systems by addressing the environmental drivers of food insecurity in Ethiopia	1	Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or sub-national level, disaggregated by partnership typeindicator	The data source will be interviews with key informants at a national level including GoE, development partners and agencies carried out on an annual basis	Annually	Project office; project consultants	Written records of consultation; GoE documents; other official documentation	The ILM partnership provides sufficient coherence and common purpose to drive more effective planning, implementation and monitoring of climate change mitigation and adaptation actions and sustainable resource management
	2	Number of jobs and livelihoods created through management of natural resources, ecosystem services, chemicals and waste, disaggregated by sex, and rural and urban	Surveys and analysis carried out by project staff and consultants through household analysis, key informant surveys and focus group discussions.	Annually	Project office; project consultants	Written records of consultation; GoE documents; woreda and kebele records; other official documentation	Wider socio-economic and environmental changes do not serve to affect capacities of communities and those working with them to transform their livelihoods, including better management of natural resource systems

	3	Number of direct project beneficiaries. 1,440,000 people (12 woredas; 20,000 households in each woreda (on average six people in each HH)) [including sex disaggregated data – at least 50% of total beneficiaries will be women]	Surveys and analysis carried out by project staff and consultants through household analysis, key informant surveys and focus group discussions.	Semi-annually	Project office; project consultants	Written records of consultation; GoE documents; woreda and kebele records; other official documentation	No major conflict disrupting rural production systems in target sites No major persistent rainfall anomaly between years leaving to upward trend in destitution
Project Outcome 1 Institutional Frameworks Enhance biodiversity and ecosystem goods and services within food production	4	Number of multi-stakeholder and multi-scale platforms in support of policy and institutional reform and up-scaling of integrated natural resources management in place [including gender dis-aggregated data on participation]	Surveys and analysis carried out by project staff and consultants through key informant surveys at national, regional and sub-regional levels	Annually	Project office; project consultants	Written records of consultation; GoE documents; woreda, zonal and regional records; other official documentation	Willingness and capacity of institutions under the project to engage in collaboration through multi-stakeholder platforms Wider food insecurity, drought and natural disaster conditions do not preclude active institutional engagement in this component of the project

	5	Number of gender-responsive & age-sensitive decision-support tools and participatory processes applied that lead to more gender transformational outcomes	Surveys and analysis carried out by project staff and consultants through key informant surveys and focus group discussions at national, regional and sub-regional levels	Annually	Project offices; project consultants	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation	Capacity and willingness of institutions at all levels to engage in development of gender and age-sensitive DSTs and support participatory processes Continued focus on gender equality as a key condition for sustainable development
	6	Number of policies and incentives in place at national and local level to support smallholder agriculture and food value-chains [including data that examines sex disaggregation of support measures, policies and incentives]	Surveys and analysis carried out by project staff and consultants through key informant surveys and focus group discussions at national, regional and sub-regional levels	Annually	Project offices; project consultants	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation	Continued policy focus on climate change and sustainable development outcomes Market systems in Ethiopia's different focus regions continue to develop and support farmer engagement in value chains Smallholder farming remains viable
	7	Number of selected value chains strengthened [including gender disaggregated data on engagement by women]	Surveys and analysis carried out by project staff and consultants through key informant surveys and focus group discussions at national, regional and sub-regional levels	Annually	Project offices; project consultants	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation	Market conditions continue to favor farmer engagement in value chains

Outcome 2 Scaling up of Integrated Landscape Management Approach Achieves Improved Productivity of Smallholder Food Production Systems and Improved Household Access to Food and Nutrition	8	Extent in ha of land area and agro-ecosystems under integrated land management and supporting significant biodiversity and the goods and services this provides [included gender disaggregated data on land ownership / engagement in diversification / MHH and FHH requiring food assistance]	Surveys and analysis carried out by project staff and consultants through key informant surveys and focus group discussions at national, regional and sub-regional levels, including land surveys carried out in conjunction with remote-sensed data at 12 project sites (and records kept of any impact beyond specific sites)	Semi-annually	Project offices; project consultants; partners	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation; remote-sensed data	Sufficient interest amongst communities and local authorities to expand ILM activities and interest in maintaining biodiversity Major disasters do not preclude a focus on ILM by communities and local authorities Suitable options for diversification are identifiable and sustainable Agro-pastoralist communities are willing and able to engage in ILM activities Local authorities and other sources of information available to count numbers of households and willingness to share this information

	9	Increase in investment flows to ILM	Surveys and analysis carried out by project staff and consultants through key informant surveys with agencies, government and the private sector at national, regional and sub-regional levels, including financial analysis carried out at project sites and at national level with analysis of attribution levels to project impact.	Annually	Project offices; project consultants; partners	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation; remote-sensed data	Government and global policy environment continues to prioritize landscape management as an approach to achieving GEBs and food security Ethiopia remains a priority for investment in GEBs generation in SSA
Outcome 3 Enhanced Knowledge Management and Monitoring and Assessment support stronger results and impact	10	Number of institutional and capacity building efforts that strengthen the incorporation of resilience into project design and implementation, and for monitoring of GEBs [including sex disaggregation of data]	Surveys and analysis carried out by project staff and consultants through key informant surveys with agencies and government at national, regional and sub-regional levels.	Annually	Project offices; project consultants; partners	Written records of consultations and surveys; GoE documents; woreda, zonal and regional records; other official documentation; remote-sensed data	Capacity to implement systems due to socio-economic and political conditions in 12 site woredas and six regions Technical and data systems sufficient to support robust monitoring Skills sets, local conditions and capacities exist to establish and execute monitoring across 12 woreda sites Acceptance of uptake and mainstreaming of key socio-economic and gender indicators by local authorities and other stakeholders in project development

11.3 Evaluation Plan

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants[22] 6	Other budget (i.e. travel, site visits etc…)	Budget for translation
Terminal Evaluation	*July 2021*	*October 2021*	Yes	*60,000*	*20,000*	*0*
			Total evaluation budget	USD 80,000		

[22] The budget will vary depending on the number of consultants required (for full size projects should be two consultants); the number of project sites to be visited; and other travel related costs. Average # total working days per consultant not including travel is between 22-25 working days.

11.4Social and Environmental Screening Report

Project Information

Project Information	
1. Project Title	Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience
2. Project Number	5559
3. Location	Ethiopia, Africa region

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The Project (i) invests in the establishment and development of multi-stakeholder platforms at kebele, woreda and zonal level;(ii) supports the consolidation of decision-making across policy and planning on energy resources, food security, agricultural development, forestry, domestic water supply and water resources management, helping to establish integrated woreda-level decision making and mainstreaming this within policy and planning processes; and (iii) devotes in strengthening capacities for multi-stakeholder platform management in each learning landscape, and promotes collaborative, evidence-based decision-making on the platforms.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
The Project is gender-responsive in design & implementation, & seeks to empower women through its ILM programme. The project will pursue a gender equality and women's-empowerment approach focused on acknowledging gender differentiated roles and engaging women as decision makers and agents of change within shared landscapes. The project's multi-stakeholder element involved in developing platforms and establishing effective policy will focus explicitly on gender equality and transforming the decision making environment from one of women's inclusion, to one of transforming their roles within policy making, implementation and monitoring and assessment. In addition, the project overall is committed to at least 50% of all beneficiaries being women. Infusing all this work is a commitment to gender transformation, recognizing that smallholder women farmers in particular are the major actors in rural economies in terms of managing demand for biomass energy, water resources and food security at a household level.
Briefly describe in the space below how the Project mainstreams environmental sustainability
The project will develop useful user-friendly guidelines and manuals on the value of ILM and on maintaining ecosystem services to help achieve food security, including the uptake and use of water-smart agricultural techniques, and put them all in place. This will catalyze the realization of the benefits from national and local actions that promotes public awareness and participation, which creates platforms for partnerships to deal with ILM, food security, ecosystem resilience, information management and other issues imparted at national level in the12 pilot sites. The project will establish strong inter-sectoral and inter-ministerial linkages to engage all participants and stakeholders for long-term sustainability of the activities. Education will also include environmental friendly agricultural

practices to enhance ecosystem services, production & the resilience of cropping systems using participatory/ learning by doing approaches.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses).*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups?	I = 1 P = 1	**L**	Key potential adverse social equity and equality issues relate to the use of ecosystem services such as water. The project could risk exacerbating existing inequalities in wealth & power as the wealthy and powerful could dominate groups thus there is a risk that they may dominate decision making & garner greatest benefits.	The project has put in place safeguards to avoid such outcomes. The design requires that each group at the 12 pilot woredas receive extensive training in the concepts of ILM, ecosystem services & SLM early in the process. Only after they have been fully informed, each group will then formally agree to accept being part of the program & have agreed plans both for the sustainable management of their lands & for benefit sharing - developed using bottom-up approaches which will involve men, women, young & old.
Risk 2: Are there measures or mechanisms in place to respond to local community grievances?	I = 2 P = 1	**L**	The project is designed to be "bottom-up", with active participation of local communities, which is essential for success & sustainability. Community members' suggestions & inputs will be considered at	The project will undertake capacity development for members of the CBOs to ensure these organizations function properly. In addition, the project will undertake capacity development and support for environmentally friendly land management technologies in participants' croplands, including setting-up farmer field schools and/or demonstrations, to further support their livelihoods.

			all stages & they will be deeply involved in the development of sustainable management plans, implementation, as well as the monitoring of activities related to the program.	
Risk 3: Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	I = 1 P = 2	**L**	As this is an ILM project, it represents complex social, technical and operational challenges that not all entities are prepared for. Particularly, capacity deficiencies in areas of ecosystem services, sustainable management of ecosystems, participatory monitoring & evaluation, environmentally friendly land management & financial planning hamper the effective execution of those project activities that are undertaken on a group basis.	The project ensures effective community engagement and dedicates effort to building capacity to enable participation. Cognizant of capacity building support for community organizations as an investment, the project is proactive & allocates budget towards capacity building support for community organizations.
Risk 4: Is there a risk that rights-holders do not have the capacity to claim their rights?	I = 2 P = 1	**L**	Most likely, community members do not have the capacity or knowledge to understand key elements such as to whom does the right to the use of ecosystem services belong, what ecosystem service(s) are available, and how we can guarantee that the benefits from ecosystem services are distributed in a transparent manner. Such limitations hinder claiming their rights.	The project is committed to guarantee that the rights of all community members are considered and respected. Therefore, the project will facilitate access to informationrelated to the project and ensure that members of the communityare consulted before beginning any activity.
Risk 5: Does the Project involve	I = 1	**L**	One of the potential	The project envisages that communities at the pilot sites

utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	P= 1		opportunities of the project is that communities will benefit from the use values of biodiversity resources including medicinal plants while also undertaking conservation work including conservation of rare & endangered species of national & global importance.	will formulate local management plans & by-laws or other regulations to guide and govern the actions of its members including determination of sustainable harvest levels for locally vital resources.

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		**Comments**
	Low Risk	**X**	
	Moderate Risk	☐	
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	**X**	
	Principle 2: Gender Equality and Women's Empowerment	**X**	
	1. Biodiversity Conservation and Natural Resource Management	**X**	
	2. Climate Change Mitigation and Adaptation	**X**	
	3. Community Health, Safety and Working Conditions	☐	
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	☐	
	7. Pollution Prevention and Resource Efficiency	☐	

Final Sign Off

Signature	*Date*	*Description*
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
Principles 1: Human Rights		**Answer (Yes/ No)**
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups?[23]	Yes
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Are there measures or mechanisms in place to respond to local community grievances?	Yes
6.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	Yes
7.	Is there a risk that rights-holders do not have the capacity to claim their rights?	Yes
8.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
9.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screeningquestions regarding environmental risks are encompassed by the specific Standard-related questions below		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services?	No

[23] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

	For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes	
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	Yes
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[24]greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	N/A

[24] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[25]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the rights, lands and territories of indigenous peoples (regardless of whether Indigenous Peoples possess the legal titles to such areas)?	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.4	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.5	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No

[25] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

6.6	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.7	Would the Project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	No
6.8	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

11.5Terms of Reference for key staff positions

1. Project Manager

Overall Function of the Position

The Project Manager (PM) will conduct all necessary coordination and management activities to successfully implement the project. The PM will work closely with the staff from *inter alia* MEFCC, zones, districts, kebeles, university staff and contracted NGOs / researchers. The PM will be based in the Project Management Unit (PMU) (in MEFCC) in Addis Ababa and report to the Project Board (PB).

Duties and Responsibilities

- Oversee the implementation of the project activities in line with the Project Implementation Plan and under the guidance provided by the Project Board (PB);
- Liaise with MEFCC as the implementing agency and coordinate project activities to ensure that the activities in each results area are implemented in accordance with the project objectives;
- Leading the monitoring of project activities against the established indicators detailed in the project Logical Framework.
- Liaise with implementing partners to ensure the timely submission of project reports;
- Conduct field visits as required to verify project activities relative to stated targets;
- Facilitate troubleshooting options with the relevant agencies to remove any bottlenecks that might arise during project implementation;
- Manage the personnel of the PMU and its day-to-day activities, evaluate their annual performance and make recommendations with regard to their contract renewal;
- Ensure that the work plans and budgets are in conformity with the project objectives;
- Oversee the outsourcing by competitive tender, monitor the procurement of works, goods and services for the project and ensure execution according to the rules and guidelines in conformity with the project procurement procedures manual. Coordinate and manage all procurement requirements (contracts and consultancies in the project, including reviewing consultancy reports);
- Provide guidance to contractors and consultants engaged by the project;
- Plan and arrange PB meetings and serve as the Technical Secretary for the Board, prepare and circulate minutes of the meetings, and follow up on implementation of the PB decisions and actions agreed;
- Manage and monitor the project risks initially identified, submit new risks to the PB for consideration and decision on possible actions if required; update the status of these risks;
- Ensure that the financial management arrangements are in conformity with the UNDP regulations, and that all payment vouchers and payment orders are correctly authorized thereby ensuring that all expenditures are justified, within budget frames, and in line with project objectives;
- Ensure that audits are organized on time and resulting recommendations are acted upon;
- Keep the National Focal Point (NFP) informed about key project implementation matters to facilitate the NFP's work as liaison officer with the GEF sector Ministries, other stakeholders and UNDP;
- Ensure appropriate public relations, awareness creation and marketing of the project among stakeholder groups and the public at large;
- Prepare periodic monitoring reports (technical and financial) of the project for submission to different agencies that are involved in the project implementation;
    - oversee the preparation of monthly/quarterly/annual financial reports;
    - quarterly project status reports;
    - monitoring and evaluation reports;
    - six-monthly Procurement Reports for the World Bank;
    - annual financial statements for audit purposes.
- Organise and facilitate stakeholder consultations and project review meetings as required;
- Undertake closing out activities for the project which include final financial, procurement and technical reports, and the handing over of documents;
- Undertake any other activity that may be necessary for the effective management of the project.

Competencies

Functional Competencies:

- Ability to communicate effectively complex, technical information;
- Good management, coordination and organization skills to facilitate production of quality outputs in a timely manner;
- Ability to work both independently and collaboratively as a member of a team to produce quality outputs in a timely manner.

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism;
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

Required Experience and Skills

Education:

- Advanced university degree (at least MSc. or equivalent) or Bachelor's degree in geography, environmental sciences / management, environmental economics or another field relevant to the project.

Experience and Skills:

- At least 7 years of experience in a similar or related position;
- Proven track record of technical and managerial experience in the implementation of large-scale, multi-stakeholder projects, including financial management and oversight of projects;
- Extensive experience with project management, especially with project financed by multilateral organizations;
- Strong interpersonal skills with ability to work under pressure and to establish and maintain effective work relationships with people of different national and cultural backgrounds;
- Excellent skills in project planning, implementation, and team building;
- Ability to take initiative and to work independently, as well as part of a team;
- Demonstrates openness to change and ability to manage complexities;
- Ability to lead effectively, and demonstrated excellent conflict resolution skills;
- Extensive knowledge and understanding of biodiversity and / or ecosystems issues, with special focus in forest / rangelands and payments for ecosystem services;
- Experience with and understanding of Ethiopia, including biodiversity protection issues and the CRGE will be an added advantage;
- Excellent working knowledge of English and track record in producing communications and reports in English;
- Experience in writing project success stories, lessons learned and best practices.
- Knowledge of the GEF and UNDP funded projects and their technical and operational requirements.

Language Requirements:

- Proficiency in English and Amharic. Knowledge of local languages will be an advantage

2. Local Project Coordinator (Field Environmentalist – four posts - one per pilot area)

Overall Function of the Position

She/he will work closely land users (project beneficiaries) and with Local Government technical staff at Woreda, Kebele and Zone levels, also universities staff working on the project to make sure the project activities are implemented according to the project plans. He/ she will mobilise beneficiaries and facilitate / guide implementation of project activities. He/she will monitor the projects activities and produce the reports to the National Project Manager**.**

Duties and Responsibilities

Under the supervision of the National Project Manager, the Field Environmentalists will:

- Ensure proper management, day to day co-ordination and facilitation / implementation arrangements are operating for implementation of the project at the assigned pilot site;
- Represent the project in relevant meetings etc. to which MEFCC / UNDP is invited in the assigned Zone, Woreda, Kebeles;
- Actively participate in the supervision, monitoring and evaluation of projects activities;
- In collaboration with the PM / TA, oversee all aspects of project activities implemented under the project at local;
- Plan and execute all activities of the project in the assigned districts in close collaboration with the PM, the authorities and technicians at Zone / Woreda / Kebele level and contracted NGOs / researchers;

- Assist in developing and reviewing technical studies carried out in the project sites through field visits, consultation meetings with communities, NGOs, local government in order to ensure that they get the accurate information and oversee the activities of contracted parties (e.g. providers of services to the beneficiary-communities);
- Ensure that all project activities funded community-level are within the scope of local development plans;
- Prepare the Annual Work Plan and budget at local level in line with MEFCC projects/programs and submit it to the National Project Manager;
- In close collaboration with the Project Accountant, ensure that funds are advanced by the project in a timely manner that it does not hinder the implementation of projects activities and that all project resources are used efficiently in support of the project objectives and targets of communities;
- Collect data (contact details, work plans, meeting schedules) and maintain comprehensive operational information on all partners activities in the assigned districts including NGOs, government offices, community based organizations and civil society;
- Prepare monthly, quarterly and annual progress reports on the status of the implementation of the project activities at local level, including technical, financial, policy matters, highlighting challenges and proposing options to solve them;
- Perform any other activities directly related to the project objectives that will be assigned by the National Project Manager.

Competencies

Functional Competencies:

- Ability to communicate effectively with local communities – including complex, technical information;
- Good management, coordination and organization skills to facilitate production of quality outputs in a timely manner;
- Ability to work both independently and collaboratively as a member of a team to produce quality outputs in a timely manner.

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism;
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

Required Experience and Skills

Education:

- A university Bachelor's degree in geography, environmental sciences / management, environmental economics or another field relevant to the project.

Experience and Skills:

- At least 3 years of experience in a similar or related position;
- Knowledge and understanding of biodiversity and / or ecosystems issues, with special focus in forest / rangelands and, ideally, the concepts of payments for ecosystem services;
- Field experience and understanding of Ethiopia, including biodiversity protection issues;
- Knowledge of the CRGE will be an added advantage;
- Strong interpersonal skills with ability to work under pressure and to establish and maintain effective work relationships with people of different cultural backgrounds;
- Ability to take initiative and to work independently, as well as part of a team;
- Familiarity with development projects implementation procedures and guidelines;
- Prepared to be based in the project area;
- Ideally, knowledge of the GEF and UNDP funded projects and their technical and operational requirements.

Language Requirements:

- Proficiency in English, Amharic and the relevant local language(s)

3. Project Technical Advisor (Biodiversity / Ecosystem Services Expert) [consultant]

Overall Function of the Position

Under the supervision of the Project Manager, the TA will provide technical advice to implementing staff and others associated with the project to ensure the work is carried-out to high technical standards. The TA will work closely with the staff from *inter alia* MEF,

zones, districts, kebeles, university staff and contracted NGOs / researchers. The TA will be based in the project management unit and report to the Project Steering Committee.

Duties and Responsibilities

The Technical Advisor (TA) will be working on a part-time/ad-hoc basis, closely with the GEF/UNDP Regional Technical Advisor and UNDP Ethiopia Country Office Programme Specialist, providing services to the Project Manager. The TA will assist the Project Management Unit through technical advice, by:

- Advising on best suitable approaches and methodologies for achieving project targets and objectives;
- Conduct field visits as required to verify project activities relative to stated targets;
- Provide day-to-day technical advice to implementing staff, consultants and contractors;
- Providing quality assurance and technical review of project outputs (e.g. studies and assessments);
- Assisting in drafting terms of reference for technical consultancies and supervision of consultants work, and through providing technical supervision of the outsourced work carried out under the project for timely and quality delivery of outputs;
- Providing assistance in monitoring the technical quality of the project M&E systems, as well as the annual work plan and indicators and targets in the log-frame;
- Assisting in knowledge management, communications and awareness raising initiatives under the project;
- Conducting periodical scheduled visits to the project sites;
- Providing advisory support for the Project Management Unit as and when required;
- Undertake any other activity that may be necessary for the effective management of the project.

Competencies

Functional Competencies:

- Ability to communicate effectively complex, technical information;
- Good management, coordination and organization skills to facilitate production of quality outputs in a timely manner;
- Ability to work both independently and collaboratively as a member of a team to produce quality outputs in a timely manner.

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism;
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

Required Experience and Skills

Education:

- Advanced university degree (at least MSc. or equivalent) or Bachelor's degree in geography, environmental science, environmental economics, natural resources, environmental management or another field relevant to the project.

Experience and Skills:

- At least 7 years of experience in a similar or related position;
- Extensive knowledge and understanding of biodiversity and / or ecosystems issues, with special focus in forest / rangelands and payments for ecosystem services;
- Understanding of biodiversity protection issues and the CRGE in Ethiopiawill be an added advantage**;**
- Strong interpersonal skills with ability to work under pressure and to establish and maintain effective work relationships with people of different national and cultural backgrounds;
- Ability to take initiative and to work independently, as well as part of a team;
- Knowledge of the GEF and UNDP funded projects and their technical and operational requirements.

Language Requirements:

- Proficiency in English and Amharic. Knowledge of local languages will be an advantage.

4. Project Legal Expert [consultant]

Overall Function of the Position

The Project Legal Advisor will provide expertise to the project to ensure the pilot site activities adhere to all laws etc (national and regional), providing expertise in reviewing legal documents and if necessary proposing for PES – and advice on drafting legal agreements for PES.

Duties and Responsibilities

The Legal Expert (LE) will be working part-time, closely with the Project Manager as required throughout the project. The LE will provide his / her expert advice by:

- Contributing to Outcome 2:Payments for biodiversity conservation and wider ecosystem services is piloted at selected sites;
- Providing other relevant advisory support for the Project Management Unit as and when required;
- Undertaking any other activity that may be necessary for the effective management of the project.

Competencies

Functional Competencies:

- Ability to work both independently and collaboratively as a member of a team to produce quality outputs in a timely manner.

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism;
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

Required Experience and Skills

Education:

- Advanced degree in law from an Ethiopian University.

Experience and Skills:

- At least 7 years of experience in a similar or related position;
- Legal, policy and institutional knowledge of the environmental and/or forestry sectors in Ethiopia, including land tenure;
- Experience with and understanding of Ethiopia, including biodiversity protection issues and the CRGE will be an added advantage;
- Strong interpersonal skills with ability to work under pressure and to establish and maintain effective work relationships with people of different national and cultural backgrounds;
- Ability to take initiative and to work independently, as well as part of a team;
- Ideally, knowledge of the GEF and UNDP funded projects and their technical and operational requirements.

Language Requirements:

- Proficiency in English and Amharic. Knowledge of local languages will be an advantage.

5. Project Board (PB)

The PB will provide high-level policy guidance and orientation to the project, and will be composed of the principal stakeholders and decision-makers of the key ministries related to ILM. The Executive Director of MEF will chair the PSC and UNDP co-chair. The observers should attend meetings and deliberations but will not have decision- making powers. Other members may be co-opted for regular or special meetings/sessions. The Project Manager will act as secretary to the PB. Members of the Steering Committee will be remunerated per sitting (from the project budget).

The PB will arbitrate on any conflicts within the project or negotiate a solution to any problems between the project and external bodies. In order to ensure UNDP's ultimate accountability, PB decisions should be made in accordance with standards that shall ensure best value for money, fairness, integrity, transparency and effective international competition. Specific responsibilities of the Project Steering Committee are divided into two: during implementation and closure.

During implementation, the PB will in particular provide overall guidance including policy input and functional guidance as well as direction to the project, ensuring it remains within any specified constraints. It will therefore provide guidance and agree on possible countermeasures/management actions to address specific risks. It will conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans. It will also review Combined Delivery Reports (CDR) prior to certification by the Implementing Partner. In addition, it will appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the Outcome

Board about the results of the review. Finally, it will review and approve end of project report, make recommendations for follow-on actions.

During project closure, the PB will ensure that all project deliverables have been produced satisfactorily. In this regard, it will review and approve the Final Project Review Report, including Lessons-learned, and make recommendations for follow-on actions to be submitted to the Outcome Board. It will also notify the Outcome Board on the operational completion of the project.

The Project Board consists of:

- Executive Director, MEFCC, Chair
- UNDP (Co-Chair)
- MEF Technical Expert
- MoANR
- MoFL
- MoWIE
- MOFED
- Regional Representatives
- Ethiopian Biodiversity Institute
- Representatives of the pilot sites
- Project Manager (Secretary)

The following entities are Observers

- Project Technical Adviser
- Project Legal and Policy Adviser
- Project Field Environmentalists
- EWCA representative

The principal tasks of the PB are the following:

1. Provide high level orientation and guidance for the project (institutional, political and operational)
2. Ensure that the project develops in accordance within the agreed framework and achieves its outcomes and objectives.
3. Oversee monitoring and evaluation functions.
4. Approve annual progress reports, work plans and budgets
5. Pay special attention to the assumptions and risks identified in the ProDoc and seek measures to minimize these threats to project success;
6. Ensure collaboration between institutions.
7. Pay special attention to the sustainability of activities developed by the project.
8. Ensure the integration and coordination of project activities with other related government and donor-funded initiatives.
9. Report periodically to MEFCC and UNDP.

Additional Mandatory annexes – separately attached

11.6 GEF Food Security Tracking Tool for Child Projects – attached separately

11.7 UNDP Project Quality Assurance Report – finalize / attach before prodoc signature

11.8 UNDP Risk Log – finalize / attach before prodoc signature

11.9 Results of the capacity assessment of the project implementing partner and HACT micro assessment – finalize / attach before PAC review / prodoc signature

11.10 Draft Letter of Agreement between UNDP and the Government for the Provision of Support Services (to be signed at Inception Phase, during signing of Project Document) – attached separately

Other Annexes

11.11 Participants to Addis Ababa stakeholder meeting

Name	Institution	Responsibility
1. Alex Zvoleff	Conservation International	Monitoring & Assessment
2. KinfeHailemariam	National Metrological Agency, A.A, Ethiopia	Director for Met-etec. Stan & ICT
3. GizawDesta	Water & Land Resources Centre	Director, Knowledge Management
4. NegashTeklu	PHE Ethiopia Consortium	Executive Director
5. Ghrmawit Haile	Ministry of Environment, Forest & Climate Change	Director, SPM Directorate; Focal Person of GEF
6. SinkineshBeyene	UNDP Country Office	Head, Climate Resilience Green Growth Unit
7. Deborah O'Connell	CSIRO Australia	Project Research Scientist
8. Yiheyis T. Maru	CSIRO Australia	System Research Scientist
9. Paul Ryan	Australian Resilience Centre	Director
10. FassilKebebew	Freelance Consultant	National Consultant
11. Alan Nicol	IWMI	International Consultant
12. Carlo Fadda	Bioversity International	Country Representative
13. JenniferBaumwoll	UNDP Regional Centre	Climate Change Adaptation
14. WubuaMekonnen	UNDP Country Office	Programme Specialist (GEF)
15. Alice Ruhweza	UNDP Regional Office	Regional Technical Advisor
16. MequannentEyayu	Ethiopian biodiversity Institute	Director, Plan &Programme Directorate
17. ZerihunDejene	PHE Ethiopia Consortium	Environment &Programme Management
18. TirhasMebrahtu	MEFCC	Director, --------
19. Benjamin Larroquette	UNDP - GEF	Regional Technical Advisor

11.12 List of Stakeholders Consulted in regions

Region	Target site	Name	Responsibility	Institution
Amhara	North Shewa (Debre-Berhan)	1. Mersha Zenebe	Core Process Owner	TVET
		2. Samuel W/Hana	EIA Expert	Environmental protection
		3. Haile Abebe	Cooperative Promotion Expert	Cooperatives Office
		4. Tsehay kelda	Environmental Protection Coordinator	EPLA Office
		5. Dr. Adane Berhanu	Animal Health Planner	Agriculture Office
		6. Aster Abera	Environmental Study Expert	EPLA Office
		7. Getaneh T/Mariam	NRCWH Coordinator	Agriculture Office
		8. Goshu Bogale	Head, Irrigation Agronomy	Agriculture (Angolela Tera Chacha)
		9. Sinkinesh Tadesse	Chairman, Land Management	Asa-Bahir Kebele in Angolela Tera Chacha
		10. Getachew Mekonen	Member, Land Management	Asa-Bahir Kebele in Angolela Tera Chacha
		11. Andualem Chernet	Woreda Communication Expert	Angolela Tera Chacha
		12. Sintayehu Girma	Chairman, Youth	Asa-Bahir Kebele in

Region	Target site	Name	Responsibility	Institution
			Association	Angolela Tera Chacha
		13. Eshetayehu Debebe	Member, Youth Association	Asa-Bahir Kebele in Angolela Tera Chacha
		14. Berhane Belete	Member, Youth Association	Asa-Bahir Kebele in Angolela Tera Chacha
		15. Derash Delelegne	Head, Agriculture	Angolela Tera Chacha woreda
		16. Lengocha Asrat	Head, Agriculture	Asa-Bahir Kebele in Angolela Tera Chacha
		17. Kindu Belay	Animal Science Expert	Asa-Bahir Kebele in Angolela Tera Chacha
SNNP	Hawassa	18. Misrak Kumalo	Environment Expert	Environment and Forest Authority
		19. Meskelu Tumiso	Water Management Expert	Water Development
		20. Debebe W/Mariam	Watershed Expert	Agriculture/NRD
		21. Alemitu Mengistu	Plant Genetic Expert	EFA
		22. Tadele Regus	Environment Education Expert	EFA
		23. Habtamu Manjurd	A/Energy Expert	MEA
		24. Debebe Gashanbga	Process Owner	EPA - Biodiversity
	Boricha	25. Legesse Bore	Expert	EP Office
		26. Yohanis Qohafa	DA	Agriculture Office
		27. Fekade Fara	Kebele Head	Kebele
		28. Turune Asefa	DA	Animal Health
		29. Isayas Samuel	Police	Police Unit
		30. Girma Bakansa	DA	Animal Health
		31. Yohanis Gabissa	Farmer	Farmer
		32. Anchamo Hessa	Farmer	Farmer
		33. Dassa Janba	Farmer	Farmer
		34. Markos Riqiula	Farmer	Farmer
		35. Getahun Wondimu	Farmer	Farmer
		35. Ilsai Geramo	Farmer	Farmer
		36. Adisu Tucha	Farmer	Farmer
		37. Tajiyu Gabisa	Farmer	Farmer
		38. Wachai Kumalo	Farmer	Farmer
		39. Shita Gansamo	Farmer	Farmer
		40. Aster Tarba	Farmer	Farmer
		41. Nigist Isai	Farmer	Farmer
		42, Iyuel Tissa	Farmer	Farmer
Oromiya	West Hararghe (Zone)	43. Feyisa Aiyi	Zonal Environmental Inspection Supervision Officer	Rural Land & Environment Protection
		44. Sultan Mohamed	Zonal soil & water	Agriculture Office
		45. Germew Asefa	Zonal irrigation development	WHZIDA
		46. Alemseged Regassa	Vice Head	Women & Children Office
		47. Assefa G/Yohannes	Expert	Zonal Agriculture Office
		48. Mamitu	Planning Head	WHA Office
		49. Mengistu Oljira	PSNP Officer	Agriculture Office
		50. Wakjira Yadese	Livelihood M&E Officer	Agriculture Office
		51. Takele Tadese	Pastoral Forum	PAOO
		52. Etagagn Mengistu	Gender Expert	Agriculture Office
		53. Abdul Jamal	PSNP Head	MSE
		54. Elias Abdi	Emergency Response	DPPO

Region	Target site	Name	Responsibility	Institution
		55. Endale Minda	Woreda Expert	Agriculture Office
	Chiro Woreda	56. Birhanu Nigatu	Farmer	Farmer
		57. Abrahim Ame	Farmer	Farmer
		58. Amenur Beyene	Farmer	Farmer
		59. Yematawork Demeke	Farmer	Farmer
		60. Usman Abdul	Farmer	Farmer
		61. Gosa Tesfa	Farmer	Farmer
		62. Belayineh Beyene	Farmer	Farmer
		63. Arun Abdulkerim	Farmer	Farmer
		64. Seyfu Mogesse	Farmer	Farmer
		65. Yared Lulu	Farmer	Farmer
		66. Jemal Abdo	Farmer	Farmer
		67. Mitiku Tamirat	Farmer	Farmer
		68. Husein Adem	Farmer	Farmer
		69. Mume Abdela	Farmer	Farmer
		70. Sherif Mejid	Farmer	Farmer
		71. Zerihun Alamel	Farmer	Farmer
Tigray	Mekelle	72. Fiseha Girmay	Energy Process Owner	JMEA
		73. Haile Woldu	Expert	TWAB
		74. Yemane Gebremariam	Expert	Bureau of Youth
		75. Berhun Tesfamariam	Researcher	Mekelle Environmental Research Centre
		76. Haftom G/Michael	Expert	Cooperative Agency
		77. Kassahun Alemu	Expert	Land use Planning
		78. G/silasse Kidane	Programme Officer	BoFEC
		79. Haileselassie Gidey	Extension Expert	Agriculture Office
		80. Haileselassie Reda	Expert	TEPLAUA
		81. Hiluf Hagos	Expert	TEPLAUA
		82. Haileab Girmay	M&E Expert	TEPLAUA
		83. Semere Tsewene	Researcher	EBI/ Mekelle
	Yokobo kebele (Enderta woreda)	84. Esey Atsbeha	Farmer	Farmer
		85. Mebratu Kidanu	Farmer	Farmer
		86. G/Hiwot Haregu	Farmer	Farmer
		87. G/Meskel Hadish	Farmer	Farmer
		88. G/Medhin Bisrat	Farmer	Farmer
		89. Amare Hagos	Farmer	Farmer
		90. Hadish	Farmer	Farmer
		91. G/Medhin Sertse	Farmer	Farmer
		92. Abaki Kahesay	Farmer	Farmer
		93. Desta Hagos	Farmer	Farmer
		94. Harifu Desta	Farmer	Farmer
		95. Tsegaye Hailu	Farmer	Farmer
		96. Tesfay Arefe	Farmer	Farmer
		97. G/Hiwot Sertse	Farmer	Farmer
		98. Tsegaye Hadish	Farmer	Farmer
		99. Aregawi Melese	Farmer	Farmer
		100. Berhe Akebaye	Farmer	Farmer
		101. Kahesay Gebre	Farmer	Farmer
		102. Hakireko Mulu	Farmer	Farmer
		103. Gebre Reda	Farmer	Farmer
		104. Tsegaye Gebrekirea	Farmer	Farmer
Afar	Semera	105. Ellama Abubeker	Director	EP, Rural Land Use & Administration Agency
		106. Jemal Seid	Environmental Expert	Bureau of Water
		107. Kidanu	Land Administration Expert	EP, Rural Land Use & Administration Agency

Region	Target site	Name	Responsibility	Institution
		108. Seid Bezabih	EP Expert	EP, Rural Land Use & Administration Agency
		109. Hayat Abdu		
		110. Abdulkarim	Expert	EP, Rural Land Use & Administration Agency
Somali	Jigjiga	111. Ahmed Habib	Head	EP, Forest, Mineral & Energy Devpt Agency
		112. Ahmed Aden	Expert	EP, Forest, Mineral & Energy Devpt Agency
		113. Hamdi Canole	Former Head	EP, Forest, Mineral & Energy Devpt Agency
		114. Abshiro Mohammed	Training Expert 0915749221	Bureau of women & children affairs
		115. Roda Hayan	Biodiversity Expert	Bureau of Agriculture
		116. Susana Siraj	HIV & gender focal person	Bureau of EP
		117. Aydams Omer	B/D Head	Microfinance
		118. Hassan Abdikerin	Engineer	Rural Water Bureau
		119. Hashi Mohamed	Case Coordinator	Cooperatives
		120. Abdilhakim Ismail	Coordinator	Livestock & Rural Devpt
	Tuliguled Woreda (Mesela Kebele)	130. Mohamed Jama Abdi	Chair Person	Mesela Kebele
		131. Abduselam Ahmednur	Farmer	Farmer
		132. Hasan Ali Umar	Farmer	Farmer
		Abdi Abdulahi	Farmer	Farmer
		133. Ali Tahir	Farmer	Farmer
		134. Faisel Ali	Farmer	Farmer
		135. Hassen Ahmed	Farmer	Farmer
		136. Ahmed Umar	Farmer	Farmer

11.13 Gender Analysis

Introduction: About 82.9 percent of the Ethiopian population lives in rural areas. Most of this population is dependent on agriculture and subsistent farming (World Bank 2014). Women contribute significantly to this sector, engaging in both livestock and crop production for subsistence and commercial use (UN WOMEN 2014). Given their heavy engagement in the sector and agriculture's vulnerability to climate change, including the effects of increased rainfall variability, rural women will bear a disproportionate burden, including greater potential for food, water and energy insecurity. The nature of women's relationship to the environment in rural areas is complex and mediated by their labour provision, decision making and management responsibility including household demand for food, water and energy resources. Because of this predicament their socio-economic status (including food security, and access to fodder, fuel for cooking and water) is generally more adversely affected than men under conditions of progressive environmental degradation. In particular, the poorest women are more generally affected as their livelihoods often depend directly on harnessing resources from the natural environment (Denton 2002; Baxter 1981). As a result of these changes, the negative effects of environmental change can reinforce gender inequalities, both reducing income and expanding workloads due to increased travel time in search of increasingly scarce water and fuel wood. Greater inequalities in impact can also increase recovery time for women from natural disasters, including droughts and floods (Lambrou and Piana, 2006).

A range of secondary impacts on the social and human security of women and girls are also noted, including the increased personal insecurity involved in having to walk further from home and carrying heavy loads. This can expose women and girls to greater health risks and gender-based violence. A key step in ameliorating these risks involves addressing the causal factors involved and ensuring that women's voices and ideas are part of the search for solutions at all levels. The premise of this project is that a gender equality and women's empowerment approach that really strengthens women's role in decision making hierarchies is critical and will help ensure that

GEBs and food security outcomes are achieved that are gender-responsive in their costs and benefits.

Government policies and efforts towards women's empowerment and gender equality: The Constitution of Ethiopia, adopted in 1995, assures women equal rights to men in every sphere and emphasizes affirmative action to remedy the past inequalities suffered by women. It also reiterates the rights of women to own and administer property as well as access reproductive health services. Additionally, the family law has been revised to align it with the constitutional rights of women. The country has put in place a Joint Land Certification Program which has had a positive impact on various dimensions of women's livelihood and gender relations (UN WOMEN: 2014). The government has also enacted policies and laws that promote gender equality and women's empowerment. Availability of gender-inclusive policies and programmes at all levels provides an enabling environment for development. In line with this, development planning and projects are gender inclusive to make sure that men and women are equally participating and benefitting. For example, in some of the watershed interventions, considering the work burden of women, they participate for a shorter time in watershed activities for (3-4 hours a day), while men contribute up to 6 hours. To ensure implementation of gender-sensitive programmes and interventions, each region has a Women's and Children's Affairs Office (WCAO). The office reviews plans and regularly undertakes monitoring and evaluation work for sector offices to make sure that men and women are benefitting equally. The office also works to raise awareness of various opportunities that women have, providing gender training to raise awareness on gender issues within sector offices at different levels.

Rationale of the analysis: This gender analysis report was conducted in order to study and analyse the general features of men and women in the six focus regions comprising this project in Ethiopia, and the opportunities and constraints surrounding them, including gender differences and the relevance of gender roles and power dynamics. It also seeks to analyse the factors that constrain development of women and identify entry points for interventions to address root causes of gender inequalities. During the fieldwork undertaken in preparation of this project, the situation of men and women in the six regions visited was assessed. The following results were derived:

Roles and responsibilities:

*Household wor*k – In the six regions visited women are in all segments of the society and responsible for the majority of the household-related tasks including cooking, child care, collecting water and fuel wood and others activities. Women participate in all agriculture work except ploughing with oxen, and (most) livestock husbandry (with the exception of small stock and poultry production). In SNNPR and West Hararghe, women are engaged in backyard cultivation of crops such as potatoes, *chat*, onions, salad vegetables, and, in the rainy

season, animal fattening, petty trade (charcoal, dairy and poultry products, etc) as well as selling fuel wood to support their livelihoods. Since free-gazing is banned in almost all areas in Amhara, West Hararghe and SNNPR, women often also cut and carry fodder to feed livestock, while their husbands are responsible for marketing and selling (though women may be responsible for some small-stock, including goats). In the dry season women may travel considerable distances to collect fodder. According to Tucker et al. (2014) shortage of feed for livestock is a major issue forcing people (often children) to spend up to 4-6 hours travelling with livestock to find pasture. Even in cases where improved fodder varieties are planted in backyards, homesteads and communal lands, cutting fodder and feeding livestock can create an additional burden for women, because of disproportionate division of labour. In Afar and Somali (both pastoral and agro-pastoral communities), men and women share livestock husbandry. During temporary migration women are responsible for the care of goats and sheep (in addition to their children), while men take camels and cattle with them, along with materials needed to construct houses. In agro-pastoral communities, women also support their husbands in farm activities, in addition to livestock husbandry and domestic work.

Community work – In recent years, there has been an increased focus on gender aspects of natural resource management and agricultural productivity to ensure food security and alleviate poverty by bridging the gender gap. NRM interventions usually target households of landless youth and women to diversify their income and livelihoods while testing different income-generating activities that are integrated with NRM interventions. In order to implement effective projects, development mitigation efforts and gender empowerment must be addressed equally and in a coordinated fashion. Accordingly, it has been the practice to ensure that women also participate actively with men in community works undertaken such as: SLM, MERET and PSNP. Women beneficiaries of these programmes are mostly low, varying from 29% in Tigrayto50% in West Hararghe estimated to be women. In Afar and Somali regions, participation of women in community works is low. In Afar, women usually do not participate, while in Somali, there is opportunity but they are too busy with other domestic work to participate; they are therefore not as likely to benefit as men. According to the MoA (2010) and UN WOMEN (2014) some of the reasons for the low participation of women in ILM as members and leaders, include their 'double work burden' (household and productive), prevailing patriarchal culture, low levels of education, lower self-esteem, lack of experience, and lack of labor resources. Low participation of women in such projects leads to loss of their valuable views, insights, perspectives, knowledge and concerns. Without this input into project planning, design and implementation the results can be far less effective – indeed NRM interventions that fail to consider gender may in fact reinforce gender inequalities.

In relation to this, in Tigray and SNNPR regions, it was reported that women are provided with credit for animal fattening and beekeeping, which is described as one of the more successful interventions in empowering women and could be scaled up. Evidence from Tigray shows that most of the unemployed groups from the population comprise women and youth. One way to address the issue of employement involves giving youth, women and landless groups priority under environmental rehabilitation programs including area closure. This provides an opportunity to undertake beekeeping and the production and sale of fruits such as avocados and mango. However, the problem in relation to sustainability of these programs is that returns from area closure are usually long-term and, as a result, youth may not be keen to be involved. In addition, access to water in most of the area closure sites is very low, and these groups have to wait till the rainy season to participate due to other labour requirements, making participation largely seasonal. To address this issue, some institutions such as REST provide pumps to lift water that can be used in the closed area year round. In SNNPR, it was reported that the quality of women's work is superior to that of men, and contributes to long-term sustainability, including improvements in access to water, fuel wood and fodder. The overall implication of a 'triple work burden' on women is that they will have limited time for self-development activities, networking, and social engagements. Quality of household life could be impaired and levels of social capital – key for many productive and reproductive activities – could be reduced. For example, in West Hararghe, it is reported that women's productive and community work is so demanding that it leaves little time for domestic work, especially food preparation, considered a cause of malnutrition in the area.

Access to resources: Access to environmental resources such as land, water and fuel for cooking is a crucial variable in the economic status of individuals, families and communities. In many regions of Ethiopia, the commons are key elements in wider ecosystem service provision, providing a major source of water, fuel, fodder, medicinal plants, and a variety of forest products. Access to these resources and benefits from them varies greatly among men and women of different socio-economic status. This is to a great extent structured by social and gender relations and institutions, with important implications for land and environmental stewardship and the effort towards food security and poverty alleviation. A major challenge to equitable access to and control over these resources, including under development interventions, lies in the traditional gender-based division of labour and related structural constraints.

Land - Gender scholars and research indicate that strengthening women's land rights, along with other inputs for farming, is essential for better development outcomes. In recognition of this, land policies in Ethiopia are focusing on securing rights of individuals within a household. The GoE, has afforded legal protection for a woman's right to equality with men and equal protection before the law (Jackson 2003; MoA 2010; Warner et al. 2015). In line with this, land registration and certification is taking place in all regions visited, including in Afar and Somali agro-pastoral areas. Accordingly, for example, in SNNPR, the number of women in MHH and FHH headed households that have land certificates is 2.3 million and 347,000 respectively. The new Family Law also gives inheritance rights to daughters as well as to sons; however fragmentation of holdings remains an issue of concern and women's land rights are still a contested area in the courts (UN WOMEN 2014). Though the law provides equal rights for men and women, issues in relation to land rights, including inequalities, persist. These include limited knowledge about land rights by women (reported in Tigray), registering land in the name of the husband or elder son leaving the wife excluded (North Shewa, SNNPR), keeping the land title in the name of the husband's family, to avoid ownership of land by the wife (West Hararghe), and smaller land holding sizes (below 0.5 ha) causing a problem of division between spouses on divorce. In such cases, women are the losers, as they have reduced access to and control over resources (and wealth). During the field visits, there were also reports of cheating on vulnerable groups such as elderly people and orphans (men claiming their land, after supporting them for some time in agriculture) (e.g. in Amhara). Polygamy is reported as one of the chief reasons for gender disparities in land rights of women and children. Overall, enforcement of the law in relation to and rights was reported as weak.

The land certificate program, which legally requires the issuance of land ownership certificates in the name of the husband and his spouse, has been a major step forward in raising women's social and economic status. Studies indicate that though land certificate programmes increase tenure security, they do not directly translate into increased productivity to women, unless issues of labour and other resource and structural constraints are addressed. For example women rent out their entire land to relatives if they have no access to adult male labour, which may lead to ineffective command over their tenants and cultivation of their plots, with subsequently less effort and poorer yields from their rented plots. Lower levels of input use and less access to extension advice are also emphasized as further causes for the lower productivity of women's farms.

Water - The challenge of lack of access to water is more severe for women and girls, who are largely responsible for household water provision. The problem is worse for poor women, as poor households are settled farther away from water sources than relatively wealthy individuals. Travelling longer distances to collect water has higher opportunity costs, not least because it reduces the time women have for other domestic and productive work and exerts a more serious health burden. For example, in Somali region, the biggest challenge for the community is shortage of water and grazing, with women frequently travelling three to four hours in search of water and fuel wood. The problem is especially severe in dryland areas where there are no *birkads*. Women, as water managers and users often have a unique and valuable perspective on the efficient selection of which sources to use, source use and how to transport, store, and draw the water. Their participation in design and introduction of water technology innovations is very important, as the design of technologies – particularly for irrigating and livestock watering –can substantially determine future time and labour requirements. Their participation in meetings and in influencing decisions remains very low, when compared with men for many reasons including stereotyped gender concepts, perceptions that women lack capacity, lack of gender sensitivity (in recognizing women as participants, change agents and beneficiaries), limited understanding of the concept of participation (in relation to who participates, terrain of participation, weight given to voice of women and others), and limited access to information, as project organizers have difficulty in reaching women. In addition, in male-dominated cultures, the power imbalance favours men and their greater access to resources such as finance and labour and lead to a (mis)perception that women are not as capable as men. In addition, women frequently have a double work burden, low level of literacy (compared with men) and lack self-confidence and experience of public engagement. Measures to tackle these challenges include taking a gender-responsive approach to participation (not only in representation but also in making voices and influencing decisions), capacity building programmes for women to increase their self-esteem, to express their ideas in public, and to enhance their bargaining and negotiating power. In addition, time and energy saving technologies need to be promoted to enhance participation.

Energy –The quality of women and men's life is affected by the availability of energy and distance to a source of energy (predominantly) for cooking in households. The distance to sources of energy for cooking specifically impacts women's life quality, since women are usually the ones responsible for collecting firewood (UN Women, 2014). Long-distance travel in search of fuel-wood and water has an opportunity cost for girls and women including participation in education, skills development, community governance, and income-generating activities (World Bank 2012; Baxter 1981). Study findings also indicate that the collection of biomass fuel degrades natural resources and can lead to further impoverishment for women, including limiting environmental

management choices available to them. According to the World Bank (2012), biomass fuel (firewood, charcoal, branches, leaves, twigs, crop residue, and dung) constitutes more than nine-tenths of the energy consumed in Ethiopia. Similarly, in the study sites, the main source of energy for cooking in the area is biomass energy including cow dung 'kubet' (in Amhara, Tigray, SNNPR) and fuel wood from the surrounding areas in all regions. Though cutting trees is banned in the country, the practice still exists, because of lack of alternate energy sources. Women and girls therefore bear disproportionate risks in terms of undertaking (sometimes illegal) time-consuming and laborious task and suffering indoor air pollution, which is the second largest environmental risk factor leading to illnesses and death after unsafe water and sanitation. Women also may travel long distances in search of fuel wood if they cannot find it in nearby areas, causing higher school dropout rates for young girls, increased health risks, and vulnerability to sexual violence.

In recognition of the problem in relation to energy, According to UN WOMEN (2014) the Alternative Energy Directorate of the Water, Irrigation and Sanitation Ministry, is undertaking activities to improve access to alternative sources of energy. Under the Climate Resilient Green Economy (CRGE) Strategy, efforts are also underway. The activity is aimed at contributing towards enhancing women's access to more innovative forms of energy use, such as improved cooking stoves and biogas generation. In addition to provision of stoves, the Ministry specifically encourages the participation of women in the production of such technologies thereby contributing to their incomes. Accordingly, there are some women's groups for example in SNNPR, Tigray and West Hararghe engaged in production and sale of energy-efficient stoves. These initiatives need to be scaled up and scaled out, in order to further reduce demand for biomass fuels and help reduce pressures on forest resources and on women's labour time.

Income – All women in male-headed households, with the exception of the Somali region, have no control over cash from sale of farm produce, livestock and cow dung (in Amhara). For example, women farmers in Asa Bahir Kebele (where discussions took place) claimed that their husbands only share some 5% of income from sale of produce and cattle. However, in Tigray, it was reported that women have control over income from sale of sheep and goats, if they take a loan for their production from development programmes such as REST and Dedebit. These women (except in Afar) only have control over sale of poultry and dairy products, petty trade, sale of horticultural produce, fuel wood, pottery (in Tigray) and some other products. In Somali region, it is reported that men and women have equal control over their income.

Participation of women in development projects (as members and leaders): Participation of women in leadership at all levels from kebele to cabinet members is relatively low when compared with men, except in Somali region where there is almost equal participation. For example, in the land administration and use committee, in SNNPR, two of the leaders should be women, but in practice, women's participation is low. This is reportedly because of lack of time and the idea (shared by both men and women, it was stated) that men make better decisions. It was also reported that though representation of women in leadership position is increasing, a lot needs to be done to improve their capacity to influence decisions. Women in male-headed households usually do not participate in meetings, when compared with female-headed households, leaving them with limited access to information and networks. Some of the reasons for this includes not being 'empowered' (by men) to make decisions, requiring permission from their husbands (Amhara), and thinking that their needs and views are addressed through their husbands (in all regions); as well as their relative timidity in public (due to patriarchal pressures).

To enhance participation of women, one strategy the government has devised is the so-called 'one-to-five' development grouping. Five women come together to discuss their issues and challenges, and there is also a 'women's development army' comprising 25-30 women (formed from the one-to-five groups), through which women share information, learn from each other and jointly address their problems. It is considered a way to reach rural women, and to provide them access to networks and sources of information. In addition to the 'one-to-five' groups, there are women's associations, women's development groups and youth groups, where women are participating actively. These work towards addressing issues of women and youth (to ensure men and women are equally benefiting in economic, social and political affairs). Participation of women in these networks and associations provides them an opportunity to exercise leadership and public speaking. However, the 'one-to-five' grouping is not working in Afar and Somali regions where more local and informal channels are used to approach women.

Other key gender issues: *Polygamy* – is reportedly common practice in all regions, except Amhara. According to EDHS (2011), 5% of men aged 15-49 have two or more wives. One of the regions where the highest proportion of men have more than one wife was Somali, standing at 14 percent. This practice causes problems in land and property rights of women and children. To avoid complications that could arise in inheritance of land, communities use different strategies. For example, in SNNPR, the husband will only have a secondary right; his children will only inherit the land he owned jointly with their mothers, but not from any other wives. In West Hararghe and Afar, only the first wife is entitled to jointly own the land, but not

subsequent wives. The land rights of the other wives in Afar are dependent on agreement among the wives and the husband. In Somali, the husband shares the land with his wives,

Reproductive rights: According to the UN WOMEN (2014), the national fertility rate in Ethiopia is high (about 4.1 children per woman). There are low rates of contraceptive use by men and women. Some of the reasons include: i) husbands consider use of contraceptives as likely to lead to infidelity (Amhara); ii) in West Hararghe, PSNP supports a household depending on the size of the household, therefore the larger the family gets the more assistance it receives, so having more children is considered as a means of getting more aid; iii) in Afar and Somali regions, fear of divorce (i.e if a women does not give birth frequently couples may end up separating); and, more generally, there is a lack of awareness about the purpose of contraceptives and fear of side effects. With regard to reproductive decision making in most cases (across all regions) couples decide jointly. However, in areas such as Amhara and West Hararghe, there are cases where women use contraceptives without letting their husbands know, for fear of resistance by their husbands. This indicates that the sense of empowerment and the power dynamics within households have a direct impact of women's ability to use and negotiate the use of contraceptives. Some of the gender-related social problems include domestic violence (Amhara) reflecting patriarchal attitudes that prevail towards women, early marriage (Somali), and female genital mutilation (in Afar and Somali).

Ways Forward: *Potential interventions* – Awareness-building on gender for both men and women, is critical, in order to enable mutual understanding and to contribute jointly to achieving greater gender equality and women's empowerment. Gender awareness training is important for both men and women, so that men can better understand the pressure or workload women have and its impact on the household. Raising of the risks of climate change and potential adaptation and mitigation measures is important, including watershed management practices such as fodder tree and plant cultivation, training on water allocation and distribution methods, including small-scale irrigation, and increasing the participation of women in NRM interventions. Women's interests in environmental protection and sustainability are high given their dependence on primary natural systems such as soil, water, and forests for household supplies. Watershed management can therefore benefit women in a number of ways including: i) provision of opportunities for livelihood diversification (i.e. watershed approaches that stimulate economic activities including honey and egg production); ii) improved household nutrition security – as diversification of livelihoods can lead to improved and more diversified/higher nutritional value diets; and iii) reductions in time and energy expended on water and fuel collection, with 'benefits' in terms of other productive and social activities.

Access to credit for women to support alternative livelihood activities such as goats and sheep rearing for sale and improved seeds for fruit and vegetable cultivation can bolster household income and, specifically, that portion over which women have control. Providing women's groups working on dairy processing with access to credit, including for machines to make butter and other milk products, increases value-added income and employment opportunities (including for others as cottage industry expands). This also has the potential to increase nutrition security through increasing proteins and other nutrients in household diets.

Promoting water harvesting technology specifically for domestic use and backyard cultivation could be improved by constructing cheap and sustainable water harvesting systems that allow women to invest more of their time in income-earning tasks (through reducing time and energy spent on collecting water and enhancing their productivity by supporting cultivation and livestock tending). More available and accessible water would also improve completion of domestic household tasks including cooking, cleaning the house, washing clothes, and crop cultivation. Given these roles, women suffer the most especially where there is lack of water including having to wake up very early in the morning and walk long distances to get water, including with young infants on their backs. Water sources such as the local woreda water systems are often unreliable. Women may travel long distances only to end up with no water and/or when there is water available women queue for hours due to severe demand at source from surrounding communities and households. Most adults in the regions visited complain that their time was wasted spending long hours in search of water. Most farming land in the region that lies bare is because of lack of labour to cultivate. There are possible correlations between the two factors.

Agro-processing, is a way to improve the economic status of the women and strengthen value chains. For example, cassava is available in West Hararghe. If women can be provided with machines that process cassava, this could increase incomes and generate demand for cassava cultivation. This could be linked to more targeted and effective extension services, including providing support to water-smart agriculture (combining better soil management with techniques of rainwater harvesting and small-scale irrigation). This should include strengthening the participation of women in water management for crop and livestock production. Greater support will be required from other existing women's organizations, NGOs, networks and cooperatives, particularly those working on NRM and agriculture, to make this a reality. It is also important that in monitoring, assessment and learning from local experience, across the board collection of gender-responsive and sex-disaggregated data takes place in order to ensure that differential impacts are understood and results fed

back into policy, practice and budgeting. The project should hire a dedicated gender specialist to ensure sustainability and equality of gender-responsive approaches, and to take charge of periodically reviewing progress in use of gender-sensitive monitoring and assessment indicators. This project takes a hybrid approach combining targeted programs and gender mainstreaming, with monitoring and learning approaches under multi-stakeholder platforms, enabling effective gender-equal feedback and learning from target groups. To ensure strong implementation, a gender strategy document will be produced to guide implementation, follow-up and dissemination of knowledge.

Gender Actions Table (to be detailed in a Gender Action Plan during the early inception period)	
Project Outputs	**Suggested gender mainstreaming actions**
Output 1.1.1 Functioning multi-stakeholder platforms in place in the project sites	• In each project site a rapid gender analysis will precede design, identification and establishment of multi-stakeholder platforms; the objective will be to identify ways of enhancing women's agency within and surrounding decision making and to ensure that gender-equal measures are taken, with a focus on decision making power and realities of women's lives as key resources developers and managers at household and community level (as well as within wider market systems, and in government decision making) • Gender-specific tools on functioning of multi-stakeholder platforms will be used to review and monitor functioning • A specific focus will be taken regarding women as key developers of new markets within value chains given their already superior role within established markets as purveyors of local produce, market experts and market practitioners
Output 1.1.2 At least one gender-responsive decision-support tool and participatory process applied	• Based on the above analysis and in consultation with national and international gender consultants and other analyses undertaken of existing tools elsewhere, piloting of the tool will take place at an early stage during project development (i.e. the tool itself will be prioritized as an early project output so that it can inform subsequent stages of the work) • A key purpose (and outcome) of the tool will be to ensure that men are sufficiently engaged in its development and use at all levels and that it helps unpack the complex power issues embedded in gender inequalities, such that the purpose – economic, social and environmental – of its development is clear to all (in short, that unless women are empowered as decision makers then the wider social and economic development environment is severely impaired and this will bear on the success of the whole project – gender equality is development, and this tool will support ongoing initiatives by government at all levels)
Output 1.2.1 Value chain approaches integrated with sustainable production systems, including reduction of post-harvest losses	• In identifying and support value chain approaches, the above tool, accompanying analyses and wider consultation will focus on harnessing women's power within markets to support greater value added and incentive structures that establish the production of economic value and GEBs at the same time; areas for consideration might be around reducing kubet production, increasing fuel-efficient stove use, and supporting dairying as one 'package approach' in some contexts – but the entry point being women's productive/reproductive time and finding ways of incentives for changes in behaviour based on saving their time and encouraging a shift from 'extractive resources use' (i.e. collective), to productive resource use (e.g. dairying and other household production (horticulture, for instance, and marketing of vegetables and other products)
Output 1.2.2 Selected value-chains strengthened	• Ditto above, the focus will be in the first instance on women as rural producers and already-established marketers of produce (far in excess of men in almost all contexts). This will go beyond 'mainstreaming' gender and focus on empowerment through actively enhancing economic roles for women (and young people too) within new and emerging value chains, particularly where there is strong rural-urban linkage
Output 2.1.1 120,000 ha with improved soil	• In all cases and sites, the entry point will be mainstreaming women as leaders and decision makers (alongside men) in soil and water conservation actions

and water management	• However, this will be in the context of more detailed understanding of the intra-household economies in such contexts including trade-offs in use of their time, their views on what works best at a local level in terms of SWC practice, their existing experience of such approaches and their suggestions for ways of enhancing the sustainable of SWC measures (which is the major challenge, particularly under 3-5 year cycles)
Output 2.1.2 120,000 ha under diversified production	• Where there are production-related outputs such as this, gender mainstreaming will start with gender study of existing practices based on a template to be developed by the project for rapid appraisal – and linked closely to application of the tool (1.1.2) above • A specific focus will be placed on ensuring inclusion of female-headed households in the activities undertaken in the 12 pilot sites
Output 2.1.3a 10,000 ha of agro-pastoral systems under integrated land management; Output 2.1.3b 240,000 farm HHs with increased access to food	• In common with the above, selection of communities and households for development of activities will involve use of both gender screening and the decision support tool described above • Analysis of the beneficiaries from this work will include a specific focus on female beneficiaries in order to ensure that the minimum target of 50% is reached across the project as a whole
Output 2.2.1 US$11m investment by bilateral and multilateral organizations and the private sector	• The challenge and opportunity here is to build into the work of the project a wider approach to influencing the work and investments of others through sharing the 'gender equality and women's empowerment narrative' that the project is developing and building this into research, learning and knowledge management and sharing • The ideational environment in which choices on investments are made is as important as the actual financing involved. Women are regularly excluded from key decision-making environments. Hence early engagement in debates and policy influencing opportunities will be sought out in year one to enhance women's awareness-raising role (and capacity), particularly on natural resources management, food security and the achievement of GEBs (given rural women's centrality to the water-food-energy nexus and decision making around demand and supply)
Output 2.2.2 10 innovative funding mechanisms/ schemes in place – including rainfall index insurance	• With specific reference to rainfall index insurance, the mainstreaming of women's involvement will entail ensuring that women householders (whether heads of household or not (women in male-headed households are frequently excluded from key decision-making as well)) are part of information provision and access, particularly at community consultation level and in terms of the approaches taken by public-private initiatives and describing the costs and benefits involved
Output 3.1.1 Multi-scale monitoring of ecosystem services and global environmental benefits established at landscape level	• The role of gender in monitoring across the project will be the subject of an initial scoping paper in the inception phase and will be developed as part of the decision-support tool in relation to understanding gender and environmental change within shared landscapes under pressure • Women as 'monitors' within wider community contexts will be explored at the 12 sites, whilst being mindful of time and labor constraints and costs and benefits of bring involved
Output 3.1.2 Framework for monitoring of resilience established at national and landscape level	• Gender equality as a critical factor in resilience (because of its centrality to development and transformation within landscapes under pressure) will be mainstreamed into thinking on monitoring resilience at the outset of the work and will become a central focus of the project approach
Output 3.1.3 Key Program socio-economic and gender indicators	• This builds on all of the above, but also requires that gender equality as a development pathways (and adaption pathway to transformation) is accorded resources and staffing from the start to ensure effective delivery of results (including under this indicator)

mainstreamed	• The project will appoint a gender expert to ensure mainstreaming through the project lifespan and at all levels, with a role specifically to challenge analysis and practice, to interpret and articulate to project staff and beyond the significant of gender equality within the project, to speak with audiences at all levels (including internationally) on the gender work of the project and to support and oversee monitoring and evaluation
Output 3.1.4 Landscape- national level data integration tool established	• Mainstreaming of gender within this tool will be a key output of the work undertaken in 3.1.3 (and in the development of the Gender DST)
Output 3.1.5 Vital Signs monitoring landscapes established in each of the six regions	• Working closely with Vital Signs and the staff and processes described above, gender will be mainstreamed within the monitoring work, including support to gender-responsive'mapping' under the Resilience Atlas (which is currently not included and through this work could become another major indicator class across the indicator range)
Output 3.1.6 On-going monitoring of food security and environmental benefits using Vital Signs monitoring framework	• Ditto above, the project will work with Vital Signs on mainstreaming gender into the mapping work and (where feasible) to include women's empowerment as an indicator within monitoring work (particularly in terms of its impact on the long-term sustainability of landscape transformations and transformations in the resilience of communities and production systems in the face of climate and other shocks)

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11.14 Knowledge Management Approach[26]

Learning and knowledge management are key parts of the project in Ethiopia. This will involve establishing systems of learning linked to all three components that build on the multi-stakeholder platforms, partnerships with regional universities and working directly with communities and households on the ground using 'action research' approaches (learning by doing). A strong emphasis will be placed on interdisciplinary approaches between biophysical and social science, with a particular focus on rural development as a nexus between understandings of social and environmental systems, including critical power, decision making and equality issues (including gender, income and group identify).

[26]https://www.thegef.org/gef/sites/thegef.org/files/documents/EN_GEF.C.48.07.Rev_.01_KM_Approach_Paper_0.pdf

Learning will focus on learning from experience and sharing this experience across the 12 sites in six regions, more generally through knowledge and exchange at national levels (conferences, symposia, national policy platforms), including through experience sharing with the CGIAR system institutions in-country. As far as possible, links will also be made with wider policy-focused research activities, including those led by national (Water Land Research Centre) and international think tanks and research organizations (e.g. www.odi.org.uk). To assist in these linkages, the project will set up a knowledge repository to help engage across a spectrum of institutions nationally and across SSA, but also, more specifically, with the Umbrella Programme led by IFAD. As far as possible, the project will establish structured systems of knowledge acquisition and development, including careful use of geo-referenced data sets on Google Earth layers that help link the project sites to specific learning outcomes in the form of reports, fact sheets and other knowledge products (as well as film, podcasts and other media produced to help explain the direction, purpose and impact of the work).

The project will prepare at least six knowledge briefs per year and will work with a set of 'Champions' (community, experts, other non-governmental and private sector) in each project site to capture their experiences and knowledge on an ongoing basis over the five-year period. The project will also collect gender-disaggregated data at all levels and will continually strive to improve the depth, range and quality of this data over the lifetime of the project. In years two and four, national learning events will be convened with other like-minded projects to assess progress at a macro-level across Ethiopia in environmental sustainability and food security interventions. This will be linked to the production of two key policy reports with associated briefing papers highlighting key lessons learnt and policy pointers for future government action under CRGE and other processes. As far as possible, remote-sensing data will form an important part of the knowledge management and development approach, including seeking innovations in the way in which such data is used and interpreted. The active engagement of the European Space Agency will be sort to provide in-kind support.

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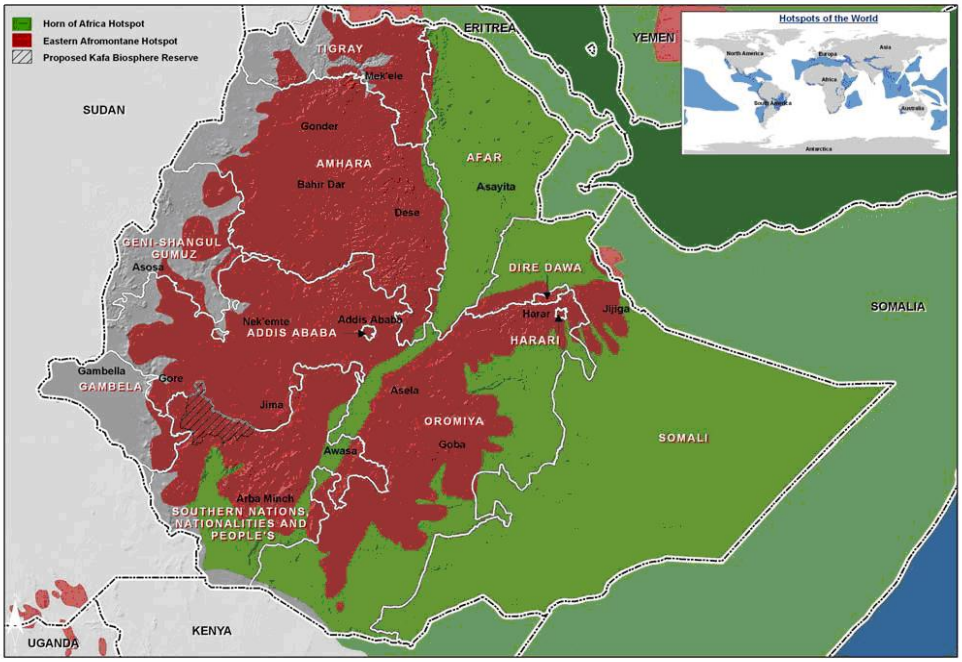
11.16 Rationale supporting biodiversity/crop diversity

Background: Crop genetic diversity is a cornerstone for ensuring food and nutrition security, adapting to climate change, reducing poverty and ensuring sustainable agriculture. It underpins today's food production and provides the raw material needed for ensuring future supplies in the face of a rapidly changing world. Dietary diversity is a direct product of crop diversity. The supply of vital vitamins, proteins, minerals and other essential elements can be enhanced through the use of genetic diversity.

Agriculture is the economic foundation of Ethiopia and source of future growth. Agriculture's part in fighting poverty is complex, but without the genetic diversity found within crops, it cannot fulfill its potential. The wild relatives of many crops have persisted in nature, adapting to tough environments and providing crop genetic diversity, a cornerstone of plant breeding that allows farmers to feed the world. However, this diversity is under threat and with it damaging future capacity to achieve higher yields, increased drought resilience and resistance to pests and diseases.

The project sites are found in six Regions – Amhara, SNNP, Oromiya, Tigray, Afar and Somali. These Regions are embedded in two of the global Biodiversity Hotspots (from among 34 designated global Biodiversity Hotspots) known as Eastern Afromontane and Horn of Africa Biodiversity Hotspots (see map below). Importantly, Ethiopia is recognized as a centre of origin and/or diversity for many crops of global importance including *Arabica* coffee, tef, enset, sorghum and durum wheat, among others. These crops are found in and around the 12 project sites identified under the Ethiopia child project.



Source: http://imperia.verbandsnetz.nabu.de

The crops' diversity and uses: Ethiopia is the birthplace of *Arabica* coffee. *Coffea arabica* is estimated to contribute 60-75% of the global coffee crop. The country is home to some 1,200-1,600 types of *Coffea Arabica*. The Ethiopian coffee populations provide highly diverse genetic material for coffee selection and breeding. The economic value of the coffee genetic resources for the world coffee industry in breeding programs for disease resistant, for low-caffeine contents and increased yields is estimated at 0.5 to 1.5 Billion USD/year. Coffee production including processing plays a significant role in the economy of the country as a whole.

Ethiopia is known for genetic diversity of tef (*Eragrostis tef*). Studies reported that out of the 54 *Eragrostis* species found in Ethiopia, 14 species (26%) are endemic to the country. Tef grain is mainly used for food in the form of '*injera*', pancake-like soft and fermented bread, that constitutes a major component of the national diet of most Ethiopians,

porridge, and slightly fermented or un-fermented non-raised breads ('*kita*' and '*anebabero'*). The grain is also used for brewing native beer, '*talla*', and more alcoholic cottage liquor, '*katikalla*' or '*arakie*'. Tef does not contain gluten and is therefore a promising alternative for those suffering from celiac disease or other forms of low-gluten tolerance. The absence of gluten and its nutritional value have made tef increasingly attractive in the United States, Europe and other regions, therefore providing export potential. Among the expanding segments of health-conscious consumers, tef is marketed by various sellers as a unique and healthy alternative to more common staples like wheat.

Enset (*Enset ventricosum*) is a perennial herbaceous monocot banana-like plant of which none is found cultivated in other parts of the world. Enset provides a long-term, sustainable food supply with minimum off-farm input. It can be stored for long periods and be harvested at any stage over a multi-year period. It is also known to survive stress years and to exhibit resilience in the face of climate variability. Enset is primarily used for food in various eco-friendly forms/ products including *kocho* (underground fermented bulk mix of scraped and grated leaf sheaths), *bula* (water-insoluble starch products obtained from squeezed and decanted *kocho,* which can also be prepared as pancake or porridge), and *amicho* (boiled enset corm). In addition, enset yields good quality fiber from the pseudo-stem, petiole and leaf. Enset is also a source of starch for potential industrial uses in the manufacturing of textiles, paper, adhesives, insecticides paints, soaps and derivatives such as dextrin and nitro starch.

Ethiopia is also one of the origins and centers of diversity of Sorghum (*Sorghum bicolor* (L.) Moench). This crop is an important food crop and is widely grown in the highland, lowland and semiarid regions of the country. It is important for food, feed, fiber and fuel across a range of agro-ecosystems. Sorghum is also used as raw material by industries to produce starch, fiber, dextrose syrup, biofuels and alcohol. Ethiopian sorghum is well known for its high lysine content and grain quality, shoot fly resistance, grain mould resistance and cold tolerance as the result of high genetic diversity. In Ethiopia, there exist intermediate as well as wild and weedy forms. Introgression between the wild (*Sorghum bicolor subsp. arundinaceum*) and the cultivated sorghum is very likely as both kinds often grow in sympatry with the wild and weedy relatives.

Ethiopia is considered to be a secondary gene center for durum wheat (*Triticum durum*). A broad range of traits such as resistance to leaf rust, powdery mildew and glume blotch; long coleoptile; short culm; early maturity; drought resistance; high protein content; adaptation to low soil fertility; and resistance to Hessian fly have been variously identified in the Ethiopian durum wheat. Other characteristics such as purple grain color, anthocyanin pigmentation in vegetative organs and awn-less forms were also identified. In Ethiopia, durum wheat is used mainly to make '*kitta*' (unleavened bread) and homemade alcoholic and non-alcoholic drinks. It is also preferred for preparation of '*kinchie*' (crushed kernels, cooked with water or milk and usually mixed with spiced butter), which is often served for breakfast.

Challenges: Land Degradation is a major challenge for agricultural productivity in and around the project areas of which the main causes are poverty, rapid population increase, climate change, severe soil loss, deforestation, low vegetative cover, unbalanced crop and livestock production, inappropriate land-use systems, rapid urbanization, desertification and loss of crop diversity. Utilization of dung and crop residues for fuel and other uses disturbs the sustainability of land resources, frequently forcing farmers to expand the area under crop production.

Solutions: It is important to ensure that agriculture is able to produce the food needed by expanding human populations. Agrobiodiversity will clearly play an important role in this. Planning and management efforts will however need to shift from purely adapting agriculture to maintaining other ecosystem services critical to agriculture and society at large, such as the regulation of water supplies, pest management and pollination services. This requires a paradigm shift from looking at crops and crop varieties solely in the context of on-farm management geared to farming family needs and markets, to looking at crop and farming systems as part of broader ecological landscapes in which the maintenance of functional diversity across landscapes and connectivity both within and between them is essential.

The long-term solution to the erosion of crop genetic resources in Ethiopia is to implant into farming systems strategies that simultaneously promote food production and biodiversity conservation. This calls for shaping production and business practices to actively sustain crop diversity, including wild relatives, within farming systems and the landscapes in which they are situated. This will be achieved through realizing the importance of crop genetic resources in food security and socio-economic development and empowering the National Extension Service to provide farmers with knowledge-based extension technology to promote farmer varieties and conservation of crop diversity within production systems.

Farmer varieties need to contribute adequately to solving the current food security and development problems in Ethiopia. There is a growing demand for traditional, organic or simply different foods that could provide a niche market for many of the farmer varieties at competitive prices. The farmers need to be linked with these and other markets and provided with the capacity to participate in the marketing of agro-biodiversity friendly products, both equitably and profitably.

It is only in nature that plant diversity at genetic, species and ecosystem level can be maintained in the long term. Indeed, agrobiodiversity exists as a result of human interaction with plant species and the landscape via agricultural systems over very long periods of time. Interaction of farmer varieties with wild relatives is particularly important in allowing a greater proximity-mix of crops, enhancing probability of mixing of genes, and hence the potential for new varieties to emerge.

There is therefore need to increase food production while maintaining this high level of interaction of domesticated and wild genes. Establishing farmer based on-farm conservation and management within their natural landscapes in Ethiopia is therefore essential for these key crops to continue to contribute to national economic development and food and nutrition security.

11.25 Field/baseline report (annexed separately)